PBS LiteracyLink®

TEACHER’S GUIDE

for GED Connection®, Pre-GED Connection™, and Workplace Essential Skills

This section contains Teacher’s Guide pages for GED Connection.

For more information, visit the LiteracyLink website at www.pbs.org/literacy or contact KET at (800) 354-9067 or www.ketadultlearning.org.
The GED 2002 Series Tests

The GED Testing Service of the American Council on Education is the developer of the Tests of General Educational Development (GED). Each year, hundreds of thousands of people receive their high school equivalency certificate through the GED. In recent years, one out of every seven people who graduate each year do so by passing the GED Tests.

A new series of tests, launched in 2002, consists of:

- Language Arts, Writing
- Language Arts, Reading
- Social Studies
- Science
- Mathematics

In addition to demonstrating the general knowledge and skills acquired in a high school education, GED examinees are required to demonstrate reading, communication, information processing, graphic literacy, and problem-solving skills across the test battery. The 2002 series tests emphasize workplace and real-world contexts, such as business communications on the Writing Test and practical documents on the Social Studies Test.

An overview of each subject area and sample GED-type questions are given on pages 2–13 of this guide.

Taking the Tests

The GED Tests are offered throughout the year in the United States, on military bases, in U.S. possessions and territories, and in Canada. One source of information on testing sites is the GED Hot Line at

1-800-62-MY-GED (1-800-626-9433)

While the GED Testing Service establishes the number of questions and time for each test, some regulations on the administration of the tests (for example, how many tests can be taken per day) are determined by the states. For the most up-to-date information, check with your state department of education or local adult education center.

GED Online Resources

There are numerous websites that are sources of information about the GED Tests, including:

- [www.pbs.org/literacy](http://www.pbs.org/literacy) PBS LiteracyLink sponsors GED Connection through LiteracyLink®.
- [www.ketadultlearning.org](http://www.ketadultlearning.org) The site for KET, producer of GED Connection videos and workbooks.
Overview of the GED Language Arts, Writing Test, Part I

(SEe LESSON PLaNS, PaGES 20–21, 26–37)

The GED Writing Test at a Glance

**Time:** 120 minutes total; candidates will be prompted to start their essay when 45 minutes remain.

**Number of Items:** Part I: 50 questions. Part II: 1 essay.

**Format:** Part I questions are multiple choice, based on three types of passages; Part II consists of one essay prompt.

**Scoring:** Candidates receive only one score, which represents a combination of Parts I and II.

Content Areas

**Organization** (15%): Managing the overall structure and flow of a piece of writing—topic sentences, transitions, paragraph breaks, order and unity of ideas. Questions in this category may refer to the passage as a whole, to a paragraph, or to a particular sentence or pair of sentences.

**Sentence Structure** (30%): Identifying and correcting errors in sentence structure—fragments, comma splices, and run-ons; compound and complex sentences; placement of modifiers; parallelism.

**Usage** (30%): Correcting common usage problems—irregular verb forms, verb tense, and subject-verb agreement; pronoun case, shift, and agreement.

**Mechanics** (25%): Correcting errors in these areas: *Punctuation*—the use and overuse of commas. *Capitalization*—proper nouns and adjectives, overcapitalization. *Spelling*—homonyms and commonly confused words; possessives and contractions, including use of the apostrophe.

Types of Documents

Questions in Part I of the Writing Test are based on passages drawn from three different types of documents: informational writing, workplace writing, and how-to texts. These documents are intended to represent the kinds of texts people read and write in daily life.

Types of Questions

The GED Writing Test, Part I has three types of questions: correction, revision, and construction shift. All three are illustrated below and are based on the following passage.

**ALTERNATIVE MEDICINE**

(1) Does the doctor always know best? (2) Many people are unhappy with the choices their doctors offer for treating illnesses. (3) Some patients doing their own medical research on the Internet.

(4) These patients may ask for alternative treatments or for different medicines. (5) In some cases, patients select health workers who are not medical doctors. (6) Chiropractors are a common choice.

**Correction**

In correction items, candidates must choose among possible corrections to a sentence. If the sentence is correct as written, option (5) should be chosen.
**EXAMPLE 1:** Sentence 2: Many people are unhappy with the choices there doctors offer for treating illnesses.

Which correction should be made to Sentence 2?

1. change are to is
2. insert a comma after choices
3. replace there with their
4. change doctors to doctors’
5. no correction is necessary

**Answer:** (3) replace there with their  This correction of a common error in spelling homonyms replaces the adverb there with the possessive pronoun their.

**Revision**

In revision items, part of a sentence or pair of sentences is underlined, and the candidate must choose the best revision of the underlined part. Option (1) is always the same as the original.

**EXAMPLE 2:** Sentence 3: Some patients doing their own medical research on the Internet.

Which is the best way to write the underlined portion of the text? If the original is the best way, choose option (1).

1. patients doing
2. patients are doing
3. patients, doing
4. patients they do
5. patients

**Answer:** (2) patients are doing  The original sentence is a fragment. Option (2) completes the verb and the thought by adding are.

**Construction Shift**

In a construction shift item, the candidate must select the answer that best recasts or combines a sentence or pair of sentences. The answer choices give only a part of the new sentence.

**EXAMPLE 3:** Sentences 5 and 6: In some cases, patients select health workers who are not medical doctors. Chiropractors are a common choice.

The most effective combination of sentences 5 and 6 would include which group of words?

1. In some cases, chiropractors are selected
2. health workers are not chiropractors
3. Medical doctors become the choice
4. health workers, not medical doctors
5. doctors, such as chiropractors

**Answer:** (5) doctors, such as chiropractors  This answer allows the detail in the second sentence to be embedded in the first: *In some cases, patients select health workers who are not medical doctors, such as chiropractors.*
Overview of the GED Language Arts, Writing Test, Part II

(SEEN LESSON PLANS, PAGES 20–37)

The GED Writing Test at a Glance

- **Time:** 120 minutes total; candidates will be prompted to start their essay when 45 minutes remain.
- **Number of Items:** Part I: 50 questions. Part II: 1 essay.
- **Format:** Part I questions are multiple choice, based on three types of passages; Part II consists of one essay prompt.
- **Scoring:** Candidates receive only one score, which represents a combination of Parts I and II.

Content

Writing an Essay

Part II of the GED Writing Test requires an original essay on an assigned topic. The candidate must address the topic given on the test, and his or her ideas must be organized and expressed well enough to be understood. However, candidates do not need special knowledge to write the essay, and essays do not have to be perfect.

It’s very important for candidates to understand the relationship between Part I and Part II of the Writing Test. Part I tests important skills—editing and revision—through multiple-choice questions, but it does not measure whether candidates can generate a piece of writing of their own or whether they can revise and edit their own writing. The essay in Part II completes the picture of the candidate as a writer.

Essay Prompts

The essay topic is called the “prompt.” It tells candidates what to write about and provides direction in how to develop an essay. Here is a sample prompt:

**TOPIC**

Many people believe that owning a home of their own is very important. Do you agree with this view? Why or why not? In your essay, explain the reasons for your opinion.

When candidates write their GED essays, they must respond to the prompt given. Notice the question that can be used to focus the essay: “Do you agree with this view?” Candidates should answer this question and explain their reasons, as the prompt directs. The readers who score an essay will not care whether a candidate agrees or disagrees with the stated view—what matters is whether he or she can write a focused and readable essay about it.

The sample topic below is slightly different, but it is also similar to many GED essay prompts. This prompt specifies that a candidate should discuss personal experiences in his or her essay.

**TOPIC**

It is often said that we have to make our own mistakes and learn from them. Do you believe this is true, or can we learn from other people’s mistakes? Use your personal observations, experience, and knowledge to support your essay.
Holistic Scoring

Every GED candidate’s essay is read by two readers who look “holistically” at the impression it makes. Is the essay focused and developed in accordance with the prompt? Is it organized in such a way that the readers can follow a train of thought? Are word choice and sentence structure effective in the context of the essay? Is the writing correct enough to communicate clearly? The readers do not check the essay for any particular errors, and they do not take neatness or handwriting into account.

Each reader assigns the writer a score based on a scale of 1–4. A score of 4 means “effective”; a score of 1 means “inadequate.” If the readers’ scores do not average 2 or higher, the candidate will not receive a score for the Writing Test and must retake both Parts I and II.

Scoring Guide

Below is the official GED Testing Service scoring guide that readers must follow when deciding how to score each candidate’s essay. The readers are specifically trained to use these standards; they cannot apply their own ideas about what constitutes “good writing.”

<table>
<thead>
<tr>
<th>GED ESSAY SCORING GUIDE</th>
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</thead>
<tbody>
<tr>
<td><strong>1 Inadequate</strong></td>
</tr>
<tr>
<td>Reader has difficulty identifying or following the writer's ideas.</td>
</tr>
<tr>
<td><strong>2 Marginal</strong></td>
</tr>
<tr>
<td>Reader occasionally has difficulty understanding or following the writer's ideas.</td>
</tr>
<tr>
<td><strong>3 Adequate</strong></td>
</tr>
<tr>
<td>Reader understands writer's ideas.</td>
</tr>
<tr>
<td><strong>4 Effective</strong></td>
</tr>
<tr>
<td>Reader understands and easily follows the writer's expression of ideas.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Response to the Prompt</th>
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</thead>
<tbody>
<tr>
<td>Attempts to address prompt but with little or no success in establishing a focus.</td>
</tr>
<tr>
<td>Addresses the prompt, though the focus may shift.</td>
</tr>
<tr>
<td>Uses the writing prompt to establish a main idea.</td>
</tr>
<tr>
<td>Presents a clearly focused main idea that addresses the prompt.</td>
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</table>

<table>
<thead>
<tr>
<th>Organization</th>
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</thead>
<tbody>
<tr>
<td>Fails to organize ideas.</td>
</tr>
<tr>
<td>Shows some evidence of an organizational plan.</td>
</tr>
<tr>
<td>Uses an identifiable organizational plan.</td>
</tr>
<tr>
<td>Establishes a clear and logical organization.</td>
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</table>

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<thead>
<tr>
<th>Development and Details</th>
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</thead>
<tbody>
<tr>
<td>Demonstrates little or no development; usually lacks details or examples or presents irrelevant information.</td>
</tr>
<tr>
<td>Has some development but lacks specific details; may be limited to a listing, repetitions or generalizations.</td>
</tr>
<tr>
<td>Has focused but occasionally uneven development; incorporates some specific detail.</td>
</tr>
<tr>
<td>Achieves coherent development with specific and relevant details and examples.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conventions of EAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibits minimal or no control of sentence structure and the conventions of EAE.</td>
</tr>
<tr>
<td>Demonstrates inconsistent control of sentence structure and the conventions of EAE.</td>
</tr>
<tr>
<td>Generally controls sentence structure and the conventions of EAE.</td>
</tr>
<tr>
<td>Consistently controls sentence structure and the conventions of Edited American English (EAE).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word Choice</th>
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</thead>
<tbody>
<tr>
<td>Exhibits weak and/or inappropriate words.</td>
</tr>
<tr>
<td>Exhibits a narrow range of word choice, often including inappropriate selections.</td>
</tr>
<tr>
<td>Exhibits appropriate word choice.</td>
</tr>
<tr>
<td>Exhibits varied and precise word choice.</td>
</tr>
</tbody>
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Overview of the GED Language Arts, Reading Test

(SEE LESSON PLANS, PAGES 38–47)

The GED Language Arts, Reading Test at a Glance

**Time:** 65 minutes  
**Number of Items:** 40  
**Format:** Multiple-choice questions based on 7 reading passages  
**Genres:** Fiction (3 passages), Poetry (1 passage), Drama (1 passage), and Nonfiction (2 passages)

Genres

**Fiction:** Literary fiction drawn from three time periods—one written before 1920, one between 1920 and 1960, and one since 1960.  
**Poetry:** One passage of poetry, which may be a whole poem or an excerpt.  
**Drama:** One passage from a dramatic script or screenplay.  
**Nonfiction:** Two passages, which may be excerpted from biographies, reviews, articles on contemporary topics, or workplace or community documents.

Purpose Questions

Each passage is headed by a question that is intended to engage the candidate and give direction to his or her reading.

Types of Questions

Questions on the GED Reading Test reflect four levels of critical thinking skills: comprehension, application, analysis, and synthesis. All four levels are illustrated below by questions based on the following passage.

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**HOW DID READING AFFECT THE AUTHOR’S LIFE?**

I started reading at the age of five, and I never stopped. As a child, if I was not sleeping, I was reading. My best friends were characters in books. My life lessons came from Laura Ingalls Wilder. All those words settled inside me. My thoughts flowed in the narrative style of a novel. I was a character in my own story-world. I lived inside my head. It took me many years to fully join the outside world. Eventually, gradually, I reversed the main flow; I became a fount of language.

---

Comprehension Questions

Comprehension items ask candidates to restate, summarize, or identify implications in a passage.

**EXAMPLE 1:** Which of the following best describes the author’s childhood?  
1. She did not get enough sleep because she loved to read so much.  
2. She found that she could not read well enough to learn lessons from books.  
3. Her best friend was a girl named Laura Ingalls Wilder.  
4. She was more absorbed in books than in the real world.  
5. She learned to read by the age of five.
Answer: (4) She was more absorbed in books than in the real world. The writer names several ways in which she was absorbed in books and suggests that even her own thoughts sounded to her like a book.

**Application Questions**

Application items ask candidates to apply information in a new context.

**EXAMPLE 2:** Based on the passage, which of the following descriptions most likely fits how this girl would have behaved in school?

1. She would have been very obedient to her teachers.
2. She would have read stories while pretending to do her schoolwork.
3. She would have had many friends and participated in school activities.
4. She would have eagerly answered her teacher’s questions in class.
5. She would have excelled at doing group projects.

Answer: (2) **She would have read stories while pretending to do her schoolwork.** The author describes how she was absorbed in the world of her books. It seems quite possible that she would have only pretended to do other work that was expected of her.

**Analysis Questions**

Candidates must be able to recognize literary uses of language, unstated assumptions, and logical relationships.

**EXAMPLE 3:** What change in the author’s life is suggested in the last line of the passage, “I reversed the main flow; I became a fount of language”?

1. She began to make friends with real people at last.
2. As her thoughts flowed in a new direction, she joined the real world.
3. She changed from being mostly a reader to being mostly a writer.
4. She wrote a poem about a beautiful fountain.
5. She changed the course of history when she joined the outside world.

Answer: (3) **She changed from being mostly a reader to being mostly a writer.** This line suggests a reversal and then balance. If the author once lived by letting words flow in, now she probably lives by letting words flow out.

**Synthesis Questions**

Candidates must be able to synthesize larger meanings and inferences from the passage as a whole, as well as from a second passage drawn from the same source.

**EXAMPLE 4:** Which of the following statements best describes the author’s purpose?

1. She wants readers to understand the inner world of her childhood.
2. She wants people to feel sorry for her because she was a lonely child.
3. She is expressing her joy at having joined the outside world.
4. She is showing her sympathy for children who love to read.
5. She wants everyone to read as much as she does.

Answer: (1) **She wants readers to understand the inner world of her childhood.** The author describes her childhood world in a gentle tone—she does not seem to regret this childhood experience, nor does she seem to be concerned about others’ experiences.
Overview of the GED Social Studies Test

(SEE LESSON PLANS, PAGES 48–59)

The GED Social Studies Test at a Glance

<table>
<thead>
<tr>
<th>Time: 75 minutes</th>
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<tbody>
<tr>
<td><strong>Number of Items:</strong> 50</td>
</tr>
<tr>
<td><strong>Format:</strong> Multiple-choice questions based on reading passages and graphics (maps, diagrams, and so on)</td>
</tr>
<tr>
<td><strong>Graphics:</strong> 60% of the questions are based on graphics or on a combination of graphics and text passage</td>
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</table>

Content Areas

U.S. History (25%): Major events and periods in the history of the United States, dating from the first European explorers to present-day issues.

World History (15%): From early civilizations to current global concerns; evolution of nations, major conflicts, key periods in the development of Western culture.


Economics (20%): Economic theory and the U.S. economy, including operation of markets, role of government, worker and consumer issues.

Geography (15%): How people make sense of and interact with the natural world; reading maps and globes, understanding natural resources, relationships between nature and culture.

Special Documents

Each test will include a passage from a “key document” in U.S. history, such as the Declaration of Independence, and a passage from a “practical document,” such as an employment contract.

Types of Questions

Items on the GED Social Studies Test reflect four levels of critical thinking skills, shown below.

When unemployment is low, fewer people are available to apply for open jobs, and employers have to work harder to keep good employees satisfied. In recent times of low unemployment, companies began finding out what their employees really wanted. It turned out that many workers wanted to work fewer hours, work from home, have flexible days off, and share jobs or work part time in order to spend more time with family. As a result, some company policies and workplaces began changing.

Comprehension Questions

Candidates must be able to restate, summarize, or identify implications in a passage or graphic.

**EXAMPLE 1:** Which is the best summary of this passage?

1. When unemployment is low, wages and benefits improve.
2. Most workers would like to be able to work at home.
3. Company hiring policies changed because companies were flooded with new job applicants.
4. To retain workers when unemployment was low, companies tried to help employees balance work and family life.
5. Because unemployment is low, few people apply for job openings.
Answer: (4) To retain workers when unemployment was low, companies tried to help employees balance work and family life. This answer pulls together the major ideas: a low unemployment rate, companies’ need to keep workers happy, and workers’ preferences.

**Application Questions**

Application items ask candidates to apply information in a new but similar context.

**EXAMPLE 2:** Which of the following could be an argument for a flextime policy for workers?

1. With flextime, the company may retain workers more readily.
2. Workers will accept lower wages in exchange for flextime.
3. Flextime will save money for the company and increase profits.
4. Flextime allows parents to work fewer hours.
5. Flextime makes more scheduling work for supervisors.

Answer: (1) With flextime, the company may retain workers more readily. Flextime would allow workers to adjust their hours to fit their needs, thereby helping a company retain workers.

**Analysis Questions**

Candidates must be able to recognize the logical structures of ideas and draw implications.

**EXAMPLE 3:** Based on information in the passage, which of the following statements is most likely to be true?

1. People are more likely to advance in their jobs and careers if they work longer hours.
2. Men and women are equally likely to want to work from home.
3. When unemployment is high, companies have an easier time retaining employees.
4. When companies have enough workers, they stop offering special benefits.
5. Employees are more productive when they work from home.

Answer: (3) When unemployment is high, companies have an easier time retaining employees. The passage states that companies have to work hard to retain employees when unemployment is low. By implication, the opposite should also be true: when unemployment is high, workers are less likely to leave their current jobs.

**Evaluation Questions**

Candidates must be able to make judgments about validity of information and detect bias.

**EXAMPLE 4:** Which of the following would be the best source for checking the accuracy of the information in the passage?

1. the local chamber of commerce
2. working women with children under six years of age
3. the owner of a small business
4. a U.S. government report on employment statistics
5. a national survey of trends in working conditions

Answer: (5) a national survey of trends in working conditions A national survey would be more comprehensive. The other sources are too narrowly focused.
Overview of the GED Science Test

(SEe LESSON PLANS, PAGES 60–69)

The GED Science Test at a Glance

- **Time:** 75 minutes
- **Number of Items:** 50
- **Format:** Multiple-choice questions based on reading passages and graphics (tables, graphs, and so on)
- **Graphics:** 50% of the questions are based on graphics or on a combination of graphics and text passage

Content Areas

**Life Science (45%):** Biology and its associated fields, including cell biology, human biology, genetics and evolution, and ecology.

**Earth and Space Science (20%):** The solar system, Earth and its structure, geology and natural resources, and climate.

**Physical Science (35%):** Basic topics in chemistry and physics—structures and properties of matter; energy, work, and motion; electricity and magnetism.

National Science Education Standards

Sixty percent of the items on the GED Science Test are related to the NSES concepts. These interdisciplinary science concepts, such as Science as Inquiry and Science in Personal and Social Perspectives, cross the content areas.

Types of Questions

Questions on the GED Science Test reflect four levels of critical-thinking skills, shown below.

The term *global warming* refers to rising temperatures in Earth’s atmosphere, oceans, and landmasses. Earth has experienced many periods of warming and cooling over billions of years. The difference now is that the actions of people, instead of natural geologic changes, seem to be causing at least part of the warming. Greenhouse gases, which we release by burning fossil fuels, trap solar heat inside Earth’s atmosphere. Most scientists believe now that rising global temperatures will cause noticeable climate change and could create devastating problems. For example, as ocean temperatures warm and polar and glacial ice melts, sea level rises. This rise will cause flooding near ocean coastlines, and some islands will become covered by water.

Comprehension Questions

Candidates must be able to restate, summarize, or identify implications in a passage or graphic.

**EXAMPLE 1:** Which is the best summary of this passage?
1. Global warming is part of a temperature cycle in Earth’s history.
2. Scientists are not sure whether global warming is caused by humans or by natural changes.
3. Global warming is caused by rising ocean temperatures and melting polar and glacial ice.
4. As a result of global warming, coastal areas are likely to flood.
5. Global warming, caused at least partly by humans, may cause climate changes and problems.
Answer: (5) Global warming, caused at least partly by humans, may cause climate changes and problems. This answer pulls together the major ideas in the passage.

**Application Questions**

Application items ask candidates to apply information in a new but similar context.

**EXAMPLE 2:** Based on the information in the passage, which of the following situations would most likely be related to global warming?

1. loss of land area in Hawaii
2. rising prices for fossil fuels
3. natural geologic changes that affect climate
4. increasing rainfall in the Central Plains
5. increase in the size of polar glaciers

**Answer:** (1) **loss of land area in Hawaii.** If coastlines might flood and islands could be covered with water, that means a chain of islands like Hawaii could lose land area.

**Analysis Questions**

Candidates must be able to recognize the logical structures of ideas and draw implications.

**EXAMPLE 3:** Which of the following statements best expresses the relationship between greenhouse gases and global warming?

1. Greenhouse gases, a form of pollution, are melting the polar ice caps.
2. Greenhouse gases a major climate change related to global warming.
4. Global warming is a natural result of burning greenhouse gases.
5. Global warming causes greenhouse gases to burn fossil fuels.

**Answer:** (3) **Greenhouse gases hold in the sun’s heat, causing global warming.** Greenhouse gases trap solar heat, or heat from the sun, so they are a cause of global warming.

**Evaluation Questions**

Candidates must make be able to make judgments about validity of information and detect bias.

**EXAMPLE 4:** Which of the following statements is best supported by the information in the passage?

1. Because global warming is so destructive, some scientists believe that we should colonize other planets.
2. Because global warming affects the world, international efforts are needed to address it.
3. Global warming will make it difficult or impossible to plan coastal land use in the near future.
4. We do not need to worry about global warming because scientists are working on methods of climate control.
5. The United States will be less affected by global warming than other nations.

**Answer:** (2) **Because global warming affects the world, international efforts are needed to address it.** National boundaries do not restrict pollution. Single nations will not be able to manage the causes or effects of global warming. Therefore, option (2) is a valid conclusion.
Overview of the GED Mathematics Test

(SEE LESSON PLANS, PAGES 70–95)

The GED Math Test at a Glance

**Time:** 90 minutes

**Number of Items:** 50

- **Part I:** 25 questions for which students may use a Casio fx-260 Solar Scientific calculator, which will be provided at the testing center
- **Part II:** 25 questions for which students may not use a calculator

**Format:** 40 multiple-choice questions; 10 alternate-format questions—8 standard grids and 2 coordinate graph grids to be filled in

**Graphics:** 50% of the questions are based on graphics—charts, graphs, tables, diagrams, and so on

Content Areas

**Number Operations and Number Sense (20–30%):** Solving problems with whole numbers, decimals, fractions, integers, ratio, proportion, and percents.

**Data Analysis, Statistics, and Probability (20–30%):** Interpreting data in graphs and charts; finding the mean (average), median, or mode in a set of numbers; recognizing conclusions based on data; working with statistics topics such as populations and sampling; and finding the probability of an event.

**Algebra, Functions, and Patterns (20–30%):** Creating algebraic expressions and equations to represent problems, solving equations and inequalities, plotting on a coordinate grid, identifying patterns, and applying functions and formulas in a variety of situations.

**Measurement and Geometry (20–30%):** Finding perimeter, area, volume capacity, and weight; using scales and gauges; and working with geometric relationships and figures, such as angles, triangles, quadrilaterals, and circles.

Types of Questions

The GED Math Test uses three types of questions. The following problems illustrate the type of mathematical thinking expected to answer these questions.

Math Procedures

Candidates must be able to recognize a described situation and apply the correct math procedure.

**EXAMPLE 1:** Julia’s credit card company charges a $25 late fee for payments made after the payment due date. If Julia was charged a late fee for 8 different monthly bills, how much could she have saved by paying the bills on time?

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<tbody>
<tr>
<td>(1)</td>
<td>$200</td>
<td>(4)</td>
</tr>
<tr>
<td>(2)</td>
<td>$96</td>
<td>(5)</td>
</tr>
<tr>
<td>(3)</td>
<td>$80</td>
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</table>

**Answer:** (1) **$200** This is a straightforward exercise in problem solving. It requires candidates to understand that this is a multiplication problem and that they must multiply the amount of the late fee by the number of months: $25 \times 8 = 200.$
Math Concepts

Many math concept questions require candidates to recognize a way to set up a problem for solution, rather than solve the problem itself.

EXAMPLE 2: Sarah buys a bagel and cream cheese for $3 and a bottle of juice for $1.50 every day. Which expression shows how much she would spend on her bagel and juice over a 7-day period?

(1) $3 + $1.50
(2) $3 \times $1.50
(3) $3 + \frac{$1.50}{7}$
(4) 7($3) − 7($1.50)
(5) 7($3 + $1.50)

Answer: (5) 7($3 + $1.50) The answer is an expression that represents 7 days times the cost of the bagel and juice. This type of problem determines that candidates understand how to write an expression that would ultimately result in the solution.

Application/Modeling/Problem Solving

Some problems involve a higher level of analysis and application of problem-solving strategies.

EXAMPLE 3: To meet her production quota, Mavis must make 75 widgets in 3 days. If she made 16 on Day 1 and 34 on Day 2, how many does she need to make on Day 3?

(1) 16
(2) 18
(3) 25

Answer: (3) 25 To arrive at the correct answer, candidates must recognize that this is a multi-step problem. One appropriate strategy would be to break the problem down into smaller problems.

Step 1: Find the total number of widgets made.
16 + 34 = 50

Step 2: Find the number of widgets to be made on Day 3.
75 − 50 = 25

Alternate Formats

On the GED Math Test, 10 out of the 50 items will not be multiple-choice items. They will follow one of these two formats:

**Standard Grids**

On eight problems, students will solve a problem and then “bubble in” the appropriate numbers. The answer to Example 3 (above) could be bubbled in as shown at right.

**Coordinate Grids**

On two problems, students will plot points by “bubbling in” points on a coordinate grid.
Using the Calculator

The GED Testing Service is allowing the use of a calculator on Part I to encourage students to focus on solving problems rather than on carrying out tedious computations. Any problem on Part I can be answered using paper and pencil. However, the calculator, if introduced and used correctly, can be a tool that will enable students to complete problems faster and more accurately.

Casio fx-260 Solar Scientific Calculator

At the testing center, candidates will be provided with a Casio fx-260 Scientific Solar calculator. Although there will be time to practice with the calculator at the testing center, it is strongly recommended that students practice with this particular calculator while they are studying for the test.

The *GED Connection: Mathematics* workbook provides many opportunities for practicing with the Casio fx-260, including a calculator reference handbook on pages 337–339.

Number Keys and Basic Operations

The Casio fx-260 contains the same number and basic operation keys as most calculators.
Other Important Keys

The Casio $fx$-260 calculator contains important problem-solving functions.

Shift and Second Functions

Some keys are used in conjunction with the Shift key. Press the Shift key first and then the key shown to get the second function (which is written on the calculator above the keys in yellow.)
Key Features of the GED Connection Lesson Plan

The first page of each lesson gives an overview of the key elements of the video, print, and online.

PROGRAM 2

Passing the GED Writing Test

Table: Video Overview

<table>
<thead>
<tr>
<th>Major Ideas in the Video Program</th>
<th>People and Ideas to Watch For</th>
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<tr>
<td>Multiple Choice and Essay—In Part I, students answer multiple-choice questions based on directed articles. In Part II, students write an original essay.</td>
<td>Tony Bongiovi, Director of the GED Testing Service, encouraged students to write an essay where 45 minutes remain in the test time; after they have already finished.</td>
</tr>
<tr>
<td>GED Content Areas—Part I involves applying knowledge and information to contextual scenarios.</td>
<td>The logic Martin, Application, is Part I, you need to improve existing texts. In Part II, you observe that you can review those same skills in your own writing.</td>
</tr>
<tr>
<td>Organization (25%)—ordering ideas, logical sequence, and sensory appeal.</td>
<td>Tony Bongiovi, Consultant in Content and Learning, emphasizes the need for a writer to follow a logic; it also requires the writer to discuss the writer’s writing, then an a(handler righted wrong.</td>
</tr>
<tr>
<td>Sentence Structure (25%)—main and subordinating sentence structures.</td>
<td>Tony Bongiovi, Consultant in Content and Learning, emphasizes the need for a writer to follow a logic; it also requires the writer to discuss the writer’s writing, then an a(handler righted wrong.</td>
</tr>
<tr>
<td>Usage (25%)—proper use, usage, preposition, agreement, tense.</td>
<td>Tony Bongiovi, Consultant in Content and Learning, emphasizes the need for a writer to follow a logic; it also requires the writer to discuss the writer’s writing, then an a(handler righted wrong.</td>
</tr>
<tr>
<td>Mechanics (25%)—capitalization, punctuation, capitalization, spelling, punctuation, punctuation.</td>
<td>Tony Bongiovi, Consultant in Content and Learning, emphasizes the need for a writer to follow a logic; it also requires the writer to discuss the writer’s writing, then an a(handler righted wrong.</td>
</tr>
<tr>
<td>Topic of Question—In Part I, students have three themes to keep in mind: organization, sequence, and sensory appeal.</td>
<td>Tony Bongiovi, Consultant in Content and Learning, emphasizes the need for a writer to follow a logic; it also requires the writer to discuss the writer’s writing, then an a(handler righted wrong.</td>
</tr>
<tr>
<td>Conclusion—The Organic for the multiple-choice question replaces the document, informative writing, and workplace documents.</td>
<td>Tony Bongiovi, Consultant in Content and Learning, emphasizes the need for a writer to follow a logic; it also requires the writer to discuss the writer’s writing, then an a(handler righted wrong.</td>
</tr>
<tr>
<td>Storying—Wrong answer. In Part II, do not count another student if students are unsure, then should make their best guess.</td>
<td>Tony Bongiovi, Consultant in Content and Learning, emphasizes the need for a writer to follow a logic; it also requires the writer to discuss the writer’s writing, then an a(handler righted wrong.</td>
</tr>
<tr>
<td>Students will have 30 minutes to answer 50 multi-choice questions and write one essay.</td>
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Table: Workbook Connection

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<th>Workbook Lesson</th>
<th>Internet Connections</th>
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<td>Language and Writing</td>
<td>at <a href="http://www.planning.org/story">www.planning.org/story</a></td>
</tr>
<tr>
<td>GED Writing Test Overview, p. 3.4</td>
<td>GED Practice Test, including GED-style practice questions</td>
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<td>Writing Test: Part I: Editing, p. 9-12</td>
<td>Leader’s Guide and Integrated Activity</td>
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<td>Question Types</td>
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<td>Content Areas</td>
<td>Learning Module</td>
</tr>
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</table>

G-16 Teacher’s Guide
The second page presents a lesson plan using the videos, workbooks, and online components.

**Program 2 Lesson Plan**

### Set Up the Video Program
1. Introduce the video. You may selectively incorporate brief retakes (or not) on the matching video segments with your students.

### Shown Program 2

### Follow Up the Video Program
1. Ask students to complete the GED Writing Test overview on pages 12 and 13. Ask them to review the video questions and practice what they have learned. Ask them to share their experiences and what they learned.

### Use the Workbook Instruction and Practice
1. Discuss the GED Writing Test overview on pages 12 and 13. Ask students to review the video questions and practice what they have learned. Ask them to share their experiences and what they learned.

---

**Use the online site to access an extended course in each content area and to practice answering GED-type questions.**

**Utilize group activities to strengthen collaborative learning and critical thinking.**

**Show the video in its entirety or stop to emphasize key points. After watching the video, discuss key ideas.**

**Start each GED Connection lesson by posing discussion questions that set up the video.**

**GED Connection Overview G-17**
# LESSON OBJECTIVES

1. Know the purpose of GED Connection materials.
2. Get an overview of the video, workbook, and online components.
3. Become motivated by students, graduates, and instructors who have used GED Connection.

## PROGRAM I

### GED Connection™ Orientation

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<th><strong>VIDEO OVERVIEW</strong></th>
<th><strong>People and Ideas to Watch For</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major Ideas in the Video Program</strong></td>
<td><strong>Dorothy Barka</strong>, a 63-year-old GED graduate, stresses that the keys to passing the GED Tests are “practice and perseverance.” She also explains that taping the videos and watching them several times was key to her success.</td>
</tr>
</tbody>
</table>
| - The PBS LiteracyLink® system has three components:  
  - 38 instructional videotapes and this Orientation Tape  
  - 3 workbooks  
  - An online component | **Kim Leigh Smith and Pearce Bunting**, two hosts of the series, explain that GED Connection consists of 38 instructional programs, workbooks, and online activities. They also present the following information: |
| - This system has these advantages for GED learners:  
  - Convenience – Learners can watch lesson programs in learning centers, on public broadcasting stations, or on tapes that they make and bring home.  
  - Flexibility – Learners can move among the three media as needed.  
  - High interest – The materials are based on the content knowledge and skills needed to pass the GED Tests, and they concern real-life issues. |  
  - There are Passing the Test programs for each of the five content areas  
  - Students can learn more online at the LiteracyLink® website by going to [www.pbs.org/literacy](http://www.pbs.org/literacy), selecting Adult Learner, and then registering for a free, private, password-protected Home Space.  
  - Information on obtaining the workbooks is available at 1-800-354-9067. |
| - This Orientation tape also provides:  
  - Video highlights from each test area  
  - Motivational statements from GED learners, graduates, and instructors  
  - Information about the ease of signing up for GED Connection online modules  
  - Contact information for PBS LiteracyLink and KET | **Joan Auchter**, Director of the GED Testing Service, and a variety of GED students and teachers encourage students to:  
  - Use their real-world experiences and common sense during the GED Tests.  
  - Answer every question because a question with no response will be marked incorrect, but an answer based on a reasonable guess may be correct. |

<table>
<thead>
<tr>
<th><strong>WORKBOOK LESSON</strong></th>
<th><strong>INTERNET CONNECTIONS</strong></th>
</tr>
</thead>
</table>
| **Language Arts: Writing & Reading Workbook**  
Program 1: GED Connection Orientation, pp. v–vi | **Student Activities at [www.pbs.org/literacy](http://www.pbs.org/literacy)** |
| **Instructional Program**  
- 38 instructional programs  
- Passing the Test programs in each subject area  
- Video lesson programs with corresponding workbook lessons in these texts: Language Arts: Writing & Reading  
  - Social Studies  
  - Science  
  - Mathematics | **Learners may go to the website and click on Adult Learner. They can register for a free, private, password-protected Home Space, which will be there for them every time they return.**  
  - The free online component contains GED practice tests and skill-building modules to strengthen skills and reinforce content presented in the video programs and in the workbooks.  
  - Learners who register will create an online portfolio to collect their Workplace Essential Skills and GED Connection work. If the teacher has purchased the optional Online Management System, learners may also request that an online teacher review their portfolio work and communicate with the online teacher through the LiteracyLink internal e-mail system. |
| **Making the Most of the Workbooks**  
- Pretests and Practice Tests  
- Before You Watch—preview activities and feedback  
- After You Watch—instruction and practice  
- Connections—to other subject areas  
- Answers and Explanations  
- Reference Handbooks—related resources |
Set Up the Video Program

1. Before showing Program 1, explain that it provides an overview of the GED Connection system. Make clear that this program discusses videos, workbooks, and computer-based materials.

2. Ask,
   - What would you like to get out of these materials?
   - How do you think television can help you learn?
   - Have you ever used the Internet? What did you like about it? What did you dislike?

3. Say, As you watch this video, look to see how the programs, workbooks, and online materials can help you study to pass the GED.

Show Program 1

Follow Up the Video Program

1. Ask students, Did you like what you saw on the video programs? What did you like? Why?

2. Ask, Would you like to use the Internet-based part of this preparation program? What concerns do you have about using the Internet?

3. Explain that the GED Tests include the following subject areas:
   - Writing
   - Reading
   - Social Studies
   - Science
   - Math

Ask, Which areas interest you the most? Why? Which areas concern you? Why?

4. Ask learners to list the content areas on a sheet of paper and rank them 1–5, with 1 being their highest priority of personal interest and need. Have them include their names. Collect the papers, and explain that this information will help you meet their needs and support their personal goals and objectives.

Use the Workbook Overview

1. Discuss the GED Connection Orientation on page v.

2. Go over Making the Best Use of the Workbook on page vi. As you go over each feature, have students locate it in the Language Arts: Writing & Reading book that they are using. In this way, students can familiarize themselves with all the features and resources in the GED Connection workbooks.

Have Students Use the Internet

Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should choose the “Adult Learner” option. They may register there and go directly to their own personal Home Space or to the GED Connection link.

Lead Group Activities

Activity 1: Passing the GED

Explain that students can use everyday resources to help them pass the GED Test. Ask them to help you think of interesting ways in which they can prepare for the test. List ideas with them, such as the following:

- Writing – write a letter to the editor about an issue that concerns you
- Reading – read the newspaper daily
- Social Studies – read maps to practice both following directions and understanding graphic information
- Science – read packaging that comes with medications to understand effects and side effects of different drugs
- Math – take the calculator used on the test (Casio® fx-260) to the store with you to figure sales and discounts

Activity 2: In Your Life

People in the video expressed why they had decided to get their GED and how determined they were. Ask students to write a letter to you explaining: Why is this the right point in my life to get my GED? Encourage them to support their answer with reasons and personal examples.
LESSON OBJECTIVES
1. Know the two parts to the GED Writing Test.
2. Understand the content and format of the multiple-choice section.
3. Learn how to approach the GED essay.

PROGRAM 2
Passing the GED Writing Test

VIDE O OVERVIEW

Major Ideas in the Video Program

- **Multiple Choice and Essay** – In Part I, students answer multiple-choice questions based on three kinds of documents. In Part II, students write an original essay.

- **GED Content Areas** – Part I involves applying rules to edit problems that interfere with clear communication:
  - **Organization** (15%) – ordering ideas, topic sentences, relevance, paragraphing
  - **Sentence Structure** (30%) – run-ons, fragments, parallel structure
  - **Usage** (30%) – subject-verb agreement, pronoun agreement, tense
  - **Mechanics** (25%) – capitalization; punctuation (commas); spelling of homonyms, contractions, possessives

- **Types of Questions** – In Part I, questions have three formats—correction, revision, and construction shift. In Part II, a topic is given on which test-takers write an essay.
  - **Contexts** – The passages for the multiple-choice questions represent how-to documents, informative writing, and workplace correspondence.
  - **Scoring** – Wrong answers on Part I do not count against a student. If students are unsure, they should make their best guess. If an essay is scored “inadequate,” the multiple-choice part will not be scored. The student will not pass the Writing Skills Test.

People and Ideas to Watch For

- Joan Auchtner, Director of the GED Testing Service, explains that you will be told to start your essay when 45 minutes remain in the test time, if you haven’t already done so.

- The host, Martin Mapoma, explains that in Part I you revise and improve existing texts. In Part II, you show that you can use these same skills in your own writing.

- Jan Isenhour, Carnegie Center for Literacy and Learning, shows why a run-on is hard for a reader to follow. She also says it’s more important to focus on clear writing than on rules for right and wrong.

- Tom Sant, writer and CEO of The Sant Corp., says the best rule to follow in writing is KISS—Keep It Short and Simple.

- Joan Auchtner says that the editing skills needed for the GED Writing Test—adding, deleting, and rearranging sentences—are skills that we use all the time in writing.

- GED graduates advise to stay on topic, have a main idea (thesis), support it with organized ideas, and include a conclusion.

Students will have 120 minutes to answer 50 multiple-choice questions and write one essay.

WORKBOOK LESSON

*Language Arts: Writing & Reading Workbook*
**Program 2: Passing the GED Writing Test**, pp. 11–20

GED Writing Test Overview, p. 12
Writing Test, Part I: Editing, pp. 13–18
- Question Types
- Content Areas

Writing Test, Part II: The Essay, pp. 19–20
- Essay Topics
- Writing the Essay
- Scoring

INTERNET CONNECTIONS

*Student Activities at www.pbs.org/literacy*

GED Practice Test
Learning Module
Interactive course on writing content and skills

Internet-based Activity
Including GED-style practice questions

G-20  Teacher’s Guide
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 2 provides an overview of the GED Writing Test and that the main points are elaborated in the accompanying workbook lesson.

3. Ask, *What kinds of writing do you like to do? What kinds do you have to do?* List responses in two columns and compare.

4. Tell students that the video will explain two parts of the GED Writing Test. Say, *As you watch the video, think about how the two parts of the test are related to each other.*

Show Program 2

Follow Up the Video Program

1. Ask students, *How are the two parts of the GED Writing Test related? In what ways will you be using the same skills in both parts? In what ways will you use different skills in the two parts of the test?*

2. Ask students, *Do you have any major questions about this test?*

3. One of the main focuses of the program is to make a piece of writing communicate clearly to a reader. Ask, *What are some good ways of making sure that your writing communicates clearly? When have you been successful in writing clearly, and what made you successful?*

4. Discuss the sample questions that were shown on the videotape. If you want to photocopy the writing questions from the *Passing the GED Writing Test* program to use them for discussion, please see the Copymasters in this teacher’s guide. Discuss why the correct answers are correct and why the incorrect choices are wrong.

Use Workbook Instruction and Practice

1. Discuss the *GED Writing Test Overview* on page 12.

2. Assign the instruction and *Skill Practice* questions on pages 13–20. Go over the sample questions, and discuss why the correct answers are correct. Discuss incorrect answer choices that appeal to students, and explain why they are wrong.

3. Discuss the structure and content of a GED essay topic, shown on page 19. Have students think of some different approaches to this sample topic. Explain that GED essay prompts do not require special knowledge and that students should write about their own experiences.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course related to writing and editing for the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the *GED Connection* online curriculum.

Lead Group Activities

Activity 1: Passing the GED

Ask students to help you think of interesting ways they can prepare for the GED Writing Test. For example, students can look in their homes and workplaces for the types of writing that are used in Part I. They can bring these texts to class and critique their organization, sentence structure, usage, and mechanics.

Activity 2: The Reading/Writing Connection

Give students a piece of real-world reading material—a short newspaper or magazine article, for example. Read and critique it as a class, using the checklist on page 10. Help students understand and use the vocabulary of the checklist—you may have to explain terms such as “logical organization” or “varied sentence structures.” Encourage students to use this vocabulary for talking about their own writing as well as other people’s. Every reader/writer needs a language for talking about how a piece of writing works—what its strengths and weaknesses are, how it creates various effects, and so on.
LESSON OBJECTIVES
1. Learn to generate writing more easily.
2. Explore forms of personal writing—journals, letters, narratives.
3. Know the role of personal writing on the GED.

PROGRAM 3
Getting Ideas on Paper

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Express Yourself** – Writing is a way to express yourself. Everyone has his or her own story to tell—even inexperienced writers can find things to write about.
- **Generating Ideas** – Student writers can use many of the same techniques as professional writers to find and explore ideas, including freewriting or keeping a journal or diary.
- **Freewriting** – Freewriting means to write whatever comes into your head, writing without stopping for a certain length of time (10 minutes is a good length to begin with). You don’t review or edit—you just keep writing until the time is up.
- **Journals and Diaries** – A journal or a diary is a safe place to write personal thoughts, to note your beliefs, to record materials that you want to remember. A journal or diary does not have to be shared with anyone.
- **Practice** – Writing, like any other skill, takes practice. The more you do it, the better you become. To learn to write, write letters, short stories, e-mail, memos, poems.
- **Observations and Experience** – Write about things you know or care about. Draw on your personal observations and experiences—even for the GED essay.
- **Writing as Communication** – To remind yourself that writing is a means to communicate, read your writing aloud.

People and Ideas to Watch For

- Natalie Goldberg, a writer and writing teacher, talks about the value of freewriting. She says that people have to write a lot of junk in order to write anything good.
- Marty Lopinto, a teacher in an Ohio adult education center, talks about working with inexperienced writers. She says that students have to learn not to get hung up on spelling. It’s more important to keep a paragraph moving than to spell right the first time.
- Goldberg describes this problem another way: people get torn between the Creator and Editor sides of themselves.
- Writers Frank Walker and Denise Chavez talk about keeping journals—to keep private notes on your life, to write to make sense of experience, to record your beliefs.
- Chavez says that everyone has his or her own story to tell. If you list what makes you who you are, you realize you are unique—and you have something to write about.
- Student Pam Fiore talks about having her writing published, and her teacher reads her essay at a public event.

WORKBOOK LESSON

*Language Arts: Writing & Reading Workbook*
Program 3: Getting Ideas on Paper, pp. 21–32

**Before You Watch,** pp. 21–23
- Sneak Preview (Pretest), pp. 22–23
- Vocabulary, p. 24

**After You Watch,** pp. 25–32
- Key Points to Think About, p. 25
- Journals and Portfolios, pp. 26–27
- Personal Letters and E-mail, pp. 28–29
- Personal Narratives, pp. 30–32
  - Writing a Narrative
  - Painting a Picture with Words
  - Elaborating

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

- GED Practice Test
  - Learning Module
    - Interactive course on writing skills and strategies
- Internet-based Activity
  - Including GED-style practice questions
**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 3 focuses on how writers get ideas out of their heads and onto paper. Tell students they will be able to apply what they learn to their GED essay.

3. Ask, *When do you feel comfortable writing? Is writing ever easy for you? If so, when?*

4. Have learners do the *Sneak Preview* activity on workbook pages 22–23. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 23.

5. Discuss the *Vocabulary* on page 24.

6. Tell students that the video will show writers talking about ways of finding ideas to write about. Say, *As you watch the program, think of how you might try the ideas that these writers and teachers talk about. Which one would you try first?*

**Show Program 3**

**Follow Up the Video Program**

1. Ask students, *What suggestions from the video did you like best? What new ideas can you most easily imagine yourself trying out?* Discuss specific examples.

2. Recall Natalie Goldberg’s distinction between Creator and Editor—two voices we all seem to have in our heads. Ask, *How can you keep your Creator voice going and tell your Editor voice to take a break?*

3. Recall Denise Chavez talking about how she loves to write by hand because she loves the feeling of creating with her hands. She encourages writers to find out what they love about writing, to have fun, to illustrate their writing. Ask students, *How could you apply Chavez’s advice?*

4. The program host reminds students that on the GED essay they should support their main ideas with personal observations and experiences. Review this concept with students, especially in relation to your earlier discussions of the practice test essay.

**Use Workbook Instruction and Practice**

1. Discuss the *Key Points* on page 25.

2. Assign instruction and practice on pages 26–32.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course related to writing on the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

Find out your students’ experiences with personal letters and e-mail. Many people find these forms of writing very powerful to build and sustain relationships, especially when friends and family live far apart. Ask students to list people who would welcome their letters—and who would be likely to write back. (There’s nothing like back-and-forth correspondence to encourage your students to write!)

**Activity 2: The Reading/Writing Connection**

Have students read and discuss a descriptive passage from a published personal essay, letter, or memoir (for example, from Anne Morrow Lindbergh or Russell Baker). Give them a similar topic and ask them to list all the details they could include in their own writing.

**Activity 3: The Pre-GED Connection**

For students at the pre-GED level, focus on freewriting. Have students help you list topics they could write about. Begin with three-minute freewriting sessions and work up to ten minutes.
LESSON OBJECTIVES
1. Understand writing as a multi-stage process.
2. Prewrite by generating and grouping ideas.
3. Write a first draft, revise, and then correct (edit).

PROGRAM 4
The Writing Process

VIDEO OVERVIEW

Major Ideas in the Video Program
- **Problem Solving** – Writing is like a problem-solving process. People go through a series of steps to create a piece of writing.
- **Purpose and Audience** – Before you begin, first think of why you are writing and for whom you are writing.
- **Steps in the Process** – The video discusses in depth three major stages in the writing process: prewriting (discussed in terms of brainstorming), writing, and revising.
- **Brainstorming** – Brainstorming is a method of generating ideas to write about. Be open-minded during brainstorming. Ideas can be evaluated and grouped later.
- **Writing** – In the writing stage, writers draft their text. Don’t think about grammar, usage, and spelling at this stage. Instead, concentrate on introducing your main idea, supporting it, and drawing a conclusion.
- **Revising** – In the revision stage, writers reconsider their audience and purpose, evaluate what they have written, rewrite, rearrange, and add and take out text.
- **Checking** – After revising, a writer should look for and correct errors, or edit.
- **Recursive and Flexible** – Stages in the writing process overlap and repeat.

People and Ideas to Watch For
- Writer Joan Fiset says that there is a “huge myth” that the first time you write something, it should be perfect.
- Phyllis MacAdam, Carnegie Center for Literacy and Learning, talks about the back-and-forth nature of the writing process and its basis in problem-solving research.
- The host talks about how steps in problem solving—think-try-evaluate—become steps in the writing process—brainstorm-write-revise.
- MacAdam uses a concept web to write and organize ideas about buying a car. She discusses writing a thesis statement (topic sentence), supporting it, and concluding by restating the lead with a new twist.
- Andrew Fitzgerald, a student tutor at Highline Community College, remarks that writers who say they don’t need to revise are writers who don’t want to revise.
- Crystal Wilkinson, writer, checks her work for technical errors by looking at her paragraphs and sentences.

WORKBOOK LESSON

**Language Arts: Writing & Reading Workbook**
Program 4: The Writing Process, pp. 33–52

Before You Watch, pp. 33–36
- Sneak Preview (Pretest), pp. 34–35
- Vocabulary, p. 36

After You Watch, pp. 37–52
- Key Points to Think About, p. 37
- Writing Is a Process, pp. 38–39
- Prewriting, pp. 40–43
  - Getting Ideas • Audience and Purpose • Grouping Ideas
  - Writing a Draft, pp. 44–45
  - Revising, Editing, and Publishing, pp. 46–49
  - Checking for Meaning • Mechanics and Usage
  - GED Practice, pp. 50–52

INTERNET CONNECTIONS

Student Activities at [www.pbs.org/literacy](http://www.pbs.org/literacy)

GED Practice Test
Learning Module
Interactive course on writing skills and strategies

Internet-based Activity
Including GED-style practice questions
PROGRAM 4 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 4 focuses on how writers move through several stages to create pieces of writing. Tell students that they should apply this same process when they write their GED essays.

3. Ask, What activities do you do that require steps, or stages, in a process? What steps do you think the writing process involves?

4. Have learners do the Sneak Preview activity on workbook pages 34–35. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 35.

5. Discuss the Vocabulary on page 36.

6. Tell students that the video will show writers and teachers talking about the writing process. Say, As you watch the program, look for the steps that writers take. Do these steps agree with what you’ve been taught? With what you do?

Show Program 4

Follow Up the Video Program

1. Remind students of Joan Fiset’s comment that, for her, teachers made language harder than it should have been. Ask students, What have you been taught about writing up to this point? Has this instruction made it harder or easier for you to write?

2. Emphasize the idea that writing is a process with steps, but one in which the steps are not set in stone—one can go back and forth. Discuss how writing is similar to and different from other problem-solving processes in this regard.

3. Ask, What kind of GED essay might be produced if someone started to write a draft without first getting and organizing ideas?

4. Discuss the differences between revising for meaning and editing for correctness. Ask, Is one more important than the other? What kind of impression might an unrevised essay give? A revised but unedited essay?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 37.


3. After learners have finished the lesson, have them work through the GED Practice on pages 50–52. Explain that they will be writing an essay in response to a prompt that is similar to what they will see on the GED Test. Have them apply the Revision and Editing Checklists on page 51 to their essays.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course related to writing for the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Recall the topic from the GED class in the video—who is your hero and why. Ask students to brainstorm about their personal heroes for two or three minutes. Then discuss what goes through students’ minds as they brainstorm.

Activity 2: The Reading/Writing Connection

Have students read several sample essays and review them with the Revision and Editing Checklists on page 51. Ask them what they can learn about their own writing by reviewing others’ writing.

Activity 3: The Pre-GED Connection

For students at the pre-GED level, focus on generating enough ideas to write about. Help them brainstorm on a topic, drawing a concept web as in the video. Help students see when an idea needs more details supporting it.
### LESSON OBJECTIVES

1. Write an introduction, a body, and a conclusion.
2. Learn ways to organize the body of an essay.
3. Find out how to support and elaborate ideas.

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**PROGRAM 5**

**Organized Writing**

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#### VIDEO OVERVIEW

**Major Ideas in the Video Program**

- **Organization** – Structure is critical to how a writer communicates with a reader.
- **Three-Part Structure** – Effective organization involves writing an introduction, a body, and a conclusion.
- **Introduction** – The introduction sets up the main idea (thesis). Several people in the video use the term *lead* for the introduction. In the lead, students can restate the topic in a topic sentence (called a thesis statement in the video) and relate it to their experiences.
- **Body** – The body must provide convincing support for the thesis by presenting specific and appropriate details. GED students can develop their essays using their own experiences, observations, and beliefs.
- **Methods of Organization** – Ways to organize the body include sequence, comparison and contrast, and cause and effect. Organization can be conveyed to the reader by transitional words and phrases.
- **Conclusion** – The conclusion sums up an essay or restates the main idea. It may also offer a twist on the main idea.

**People and Ideas to Watch For**

- Phyllis MacAdam, Carnegie Center for Literacy and Learning, explains that readers know how different kinds of writing are usually organized. When we write, we can reach our readers better by following these well-known organizational structures.
- Several writers and teachers talk about the importance of the introduction, or lead. Writer Shawn Wong suggests that GED candidates restate the essay prompt but make it specific to their own experience.
- Frances McCue of Richard Hugo House improvises a wonderful description of her yellow truck to illustrate the classic writing advice “Show; don’t tell.”
- Sportswriter Darrell Fry asks himself questions to come up with specific details.
- Teacher Helen Sablan suggests that students generate ideas in ways that help them organize their essays. She describes “the guiding hand” to help in staying on topic.

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#### WORKBOOK LESSON

**Language Arts: Writing & Reading Workbook**

Program 5: Organized Writing, pp. 53–72

**Before You Watch,** pp. 53–56
- Sneak Preview (Pretest), pp. 54–55
- Vocabulary, p. 56

**After You Watch,** pp. 57–69
- Key Points to Think About, p. 57
- Three-Part Structure, pp. 58–61
  - Introducing Your Main Idea • Writing the Body • Concluding
- Methods of Organization, pp. 62–65
  - Sequence and Comparing • Contrasting • Cause and Effect
- Supporting Your Main Idea, pp. 66–69
  - Stating Reasons • Giving Examples • Providing Details
- Revising, Editing, and Publishing, pp. 46–49
  - Checking for Meaning • Mechanics and Usage
- GED Practice, pp. 70–72

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#### INTERNET CONNECTIONS

**Student Activities at www.pbs.org/literacy**

**GED Practice Test**

**Learning Module**

Interactive course on writing skills and strategies

**Internet-based Activity**

Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 5 focuses on how writers organize their writing to make it easier to read. Explain that on the GED Writing Test organization is tested on both the multiple-choice section and the essay.

3. Ask, *Think about a time when you had to look up some kind of information. How was that writing organized so that you could find what you needed?* List some different organizational patterns and talk about how they help readers.

4. Have learners do the *Sneak Preview* activity on workbook pages 54–55. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 55.

5. Discuss the *Vocabulary* on page 56.

6. Tell students that the video will show writers and teachers talking about how to organize writing. Say, *As you watch, look for how the program advises you to organize an essay.*

Show Program 5

Follow Up the Video Program

1. Ask, *What is an essay? How are essays usually organized—that is, what do readers expect from essays?*

2. Remind students of Tom Sant’s comment that before writing, you should think about your audience and purpose. Ask, *How does this advice apply to the GED essay?*

3. Help students sort out the different ways that people in the video speak of introductions—lead, thesis, restating the topic. Ask, *What are some good ways of helping readers get involved in your essay right away?*

4. Recall Helen Sablan’s suggestion to generate ideas for a pro/con topic in columns. Look at a few other GED-type prompts, and discuss with students how to generate ideas for each in a way that would also help organize the essay.

Use Workbook Instruction and Practice

1. Discuss the *Key Points* on page 57.


3. After learners have finished the lesson, have them work through the *GED Practice* on pages 70–72. Explain that this section is similar to the GED Writing Test. You may go over the multiple-choice questions with the class, discussing both the correct answer and any incorrect answer choices that students found attractive. You may also have students apply the Revision and Editing Checklists on page 51 to their essays.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course related to writing on the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the *GED Connection* online curriculum.

Lead Group Activities

**Activity 1: In Your Life**

Ask students to identify practical applications of sequence, compare and contrast, and cause and effect. Show how these are familiar concepts, ones we often use to organize information, solve problems, or answer questions in daily life.

**Activity 2: The Reading/Writing Connection**

Group students and give each group a magazine or newspaper. Challenge each group to locate articles that exemplify the organizing strategies.

**Activity 3: The Pre-GED Connection**

For students at the pre-GED level, focus on sorting and grouping generated ideas. Help students see how to use groups of related details to form body paragraphs.
LESSON OBJECTIVES
1. Understand how writers create different styles according to audience, purpose, and format.
2. Write clearly and concisely.
3. Choose words carefully.

PROGRAM 6
Writing Style and Word Choice

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Style** – Style is the “feel” of a piece of writing. Writing gets its style from sentence structure, word choice, tone, level of formality, and other dimensions.

- **Choosing Style** – Writers can make conscious choices that affect the style of a piece of writing. Those choices relate to their audience, their purpose, and the format of the particular piece they are writing.

- **Audience** – Writers try to achieve styles that will appeal to their audiences. It’s helpful to try to imagine your audience, even if your readers will not be people you know.

- **Formality** – Writers use more formal styles when they do not know their readers or when they want to appear professional. Casual styles are more personal and can be effective in the right situations.

- **Word Choice** – A writer must select the right word for the context and meaning. The GED essay generally requires a certain type of language—“familiar” language.

- **Language to Avoid** – Slang is informal language that is inappropriate for all but personal writing. Jargon is specialized terms understood only by a particular group, so it excludes general audiences. Clichés are overused, stale expressions.

People and Ideas to Watch For

- Don Mortland describes his weekly “featured pet” newspaper columns. Through careful choice of words and use of the first person, he has developed a particular style that creates sympathy for the animals.

- Ken Tucker, a television and music critic, discusses how he tailors his writing style to his audience. He uses an informal style in his reviews for *Entertainment Weekly* and a quite different, formal style when writing for *The New York Times*.

- Denise Mitchell, Marketing Director for Girl Scout Cookies, explains a subtle difference in meaning between two possible themes: “catch the wave” and “ride the wave.”

- Aaron Counts, Education Center Coordinator in Seattle, helps neighborhood youth publish a magazine. He describes how his young writers achieve different styles for different audiences and purposes.

- Scott Rice, an English professor, talks about “overdone” writing, in which a fussy, elaborate style calls attention to itself and fails to communicate clearly. Rice also explains the pitfalls of jargon and clichés.

WORKBOOK LESSON

**Language Arts: Writing & Reading Workbook**
Program 6: Writing Style and Word Choice, pp. 73–92

Before You Watch, pp. 73–76
- Sneak Preview (Pretest), pp. 74–75
- Vocabulary, p. 76

After You Watch, pp. 77–89
- Key Points to Think About, p. 77
- Audience and Purpose, pp. 78–81
  - Audience • Purpose • Format

- Writing Clearly and Concisely, pp. 82–85
  - Wordiness • Sticking to One Point
- Choosing the Right Words, pp. 86–89
  - Using Words Carefully
    - Slang, Clichés, and Jargon
- GED Practice, pp. 90–92

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

- GED Practice Test
- Learning Module
  - Interactive course on writing skills and strategies
  - Internet-based Activity
  - Including GED-style practice questions

G-28 Teacher’s Guide
**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 6 focuses on how writers create different styles. Tell students that they will see that a certain style is appropriate for the GED essay.

3. Ask, *What does the word style mean to you? What different kinds of styles of clothing are there? What different kinds of writing styles do you think there are?*

4. Have learners do the *Sneak Preview* activity on workbook pages 74–75. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 75.

5. Discuss the *Vocabulary* on page 76.

6. Tell students that the video will show how writers achieve different writing styles. Say, *As you watch, think about how you might create a writing style that would be effective in your GED essay.*

**Show Program 6**

**Follow Up the Video Program**

1. Ask, *What kind of writing style do you think will be effective for the GED essay?* List ways of describing an effective style.

2. Remind students that the video advises writers to imagine the audience for their writing. Ask, *How do you imagine the readers for the GED essays? What attitudes about writing do you think they might have?* Encourage students to imagine GED readers as objective and interested.

3. Emphasize to students that they can learn to write in more than one style by practicing. Ask them to generate sentences in very casual speech and then “translate” those sentences into formal writing.

4. Write the words *brown* and *chocolate* on the board. Ask how each word makes students feel. Do the same with *say* and *maintain.* Discuss the concept of connotations and using specific yet familiar words.

**Use Workbook Instruction and Practice**

1. Discuss the *Key Points* on page 77.

2. Assign instruction and practice on pages 78–89.

3. After learners have finished the lesson, have them work through the *GED Practice* on pages 90–92. Explain that this section is similar to the GED Writing Test. You may go over the multiple-choice questions and discuss the answers with students. You may also have students apply the Revision and Editing Checklists on page 51 to their essays.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course on writing for the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

Get several types of writing, such as a tax form, a short story, a travel brochure, an ad, and a page from an encyclopedia. Have students analyze the styles of these documents. Are they clear and readable or confusing? Bureaucratic or friendly?

**Activity 2: The Reading/Writing Connection**

Have students read their essays aloud to each other in pairs or small groups. Ask listeners to pay special attention to word choice—which words stand out? What effect do those words have? Why?

**Activity 3: The Pre-GED Connection**

For students at the pre-GED level, focus on the idea that writing can be either formal or casual. Have them read their writing aloud. Discuss how to make the writing more or less formal.
LESSON OBJECTIVES
1. Understand the importance of writing complete, correct, and clear sentences.
2. Learn how to correct common sentence errors.
3. Combine clauses and phrases effectively.

PROGRAM 7
Effective Sentences, Parts One and Two

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Sentences** – A sentence has a subject and a predicate and expresses a complete thought. A sentence should be about one thing.

- **Fragments** – A fragment is an incomplete thought. Though use of fragments may sometimes be appropriate to achieve an effect, generally they confuse readers and are considered errors.

- **Run-ons** – A run-on sentence joins two or more complete thoughts without appropriate punctuation or conjunctions.

- **Types of Sentences** – Simple sentences alone can sound choppy. Writers create a pleasing rhythm by using a variety of sentence structures.
  - A **compound sentence** contains more than one independent clause connected by a comma and coordinating conjunction.
  - A **complex sentence** contains a dependent clause, headed by a subordinating conjunction, and an independent clause.

- **The GED Writing Test** – Students will need to be able to correct sentence problems such as fragments and run-ons as well as write effective sentences in their essays.

People and Ideas to Watch For

- Jan Isenhour, Carnegie Center for Literacy and Learning, contrasts speaking and writing. When you speak, you get cues that tell you if you are being understood. Writing, however, has to stand on its own.

- Ken Tucker, a television and music critic, describes how he likes to build sentences around catchy phrases. He talks about the effort he puts into making sentences work.

- Jan Isenhour discusses the confusion caused by run-ons and states that readers need sentence structure and punctuation to show them where ideas begin and end.

- Ken Tucker talks about sentence variety and rhythm.

- Scott Rice and Jan Isenhour present compound and complex sentences as ways of combining ideas and conveying the relationships between them. Isenhour discusses coordinating conjunctions (using the mnemonic device BOYSFAN) and subordinating conjunctions.

WORKBOOK LESSON

- **Language Arts: Writing & Reading Workbook**
  - Program 7: Effective Sentences, Parts One and Two

Before You Watch, pp. 93–96 and 113–116
- Sneak Previews (Pretests), pp. 94–95 and 114–115
- Vocabulary, pp. 96 and 116

After You Watch, pp. 97–109 and 117–129
- Key Points to Think About, pp. 97 and 117
- Complete Thoughts, pp. 98–99
- End Punctuation, pp. 100–101
- Fragments, pp. 102–105
- Run-ons, pp. 108–109
- Compound Sentences, pp. 118–121
- Complex Sentences, pp. 122–125
- Combining Details, pp. 126–129
- GED Practice, pp. 110–112 and 130–132

INTERNET CONNECTIONS

- **Student Activities at www.pbs.org/literacy**
  - GED Practice Test
  - Learning Module: Interactive course on writing skills and strategies
  - Internet-based Activity: Including GED-style practice questions
**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 7 focuses on the importance of correct and effective sentences. Tell students that a command of sentence structure is key to success on both parts of the GED Writing Test.

3. Ask, *Why is it important?* (pause before continuing) *To use complete sentences?* Tell students that you could tell from their expressions that they were confused by the first part of your speech. Write those two “sentences” on the board and discuss how it can be even more confusing to read incomplete or ineffective sentences.

4. There are two workbook lessons that accompany Program 7. You may want to show the video program twice as you introduce each lesson. Before each viewing, have learners do the Sneak Preview activities on workbook pages 94–95 and 114–115, respectively. You may wish to discuss the questions and answers using the feedback on pages 95 and 115.

5. Discuss the *Vocabulary* on pages 96 and 116.

6. Tell students that the video will show how writers work to achieve clear, effective sentences. Say, *As you watch, look for the different ways of writing sentences.*

**Show Program 7**

**Follow Up the Video Program**

1. Ask, *Did the video make you think differently about sentences? How so? What do you think you could do differently when you are writing and revising sentences?*

2. Remind students that the professional writers in the video work hard on their sentences. Ask, *Is it a relief to know that these people work so hard on their sentences, or do they make it seem just that much harder to write well?*

3. On the board write the four thoughts that Jan Isenhour worked with in the video. Discuss different ways of combining them.

4. Discuss the effects of long and short sentences, as Ken Tucker describes in the video.

**Use Workbook Instruction and Practice**

1. Discuss the *Key Points* on pages 97 and 117.


3. After learners have finished the lessons, have them work through the *GED Practice* on pages 110–112 and 130–132, respectively. Explain that each of these sections is similar to the multiple-choice questions on the GED Writing Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course on writing for the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

Have students study sentences in magazines and rewrite some of them, combining and breaking up ideas in different ways.

**Activity 2: The Reading/Writing Connection**

Have students read aloud excerpts of prose with different styles of sentence structure (for example, from Ernest Hemingway, William Faulkner, John McPhee, Barry Lopez) to hear the rhythm produced by each.

**Activity 3: The Pre-GED Connection**

Walk through some sentence-combining tasks. Have students suggest short clauses to work with. Show how different conjunctions specify different relationships between ideas.
LESSON OBJECTIVES
1. Understand the importance of correct grammar and usage.
2. Know the correct usage of nouns and pronouns.
3. Know the correct usage of verbs and modifiers.

PROGRAM 8
Grammar and Usage, Parts One and Two

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Correct Grammar and Usage** – Correctness in writing is important for two reasons: errors distract the reader, and they leave a negative impression of the writer.

- **Parts of Speech** – The video emphasizes three areas of grammar based on parts of speech:
  - **Nouns and Pronouns** – agreement between a pronoun and its antecedent, use of the subjective and objective cases, and use of an apostrophe in possessive nouns and contractions, as opposed to possessive pronouns
  - **Verbs** – regular and irregular verb forms, subject-verb agreement, and consistency of tense
  - **Adjectives and Adverbs** – uses of each type of modifier and their placement in the sentence

- **Editing** – One way to locate errors in writing is to read it aloud to “hear” the mistakes, but this is not a foolproof strategy. Students should also ask questions and use references when checking their work.

- **The GED Test** – Grammar and usage are important on both parts of the GED Writing Test.

People and Ideas to Watch For

- Ken Tucker, a television and music critic, describes how an error distracts him from the writer’s message.

- Jan Isenhour, Carnegie Center for Literacy and Learning, defines nouns and explains the relationship between them and pronouns.

- Mindy McAdams, a professor of journalism, advises students to keep three categories in mind when dealing with nouns, pronouns, and apostrophes: possessives, plurals, and contractions.

- Isenhour gives an overview of several issues related to verbs, including tense shifts.

- Jennifer McCarthy, a writer at the Sant Corp., reads the opening line from Lewis Carroll’s poem *Jabberwocky*. She explains that even though the poem is written with nonsense words, our knowledge of the structure and word order of English tells us what parts of speech those words must be.

- The host wraps up by explaining that grammar and usage are important on both parts of the GED Writing Test.

WORKBOOK LESSON

**Language Arts: Writing & Reading Workbook Program 8: Grammar and Usage, Parts One and Two**

Before You Watch, pp. 133–136 and 153–56
- Sneak Previews (Pretests), pp. 134–135 and 154–155
- Vocabulary, pp. 136 and 156

After You Watch, pp. 137–149 and 157–169
- Key Points to Think About, pp. 137 and 157
- Nouns, pp. 138–141

- Pronouns, pp. 142–145
- Noun-Pronoun Agreement, pp. 146–149
- Verb Forms and Tenses, pp. 158–161
- Subject-Verb Agreement, pp. 162–165
- Adjectives and Adverbs, pp. 166–169
- GED Practice, pp. 150–152 and 170–172

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

- **GED Practice Test**
- **Learning Module**
  Interactive course on writing skills and strategies
  - Internet-based Activity
    Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 8 focuses on using words correctly—especially nouns, pronouns, and verbs. Tell students that knowledge of grammar rules is important on both parts of the GED Writing Test.

3. Ask, In what situations do you try to use correct grammar? Why?

4. There are two workbook lessons that accompany Program 8. You may want to show the video program twice as you introduce each lesson. Before each lesson, have learners do the Sneak Preview activities on workbook pages 134–135 and 154–155, respectively. You may wish to discuss the questions and answers using the feedback on pages 135 and 155.

5. Discuss the Vocabulary on pages 136 and 156.

6. Tell students that the video will show writers and teachers trying to explain some basic concepts of grammar. Say, As you watch, think about which of these concepts are already familiar to you. Are you aware of whether you make mistakes like these? If so, which kinds of mistakes do you make?

Show Program 8

Follow Up the Video Program

1. Ask, Which of the grammar concepts in the video were already familiar to you? Do you know whether you make mistakes with nouns, pronouns, and verbs? Discuss some specific examples.

2. In the video, two speakers mention how adults tend to correct children’s speech. Ask, How did you feel when someone corrected your speech? Are speaking correctly and writing correctly related? How?

3. Jan Isenhour says in the video that we know more about language than we realize. Have students discuss all the things they can do well with language. Help them feel more confident that they already know a lot about English grammar.

4. Ask students to share what areas of grammar confuse them the most.

Use Workbook Instruction and Practice

1. Discuss the Key Points on pages 137 and 157.


3. After learners have finished the lessons, have them work through the GED Practice on pages 150–152 and 170–172, respectively. Explain that each of these sections is similar to the multiple-choice questions on the GED Writing Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course on writing for the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Ask students to try to speak with perfectly correct grammar for one whole day, no matter where they are or whom they are with. Have them report on their experiences in class.

Activity 2: The Reading/Writing Connection

Put a line from Jabberwocky on the blackboard and have students identify all the parts of speech. Then write a “translation” of the sentence using English vocabulary.

Activity 3: The Pre-GED Connection

Write nouns, verbs, and modifiers on index cards and have students build sentences, adding and editing cards as needed. Experiment with word order and note how the forms change.
LESSON OBJECTIVES

1. Learn to spell words correctly.
2. Learn and apply the rules for using punctuation correctly.
3. Capitalize proper nouns but not common nouns.

PROGRAM 9

Spelling, Punctuation, and Capitalization

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Punctuation** – Punctuation is a tool that writers use to help communicate their meaning. Different punctuation marks carry different meanings.

- **Commas** – Four basic comma rules cover the great majority of situations where commas are needed:
  - in compound sentences
  - in series
  - after long introductory material
  - around interrupting material

- **Run-ons** – Run-ons can be fixed with commas and coordinating conjunctions, semicolons, or end punctuation.

- **Capitalization** – Writers tend to capitalize words more often than necessary.
  - **Common nouns** name people, places, and things in general and are not capitalized.
  - **Proper nouns** name specific people, places, and things and are capitalized.

- **Spelling** – Students can use tools like dictionaries and spellcheckers. However, spellcheckers don’t catch homonym errors. Students can keep lists of words that have trouble spelling or create mnemonic devices.

People and Ideas to Watch For

- Writer Denise Chavez says punctuation is like a spice for writing—and it’s possible to have too much.

- Jan Isenhour, Carnegie Center for Literacy and Learning, explains that commas are used in four basic situations. She also shows how a semicolon is used in a compound sentence without a coordinating conjunction.

- Marty Lopinto takes a class through various ways of fixing a run-on with punctuation.

- Mindy McAdams, professor of journalism, and others explain why spellcheckers can’t catch all kinds of spelling errors.

- Jan Isenhour suggests that students try to identify patterns in their spelling errors so that they know which words to check.

- Several speakers offer examples of mnemonic devices for spelling tricky words.

- Human resources professional Janis Garr confides that, even after 15 years on the job, she still asks others to check her writing.

WORKBOOK LESSON

**Language Arts: Writing & Reading Workbook**
Program 9: Spelling, Punctuation, and Capitalization, pp. 173–192

Before You Watch, pp. 173–176
- Sneak Preview (Pretest), pp. 174–175
- Vocabulary, p. 176

After You Watch, pp. 177–189
- Key Points to Think About, p. 177
- Spelling Correctly, pp. 178–181
  - **Spelling Rules**
  - **Homonyms**

- **Punctuation**, pp. 182–185
  - **Apostrophes in Contractions and Possessives**
  - **Commas**
- **Capitalization**, pp. 186–189
  - **Proper Nouns**
  - **Capitalization Rules**
- **GED Practice**, pp. 190–192

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
Interactive course on writing skills and strategies

Internet-based activity
Including GED-style practice questions
**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 9 focuses on what are called “mechanics”—spelling, punctuation, and capitalization. Tell students that mechanics are tested on the first part of the GED Writing Test and are important in a GED essay as well.

3. Say, *Do you notice when words are misspelled or punctuation is misused in the ads, signs, mail, and other materials you read every day? What does seeing an error in print make you think of the person or company that made it?*

4. Have learners do the *Sneak Preview* activity on workbook pages 174–175. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 175.

5. Discuss the *Vocabulary* on page 176.

6. Tell students that the video will show how writers can make their editing efforts really count. Say, *As you watch the video, think about the kinds of errors you make and how you could focus your editing.*

**Show Program 9**

**Follow Up the Video Program**

1. Ask, *What do you think your most common errors are? How could you edit efficiently by looking for those errors?* List responses and share strategies.

2. Several speakers in the video suggest that one way people are judged is by their spelling. Ask, *Is it fair to judge people by their spelling? Always? Sometimes? Never?*

3. Discuss the methods one can use to check spelling and rules for punctuation and capitalization—dictionary, spell checks, English guidebooks, and other references. Ask students to demonstrate that they know how to use these tools.

4. Compile a class list of hard-to-spell words and see how many mnemonics the class can generate.

**Use Workbook Instruction and Practice**

1. Discuss the *Key Points* on page 177.


3. After learners have finished the lesson, have them work through the *GED Practice* on pages 190–192. Explain that these are similar to the questions they will see on the GED. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course on writing for the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

Help students collect data for identifying patterns of spelling problems. Ask them to take a notebook everywhere they go for a week and write down all the words they need or want to write but aren’t sure how to spell.

**Activity 2: The Reading/Writing Connection**

Give students a piece of prose to read without punctuation or capitalization, as in the video. Have them try to read it. Then ask them to rewrite it, editing it for errors.

**Activity 3: The Pre-GED Connection**

For students at the pre-GED level, teach commonly confused homonyms. Help the students write sentences that demonstrate the different meanings of sound-alike words.
### LESSON OBJECTIVES

1. Apply the writing process to writing a GED essay.
2. Know what makes an effective GED essay.
3. Develop and practice a strategy for the test essay.

## PROGRAM 10

### The GED Essay

#### VIDEO OVERVIEW

<table>
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<tr>
<th>Major Ideas in the Video Program</th>
<th>People and Ideas to Watch For</th>
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<tr>
<td><strong>Topic</strong> – For the GED Essay, you are given a topic as a one-line question or statement. It is of general interest that anyone can answer.</td>
<td>Marty Lopinto, GED teacher, reassures viewers that anyone can write about the topics on the GED. Several GED graduates share the topics they wrote about on the test.</td>
</tr>
<tr>
<td><strong>Response to the Topic</strong> – There is no right or wrong answer to the topic. You should simply answer the topic question with your own opinion or belief and support it with your personal experience and knowledge. Stick to the topic.</td>
<td>Joan Aucht, Director of the GED Testing Service, explains why students should read the essay prompt carefully.</td>
</tr>
<tr>
<td><strong>Writing the Essay</strong> – During the test, you will have enough time for generating ideas, writing a draft, and doing some revision. Scrap paper is provided for generating and organizing ideas. Include an introduction, a body with two or three paragraphs of support, and a conclusion. You can make changes and corrections right on your draft.</td>
<td>Marty Lopinto advises students to spend 15 minutes on planning—generate ideas; then look for two or three themes to develop as body paragraphs in the essay.</td>
</tr>
<tr>
<td><strong>Scoring</strong> – Essays are scored on a scale of 1 to 4. A score of 1 means “inadequate.” A score of 4 means “effective.” The top score does not mean “perfect”—an examinee will not be penalized for a few errors or awkward phrases. The scorers are looking at “the big picture”—to see if they understand your main point. Organization and development are key.</td>
<td>GED graduates share their experiences of preparing for and writing GED essays.</td>
</tr>
<tr>
<td><strong>Practice</strong> – Students should write frequently on a range of general topics and practice writing in the test format under the time restrictions of the GED.</td>
<td>Joan Aucht reassures students that the testing center is comfortable, with adequate lighting and a clock. She reminds students to get enough sleep, to eat before the test, and to ask questions of the staff at the center.</td>
</tr>
</tbody>
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#### WORKBOOK LESSON

*Language Arts: Writing & Reading Workbook*

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<td><strong>Internet-based Activity</strong></td>
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<td>Including GED-style practice questions</td>
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</table>
**PROGRAM 10 LESSON PLAN**

**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 10 focuses on how GED candidates can write the GED essay successfully.

3. Ask, Have you ever had to write a test essay or some other piece of writing that would be judged by others? (for example, on a job application) How did you approach this task?

4. Have learners do the Sneak Preview activity on workbook pages 194–195. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 195.

5. Discuss the Vocabulary on page 196.

6. Tell students that the video will show writers and teachers talking about the essay questions on the GED. Say, Pay attention to the essay prompts in the video. Notice the kinds of things that you might be asked to write about.

**Show Program 10**

**Follow Up the Video Program**

1. List the essay prompts that students remember from the video. Ask, Do you think these kinds of questions are hard to answer? How can you prepare yourself without knowing the topic in advance?

2. Talk about the two sample essays in the video. Be sure students understand the scores and the characteristics of the essays that were presented in the video.

3. Remind students of Joan Auchter’s comment that a few spelling errors will not hurt an essay score. Talk about why scorers cannot expect GED essays to be error-free.

4. In the video, Zondra Walton says she wrote every day while preparing for the GED. She advises candidates to read and pay attention to how published writing is written and punctuated. Discuss her advice; help your students find ways to incorporate reading and writing into their daily schedules.

**Use Workbook Instruction and Practice**

1. Discuss the Key Points on page 197.


3. After learners have finished the lesson, have them work through the GED Practice on pages 210–212. Explain that they will be writing essays in response to prompts that are similar to what they will see on the GED Test. As they complete each of the practice essays, help them review and refine their strategies for test writing.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Writing online learning module, where they will be able to take an extended, interactive course related to writing for the GED. Students can also use Internet activities to practice answering GED-type questions that focus on writing skills.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

Many GED graduates in the video describe how improving their writing has helped them in their lives. Have students list ways that better writing skills can pay off beyond the GED.

**Activity 2: The Reading/Writing Connection**

Bring sample essays to class and have your students practice scoring them. Talk about the features that differentiate strong essays from weak ones.

**Activity 3: The Pre-GED Connection**

For students at the pre-GED level, emphasize daily reading and writing activities to build up their literacy “muscles.” Make sure your students read newspapers and magazines regularly. Have them keep journals.
PROGRAM II

Passing the GED Reading Test

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Reading Passages** – Each test has seven passages to read, with questions based on each passage. There are four types of reading passages:
  - **Fiction** – Three of the passages are fiction (one passage was written before 1920, one between 1920 and 1960, and one since 1960).
  - **Drama** – one passage in script or screenplay form
  - **Poetry** – one poem
  - **Nonfiction prose** – two passages. These may be excerpted from biographies, reviews, or articles.

- **Purpose Questions** – Each passage is headed by a question, which is intended to engage the student and give some direction to aid reading comprehension.

- **Thinking Skills** – Students will answer questions that require the skills of
  - **Comprehension** – understanding what the passage says
  - **Analysis** – examining how and why details are used
  - **Application** – transferring ideas from one context to another
  - **Synthesis** – putting ideas together to understand a larger meaning. Inference requires synthesis.

People and Ideas to Watch For

- Renee Shea, language arts expert, stresses that the GED tests reading skills we use regularly in the course of our lives.
- Barbara Consorto, an English teacher, points out that students don’t have to memorize facts or identify authors. What matters is that they can read.
- Jean Fleschute, a learning center director from Philadelphia, talks about the special effects of literary language. She asks why the author chose a particular word.
- George Ella Lyon, a poet herself, reads and interprets “One Art,” a poem by Elizabeth Bishop. She explains how the poem means the opposite of what it appears to say.
- Several GED instructors give helpful advice on what to do during the test. “Test tips” are featured at several points in the video.
- Joan Auchter, Executive Director of the GED Testing Service, emphasizes the importance of reading the directions.

Students will have 65 minutes to answer 40 multiple-choice questions.

WORKBOOK LESSON

Language Arts: Writing & Reading Workbook
Program II: Passing the GED Reading Test, pp. 233–246

GED Reading Test Overview, p. 234
Reading Concepts and Skills, pp. 235–246
  - Comprehension, pp. 235–237
  - Making Inferences
  - Demonstrating Understanding
  - Analysis, pp. 240–243
    - Cause and Effect
    - Drawing Conclusions
    - Effects of Words and Details
    - Tone
  - Synthesis, pp. 244–246
    - Structure of a Text
    - Comparison/Contrast
    - Viewpoint and Purpose

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
  - Interactive course on reading passage types and thinking skills
  - Internet-based Activity
    - Including GED-style practice questions

G-38 Teacher’s Guide
**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 11 provides an overview of the GED Reading Test and that the main points are elaborated in the accompanying workbook lesson.


4. Tell students that the video will show some questions that require “reading between the lines” of a passage. Say, As you watch the video, think about how to read between the lines. Watch for how you can dig out new meanings from clues in the passage.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Reading online learning module, where they will be able to take an extended, interactive course related to reading different types of passages. Students can also use Internet activities to practice taking GED-type questions that focus on reading skills.

2. A teacher may view the GED online learning modules from the LiTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the GED Connection online curriculum.

**Lead Group Activities**

**Activity 1: Passing the GED**

Ask students to think of ways they can prepare for the GED Reading Test. Aside from reading many different reading materials as much as possible in their everyday lives, students can look for reviews of a current film in newspapers and magazines. Then have them search the Internet for the screenplay of the same film and read it as a dramatic script. If the film was based on a book, bring in a short excerpt and relate it to the reviews and the screenplay. Emphasize that all these versions of the story are related, but each has to be understood on its own as well.

**Activity 2: The Reading/Writing Connection**

Have students write a short poem or descriptive paragraph that says one thing but means the opposite, imitating Elizabeth Bishop’s poem on loss. For example, students could write about happiness while pretending to be sad, or about despising someone they pretend to adore. (Encourage humor.) Have them talk about how they created clues to the underlying meanings in their writing.

**Follow Up the Video Program**

1. Ask students, How well could you read between the lines of the passages discussed in the video? Did you see the clues in the passages that pointed to the right answers?

2. Ask students, Do you have any major questions about this test?

3. One of the main focuses of the program is the different types of reading passages on the test. Make a list of these types on the board, and ask students for examples of each. Then ask, Where would you find these different types of reading? What experiences have you had with them?

4. Discuss the sample questions that were shown on the videotape. If you want to photocopy the reading questions from the Passing the GED Reading Test program to use them for discussion, please see the Copymasters in this teacher’s guide. Discuss why the correct answers are correct and why the incorrect choices are wrong.

**Use Workbook Instruction and Practice**

1. Discuss the GED Reading Test Overview on page 234.

2. Assign instruction and GED Practice questions on pages 235–246. Go over the sample questions and discuss the correct answers. Explain why incorrect choices are wrong (for example, contradict information in the passage or don’t answer the question).
### Video Overview

**Major Ideas in the Video Program**

- **Definition of Genre** – Nonfiction is writing based on real life—real people, places, events, ideas.
- **Types** – The GED Reading Test draws on a variety of types of nonfiction, including biography, reviews, magazine articles, and business writing. Two reading passages on each test are nonfiction.
- **Purposes** – We read nonfiction to find specific information, to solve problems, to learn. It’s important to know when to read carefully and when to simply skim.
- **Skills** – The video discusses some important skills for reading nonfiction:
  - Recognizing the main idea, even when it is only implied.
  - Noting how the main idea is supported by details.
  - Distinguishing fact from opinion.
- Other skills for reading nonfiction that are tested on the GED include the following:
  - Understanding how ideas are organized or related: sequence, cause/effect, comparison/contrast, and so on
  - Recognizing the author’s bias and tone
  - Drawing conclusions

**People and Ideas to Watch For**

- Christine Day, owner of Krissy Kids Day Care, talks about all the reading she has done in learning how to operate her business. She shows how to use a manual on fire safety to make sure her business complies with state regulations.
- Sam Adams, film critic for the *Philadelphia City Paper*, explains that writing a review helps him understand a movie and the reasons he likes it. He points out shifts between fact and opinion in a film review.
- Luis Rodriguez, author of the memoir *Always Running*, explains how much writing and reading have always meant to him, even when he was involved in gangs or in prison.
- In a short excerpt from Rodriguez’s memoir, we learn how the image of a bouncing ball conveys the central idea of instability in the passage—an example of a literary use of language in nonfiction.
- Rodriguez speaks of the need for details to bring a story to life and to “anchor” the main idea.

### Workbook Lesson

*Language Arts: Writing & Reading Workbook Program 12: Nonfiction, pp. 247–267*

**Before You Watch,** pp. 247–250
- Sneak Preview (Pretest), pp. 248–249
- Vocabulary, p. 250

**After You Watch,** pp. 251–267
- Key Points to Think About, p. 251
- Main Idea and Details, pp. 252–253
  - Recognizing a Main Idea
  - Supporting Details
  - Unstated Main Idea
  - Inferences and Conclusions, pp. 256–263
  - Reading Between the Lines
  - Analyzing Nonfiction
  - Fact or Opinion
  - Author’s Bias
  - Writer’s Tone
  - GED Practice Questions (Posttest), pp. 268–270

### Internet Connections

**Student Activities at www.pbs.org/literacy**

- GED Practice Test
- Learning Module
  - Interactive course on reading skills and strategies
  - Internet-based Activity
  - Including GED-style practice questions

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G-40 Teacher’s Guide
Set Up the Video Program

1. Preview the video. You may want to select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 12 focuses on reading nonfiction—writing that is based on facts and real events. Tell students that they will read two nonfiction passages on the GED Reading Test.

3. Ask, What kinds of nonfiction reading do you have at home? Why?

4. Have learners do the Sneak Preview activity on workbook pages 248–249. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 249.

5. Discuss the Vocabulary on page 250.

6. Tell students that the video will show people reading different types of nonfiction—a manual on fire safety, a film review, a memoir. Say, As you watch the program, think about whether these types of reading seem familiar or unfamiliar to you. What do you know about them?

Show Program 12

Follow Up the Video Program

1. Ask students, Which types of reading were familiar to you, and which were unfamiliar? When have you read these kinds of nonfiction in the past and why?

2. In the video, Christine Day talks about how much reading she has done in learning to run her business. Ask students to think about how they read to find out information and how they know when they have found the right information to answer a question. Relate this discussion to answering questions on the GED Test.

3. Sam Adams talks about how a film reviewer moves back and forth between fact and opinion. Ask, Why is it important for the reviewer to present both facts and opinions?

4. Luis Rodriguez explains the importance of supporting details in his memoir. Ask, Why are details so important in this kind of writing? What about other kinds of writing?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 251.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 268–270. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Reading online learning module, where they will be able to take an extended, interactive course related to reading nonfiction. Students can also use Internet activities to practice answering GED-type questions that focus on reading skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Explain that nonfiction reading is a way for people to learn new things, as Christine Day did. Ask students, What issues could you learn more about by reading nonfiction? What might you read? Invite students to bring these materials to class to read and share.

Activity 2: The Reading/Writing Connection

Have the class choose a familiar informative topic for a short article. Have them work out two different ways of organizing the article. Discuss the advantages and disadvantages of the two approaches.

Activity 3: The Pre-GED Connection

Focus on main ideas and supporting details. Choose a passage in the workbook. Ask students to identify the main idea and explain how it is supported by details.
LESSON OBJECTIVES
1. Understand how an author develops the plot and characters in a story.
2. Interpret a piece for conflict, point of view, and theme.
3. Identify and analyze how a writer’s style creates a mood.

PROGRAM 13
Fiction

VIDEO OVERVIEW

**Major Ideas in the Video Program**
- **Elements of Fiction** – Fiction is a story that is invented by a writer. The key elements of fiction are character (the individuals), plot (the story), and setting (where and when the story takes place).
- **Conflict** – The conflict in fiction may be within a person (internal) or between a person and others (another person, society, nature, and so on).
- **Theme** – The theme of a story is the idea about life that the story conveys.
- **Point of View** – Point of view is the perspective that a story is told from—a person in the story (first-person narrator) or a person outside the story (third-person narrator).
- **Mood and Tone** – The mood is the feeling of a piece, often conveyed through the details of the setting. The tone is the overall attitude that the piece conveys—happiness, fear, and so on.
- **Style and Word Choice** – The distinctive sound of a story is created through the author’s sentence structure and word choice.

**People and Ideas to Watch for**
- Edwidge Danticat, author of *Breath, Eyes, Memory*, talks about how she used writing to understand her life as an immigrant. This segment introduces the elements of fiction—character, plot, and setting.
- Kenneth McClane uses James Baldwin’s story *Sonny’s Blues* to introduce the concepts of conflict and theme. The themes of *Sonny’s Blues* deal with communication and relationships.
- A discussion by George Ella Lyon of Flannery O’Connor’s “A Good Man Is Hard to Find” focuses on how the author uses dialogue, description, and pacing to create an overall emotional impression.
- Martha Womack discusses Edgar Allan Poe’s “Tell-Tale Heart,” bringing together some of the major points about mood and point of view—emphasizing the power of the first-person point of view and Poe’s choice of words to create a mood of suspense.

WORKBOOK LESSON

*Language Arts: Writing & Reading Workbook*
Lesson 13: Fiction, pp. 271–293

**Before You Watch**
- p. 271–274
  - Sneak Preview (Pretest), pp. 272–273
  - Vocabulary, p. 274

**After You Watch**
- p. 275–294
  - Key Points to Think About, p. 275
  - Understanding Character, pp. 276–279
    - Character Development Narrator • Point of View

INTERNET CONNECTIONS

*Student Activities at www.pbs.org/literacy*

- **GED Practice Test**
- **Learning Module**
  - Interactive course on reading skills and strategies
- **Internet-based Activity**
  - Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 13 focuses on fiction—stories that are invented. Explain that on the GED Reading Test students will read three pieces of fiction.

3. Ask, What is a favorite story that you have read? Why did you like it so much?

4. Have learners do the Sneak Preview activity on workbook pages 272–273. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 273.

5. Discuss the Vocabulary on page 274.

6. Tell students that the video will contain excerpts from four pieces of fiction. Say, As you watch the program, think about which piece of fiction you liked the best and why. We will discuss the pieces after the program.

Show Program 13

Follow Up the Video Program

1. Ask students, Which piece of fiction did you like best? Why? Elicit references to specific characters, moods, themes, and so on.

2. Both the piece about the immigrant girl from Haiti and “The Tell-Tale Heart” were written from the first-person point of view. The video program says that stories written in the first person tend to be emotionally powerful. Using these two pieces as reference, have the students discuss what this means. Encourage them to use examples from the video.

3. Ask students to describe the grandmother and mother from “A Good Man Is Hard to Find.” They can describe physical or personality characteristics. Ask, What in the selection helped you form these impressions?

4. The theme of Sonny’s Blues concerns the relationship between the brothers. Ask, How did the author use the development of the music to express this theme?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 275.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 292–294. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing the correct answer as well as incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Reading online learning module, where they will be able to take an extended, interactive course related to reading fiction. Students can also use Internet activities to practice answering GED-type questions that focus on reading skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Explain that fiction helps us “go” to places or times beyond our lives. Ask students, What is a place or time that you would like to visit? List responses on the board and ask students to give their reasons. If you know of any novels or short stories with these settings, share the information with the students.

Activity 2: The Reading/Writing Connection

Choose or have students choose a selection from the workbook lesson (for example, “Thank You, M’am” by Langston Hughes on page 277). Have students write three to five paragraphs about what they think will happen next.

Activity 3: The Pre-GED Connection

For students who are at the pre-GED level, focus on comprehension of basic fiction concepts. Using a selection from the video or workbook, ask: Who is (are) the main character(s)? Where and when does this story take place? Is a conflict described? What is it?
LESSON OBJECTIVES

1. Understand poetic form.
2. Recognize literal and figurative language.
3. Recognize poetic elements and techniques that help express meaning.

PROGRAM 14

Poetry

VIDEO OVERVIEW

Major Ideas in the Video Program

- The GED Reading Test – The test has one poem. The poem was chosen to be accessible to contemporary readers.

- Skills – The video discusses some important skills for reading poetry:
  - Identifying the speaker of the poem
  - Recognizing the tone, or feeling, of the speaker.
  - Using sound as a cue to meaning in the poem. Rhyme occurs when end sounds are the same. Rhythm is the pattern of stresses. Students should read poems aloud to help themselves hear rhyme and rhythm.
  - Recognizing how a poet uses images to convey ideas and feelings. When a poet paints pictures with words, these pictures add to the overall meaning.
  - Understanding literal and figurative language. When do words mean exactly what they say, and when are they used to mean something else?

People and Ideas to Watch For

- Poets Sonia Sanchez and Robert Pinsky urge learners to pay attention to the sounds of poetry. Pinsky says to read a poem aloud first without even thinking about the meaning—he refers to Robert Frost’s expression “the sound of meaning.”

- Sonia Sanchez reads “Those Winter Sundays” with a GED class. She says that the poem compresses meaning so that each line is like a chapter. She points out words that carry special emotional power.

- Pinsky introduces the Favorite Poem Project, in which readers from different backgrounds read their favorite poems. Pinsky says that the poet orchestrates the reader’s voice; each reader and each reading is a different experience of the poem.

- Two readers from the Favorite Poem project relate poems to their own lives. Jessie Alpaugh, a disabled student at UC-Berkeley, reads Robert Frost’s “Stopping by Woods on a Snowy Evening.” Yina Liang, a Chinese-American high school student, reads Emily Dickinson’s “I’m Nobody!”

WORKBOOK LESSON

Language Arts: Writing & Reading Workbook
Program 14: Poetry, pp. 295–318

Before You Watch,
pp. 295–298
- Sneak Preview (Pretest), pp. 296–297
- Vocabulary, p. 298

After You Watch,
pp. 299–315
- Key Points to Think About, p. 299
- Poetic Form, pp. 300–303
- Reading Lines • Understanding Stanzas
- Speaker and Tone, pp. 304–307
- Recognizing the Speaker • Recognizing Tone

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module Interactive course on reading skills and strategies

Internet-based Activity Including GED-style practice questions

G-44  Teacher’s Guide
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 14 focuses on reading poetry. Tell students that they will read one poem on the GED Reading Test.

3. Ask, What makes poetry special? Think of a poem that you particularly remember. Why do you remember it?

4. Have learners do the Sneak Preview activity on workbook pages 296–297. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 297.

5. Discuss the Vocabulary on page 298.

6. Tell students that the video will show people talking about and reading poems. Say, As you watch the program, pay attention to the special ways that poets express meanings in their poetry. We will talk about these after we view the program.

Show Program 14

Follow Up the Video Program

1. Ask students, What special ways of making meaning did you notice in the poems read in the video? Discuss specific examples.

2. Pick up from Sonia Sanchez’s discussion of the poem “Those Winter Sundays.” Sanchez talks about the symbolism of the banked fire; discuss with your students the symbolism of the polished shoes.

3. Discuss the imagery in Robert Frost’s poem “Stopping by Woods on a Snowy Evening.” Ask, Why is it important that the narrator stops next to the woods, in the snow, in the evening? What does this imagery contribute to the meaning of the poem?

4. Discuss Dickinson’s speaker and tone in “I’m Nobody!” Ask, Is the poet saying something significant? How do you know? If the poet is nobody, under what circumstances can a nobody say something that matters?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 299.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 316–318. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Reading online learning module, where they will be able to take an extended, interactive course related to reading poetry. Students can also use Internet activities to practice answering GED-type questions that focus on reading skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

At the very end of the video, Sonia Sanchez says that poetry keeps us human, keeps us company in the dark. Discuss this with your students. Ask, Can poetry inspire you, comfort you, remind you that you are human? Why or why not?

Activity 2: The Reading/Writing Connection

Group students and give each group a short poem or section of a poem, about 4–6 lines. Encourage each group to write a poem using the same poetic devices, rhythm, rhyme pattern (if applicable), and tone as the original poem. Have groups share their work.

Activity 3: The Pre-GED Connection

For students at the pre-GED level, focus on one poem in the workbook that has strong meter and/or rhyme. Help students read the poem expressively; then discuss its overall meaning.
## LESSON OBJECTIVES

1. Read dramatic scripts.
2. Understand the role of conflict and character motivation.
3. Identify theme from dramatic elements.

### PROGRAM 15

**Drama**

### VIDEO OVERVIEW

**Major Ideas in the Video Program**

- **Definition of Genre** – Plays, television programs, and films are all forms of drama, and all are based on scripts. A script lists the characters, describes the settings, and describes the action of a drama through dialogue and stage directions.

- **The GED Reading Test** – Each GED Reading Test has one passage of drama. These passages are chosen to be accessible to contemporary readers.

- **Skills** – The video discusses some important skills for reading drama:
  - Understanding the format and elements of a script, especially dialogue and stage directions.
  - Identifying the conflict—whether external (between characters or between characters and nature) or internal (within a character)—that drives the plot.
  - Analyzing the characters’ motivations—why are they doing what they are doing?
  - Identifying the author’s theme, or overall message, by synthesizing plot, conflict, and character motivations.
  - Imagining what the script would look like as a performance: hearing the dialogue in your head and visualizing actors in costume, moving around a stage set.

**People and Ideas to Watch For**

- Jon Jory and Michael Dixon of the Actors Theatre of Louisville talk about how masterful storytellers write drama that we can identify with, even if they wrote their plays centuries ago.

- We meet Milagros Vega, a GED student playwright whose script was performed at a literacy event sponsored by the Philadelphia mayor’s office. Vega talks about how she finds ideas for her writing in everyday things, by watching how people act and talk.

- Larry Moses, of the Philadelphia Young Playwrights Festival, teaches a GED class some of the basic elements of a dramatic script. He talks about the advantage that GED students have in reading drama—they can bring their life experiences to the conflicts and the characters’ actions.

- Moses advises to try to visualize the action in your head when you read a script. He leads his class through a reading of a scene from Vega’s play, *Consequences*. Although Vega does use ordinary material from everyday life, the conflict she introduces has enormous significance for her characters.

### WORKBOOK LESSON

*Language Arts: Writing & Reading Workbook Program 15: Drama, pp. 319–342*

**Before You Watch,**
- pp. 319–322
  - Sneak Preview (Pretest), pp. 320–321
  - Vocabulary, p. 322

**After You Watch,**
- pp. 323–342
  - Key Points to Think About, p. 323
  - Reading Scripts, pp. 324–327
  - *Script Format* • Visualizing the Drama
  - Understanding Characters, pp. 328–331
  - *Analyzing Dialogue* • *Analyzing Action*
  - Understanding Conflict, pp. 332–335
  - *External* • *Internal*
  - Understanding Theme, pp. 336–339
  - *Character and Conflict* • *Common Themes*
  - GED Practice Questions (Posttest), pp. 340–342

### INTERNET CONNECTIONS

*Student Activities at www.pbs.org/literacy*

- **GED Practice Test**
- **Learning Module**
  - Interactive course on reading skills and strategies
  - Internet-based Activity
    - Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 15 focuses on reading drama—scripts that form the basis of plays, films, and TV shows. Tell students that they will read one drama passage on the GED Reading Test.

3. Ask, Have you ever acted in a play using a script? What was it like to try to interpret the script as you acted it out? If students have not used scripts before, say, Think of a TV show or movie you like. How do the actors know what to say? How to act?

4. Have learners do the Sneak Preview activity on workbook pages 320–321. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 321.

5. Discuss the Vocabulary on page 322.

6. Tell students that the video will show people talking about and acting from dramatic scripts. Say, As you watch the program, pay attention to the roles of conflict and character motivation in a drama. We will talk about these elements after the program.

Show Program 15

Follow Up the Video Program

1. Ask students, What did you learn about conflict in a drama? What did you learn about characters in a drama?

2. Ask students to talk about the in-class reading of Milagros Vega’s play. Ask, How did the students doing the reading know how to interpret the scene? If we were reading the scene in our class, how would you play the characters or read the lines differently?

3. Review with students what we know about the characters in Heartbreak House, particularly Hesione and Addy. Ask, What are their motivations? What conflict might be important between them?

4. Discuss the actors’ comments about what we need to know about a drama. According to Chick Reid, the characters in Heartbreak House are just like us, but in different clothes. Robyn Hunt, however, claims that we should think not only about what we have that those characters didn’t have but also about how that makes their lives different from ours.

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 323.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 340–342. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Reading online learning module, where they will be able to take an extended, interactive course related to reading drama. Students can also use Internet activities to practice answering GED-type questions that focus on reading skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Help students find scripts of popular TV shows or movies. Ask, What features do these have that play scripts do not have? Why?

Activity 2: The Reading/Writing Connection

Have students work in groups to write skits and perform them for the class. Their scripts should contain both dialogue and stage directions.

Activity 3: The Pre-GED Connection

Focus on developing understanding of the script format. Help them read aloud from a script and follow the different characters’ lines of dialogue.
**LESSON OBJECTIVES**

1. Understand the skills and knowledge needed for the GED Social Studies Test.
2. Find out about the kinds of graphics on the test.
3. Learn some approaches to test questions.

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**PROGRAM 16**

**Passing the GED Social Studies Test**

### VIDEO OVERVIEW

**Major Ideas in the Video Program**

- **GED Content Areas** – U.S. History (25%), World History (15%), Government and Civics (25%), Economics (20%), Geography (15%)

- **Types of Questions** – Multiple-choice questions based on reading passages and graphics. (60% of the questions are based on graphics or combined reading and graphic.)

- **Types of Graphics** – Maps, charts and graphs, political cartoons, diagrams, timelines, or photos may appear on the test.

- **Thinking Skills** – Questions draw on four distinct cognitive skills:
  - Comprehension – understanding and being able to restate and summarize what is read
  - Application – transferring ideas from one context to another
  - Analysis – examining the logical structure of ideas; drawing conclusions from various types of data
  - Evaluation – judging fact vs. opinion and the reliability of information

- **Special Documents** – The test will include part of a key document from U.S. history, as well as a passage from a “practical document,” such as a job agreement.

- **Prior Knowledge** – Students must know general social studies concepts (for example, oceans, continents, U.S. states and regions).

**People and Ideas to Watch For**

- Joan Auchtner of the GED Testing Service explains the role of prior knowledge on the GED Social Studies Test but reassures students that people can learn about social studies in their daily lives. She also explains what to do if stumped by a question.

- Mary Winter, Joyce Hoover, and David Zurick explain how different maps convey different types of information for different purposes. In a sample question based on a map of foreign-born population, students must apply information from a map.

- Mike Berheide, Professor of Political Science, discusses how different types of graphs convey visual information. A sample question based on a bar graph asks students to analyze and evaluate information from the graph, based on another fact that is not represented on the graph.

- Nancy Mautz and Kristin Stapleton explain timelines and our method of dating events.

- Host Pearce Bunting explains how to find the main idea of a political cartoon.

Students will have 80 minutes to answer 50 multiple-choice questions.

### WORKBOOK LESSON

**Social Studies & Science Workbook**

Program 16: Passing the GED Social Studies Test, pp. 11–24

- GED Social Studies Test Overview, p. 12
- Key Social Studies Concepts and Skills, pp. 13–24
  - Comprehension, p. 13
  - Application, p. 14
  - Analysis, pp. 15–17
    - Cause and Effect
    - Fact and Opinion
    - Compare and Contrast
  - Evaluation, pp. 18–19
    - Assumptions and Bias
    - Values and Beliefs
  - Interpreting Graphics, pp. 20–24
    - Bar and Line Graphs
    - Maps
    - Cartoons

### INTERNET CONNECTIONS

**Student Activities at www.pbs.org/literacy**

- GED Practice Test
- Learning Module
  - Interactive course on social studies reading, graphics, and thinking skills
  - Internet-based Activity
    - Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 16 provides an overview of the GED Social Studies Test and that the main points are elaborated in the accompanying workbook lesson.

3. Ask, *How does your knowledge of social studies (like history, geography, and economics) affect decisions you make in your daily life?* List responses on the board.

4. Tell students that the video will show some questions that require interpreting graphics and using the information. Say, *As you watch the video, think about how to “read” a graphic. How is reading a graphic different from reading a written text?*

Show Program 16

Follow Up the Video Program

1. Ask students, *Did you understand the sample questions and answers based on the graphics? Do you think the graphics make GED questions harder or easier? Why?*

2. Ask students, *Do you have any major questions about this test?*

3. One of the main themes of the program is how social studies issues are all around us, all the time. List the five content areas on the board. Ask students to think of issues in their lives that relate to each of the areas.

4. Discuss the sample questions that were shown on the videotape. If you want to photocopy the social studies questions from the *Passing the GED Social Studies Test* program for discussion, please see the Copymasters in this teacher’s guide. Discuss why the correct answers are correct and why the incorrect choices are wrong.

Use Workbook Instruction and Practice

1. Discuss the *GED Social Studies Test Overview* on page 12.

2. Assign instruction and *GED Practice* questions on pages 13–24. Go over the sample questions and discuss the correct answers. Explain why incorrect choices are wrong (for example, don’t answer the question or contradict the source).

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Social Studies online learning module, where they will be able to take an extended, interactive course related to social studies concepts. Students can also use Internet activities to practice answering GED-type questions that focus on social studies skills and content.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the *GED Connection* online curriculum.

Lead Group Activities

**Activity 1: Passing the GED**

Ask students to help you think of interesting ways they can prepare for the GED Social Studies Test. For example, students can look for economics information in the business section of newspapers and newsmagazines. They can watch television programs to learn about history and geography. Help your students think of activities that will engage their attention and appeal to their interests.

**Activity 2: The Graphic Connection**

With your students, design a demographic investigation of your class. (Be sure to work with information that students feel comfortable sharing.) For example, your class investigation could focus on the characteristics of previous generations in students’ families. You could seek patterns in their geographic origins and migration patterns, level of education, age of childbearing, number of children, and so on. Use the categories of information to construct a graphic display with written captions, including a map, graphs, and a timeline.
LEARNING OBJECTIVES
1. Understand the relationships among cultural groups in U.S. history.
2. Recognize the role of technology in U.S. life.
3. Investigate the rise of the U.S. as a world power.

PROGRAM 17
Themes in U.S. History

**VIDEO OVERVIEW**

### Major Ideas in the Video Program
- **Themes** – Major themes in U.S. history include the mixing of many cultures, the ideals of individual rights and freedoms, and the ever-changing nature of everyday life.
- **“New World”** – By 1500, Europeans were exploring and colonizing America. They sought gold and other sources of wealth. Colonists were helped by Native Americans yet took over their lands and resources.
- **American Revolution** – The colonists’ increasing resentment against laws and taxes forced on them by the British government caused their rebellion.
- **Manifest Destiny** – The new nation expanded rapidly, displacing native tribes regardless of previous treaties. The country justified its expansion with the idea that it was destined by God to rule the continent.
- **Slavery** – Conflicts over economic power and slavery, an integral part of the South’s economy, led to the Civil War in 1861.
- **Immigration** – Immigrant groups provided labor for enormous economic expansion into the 1900s and added to the mix of cultures.
- **20th century** – A period of rapid industrial growth, social change, and urbanization with profound impact on daily life.

### People and Ideas to Watch For
- William Kelso, Director of Archaeology, and Beverly Straube, Curator, tell the story of Jamestown as revealed through archaeological explorations.
- Historian Dr. Ed Ayers talks about the hardships the colonists endured to win their independence from the British.
- Freeman Owle, Cherokee historian, relates how his ancestors were pushed out of their home. His story underscores the tragic costs of the idea of Manifest Destiny.
- Charles Pace, Professor of Anthropology and American Studies, explains how Frederick Douglass’s writings helped counteract Southern propaganda about slavery as a “civilizing” institution.
- Teacher David Green and historians Patricia Cooper and Gregory Fitzsimons discuss the different immigrant experiences, including Irish labor in the Lowell textile mills.
- Historian Jim Klotter explains how all history is local and how historians decide what is important.

**WORKBOOK LESSON**

**Social Studies & Science Workbook**
Program 17: Themes in U.S. History, pp. 25–48

**Before You Watch, pp. 25–28**
- Sneak Preview (Pretest), pp. 26–27
- Vocabulary, p. 28

**After You Watch, pp. 29–48**
- Key Points to Think About, p. 29
- A Multicultural Nation, pp. 30–33
  - Nation’s Beginnings • Immigrants and Immigration
- Work and Working, pp. 34–37
  - Self-sufficient America • Factory System • Industrialization
- Rights and Freedoms of Americans, pp. 38–41
- U.S. as a World Power, pp. 42–54
  - Manifest Destiny • World Wars • Cold War
- GED Practice Questions (Posttest), pp. 46–48

**INTERNET CONNECTIONS**

**Student Activities at www.pbs.org/literacy**

- GED Practice Test
- Learning Module
  - Interactive course on social studies content and skills
  - Internet-based Activity
    - Including GED-style practice questions
PROGRAM 17 LESSON PLAN

Set Up the Video Program
1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 17 focuses on U.S. history, which accounts for one-fourth of the questions on the GED Social Studies Test.

3. Say to students, Some people say that if we don’t understand history, we are doomed to repeat it. Do you agree with this idea? Why or why not?

4. Have learners do the Sneak Preview activity on workbook pages 26–27. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 27.

5. Discuss the Vocabulary on page 28.

6. Tell students that the video will show people talking about important themes in American history. Say, As you watch the program, think about how these themes have evolved and how they still affect us today.

Show Program 17

Follow Up the Video Program
1. With students, compile a list of themes addressed in the video. Then ask, Where in your life do you see these issues? What lessons about these issues has history given us?

2. In the video, archaeologists were learning about everyday life in the Jamestown settlement. Ask students, Why is this kind of historical information important?

3. Talk with students about the causes of the American Revolution. Ask, How did the founders design the new government of the United States in response to the problems of British colonial rule?

4. The video implies the following parallel themes: Manifest Destiny was used to justify breaking treaties with Native Americans, and propaganda was used to justify slavery. Discuss with students how powerful ideas can be in oppressive systems, as well as how ideas can motivate progressive movements such as abolitionism.

Use Workbook Instruction and Practice
1. Discuss the Key Points on page 29.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 46–48. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet
1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Social Studies online learning module, where they will be able to take an extended, interactive course related to U.S. history. Students can also use Internet activities to practice taking GED-type questions that focus on social studies skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life
Ask students to discuss how major events, periods, and trends of the 20th century have affected their own lives and families. You might talk about the Great Depression, wars, demographic changes, and movements such as civil rights and women’s liberation.

Activity 2: The Graphic Connection
Bring newspaper articles with photos to class. Discuss how the photos shape the news. Ask, What part of the story does the photo focus on? What is left out of the photo? How does it affect what you notice when you read the story?

Activity 3: The Pre-GED Connection
For students at the pre-GED level, highlight and discuss the main historical themes from the video program. Chart major historical figures and events that can be tied to those themes.
### LESSON OBJECTIVES
1. Learn how modern nations developed.
2. Understand the global significance of the Industrial Revolution.
3. Evaluate the role and spread of democracy.

### PROGRAM 18
Themes in World History

#### VIDEO OVERVIEW

<table>
<thead>
<tr>
<th>Major Ideas in the Video Program</th>
<th>People and Ideas to Watch For</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early Civilizations</strong> – Civilizations arose in river valleys in Mesopotamia, Egypt, India, and China, where people could grow a reliable food supply. People could then settle and work together to solve irrigation and flooding problems. Trade routes arose.</td>
<td>Kristin Stapleton, Professor at the University of Kentucky, explains the importance of rivers to the development of civilization.</td>
</tr>
<tr>
<td><strong>The Classical World</strong> – The ancient Greek and Roman empires are the sources for many of our western intellectual traditions, political systems, and arts and sciences.</td>
<td>History teacher Nancy Mautz explains how ancient Greece gave us the concept of democracy, and ancient Rome, the republic. Later she underscores the importance of the printing press and the new “vernacular literature”—writing in the common tongue.</td>
</tr>
<tr>
<td><strong>Renaissance</strong> – Another great flowering of intellectual and artistic activity, associated with artists such as Michelangelo and da Vinci, began in Europe in the 1300s.</td>
<td>Janis Langis of the University of Toronto explains that humans have undergone two major changes: the Agricultural Revolution, 10,000 years ago, and the Industrial Revolution.</td>
</tr>
<tr>
<td><strong>Political Revolutions</strong> – The availability of printed material and new ideas about human rights led to democratic revolutions.</td>
<td>Historians Ray Betts and Gregory Fitzsimons describe the changes in people’s working lives that resulted from the Industrial Revolution—particularly how time and work were controlled in order to ensure production for profit.</td>
</tr>
<tr>
<td><strong>Industrial Revolution</strong> – Manufacturing technology stimulated economic and social changes. People left rural villages and crowded into cities to work in the new industries. The middle class gained both economic and political importance.</td>
<td>Various historians comment on what development they think was most significant in the 20th century.</td>
</tr>
<tr>
<td><strong>20th century</strong> – These 100 years brought technology, political changes, mass communication, a focus on energy, and scientific advancement.</td>
<td></td>
</tr>
</tbody>
</table>

#### WORKBOOK LESSON

**Social Studies & Science Workbook**
Program 18: Themes in World History, pp. 49–68

**Before You Watch,** pp. 49–52
- Sneak Preview (Pretest), pp. 50–51
- Vocabulary, p. 52

**After You Watch,** pp. 53–68
- Key Points to Think About, p. 53
- Technology and Development, pp. 54–57
  - Irrigation • Agricultural Revolution • Imperialism

**Internet Connections**

**Student Activities at www.pbs.org/literacy**

**GED Practice Test**

**Learning Module**
Interactive course on social studies content and skills

**Internet-Based Activity**
Including GED-style practice questions

- Nation Building and Nationalism, pp. 58–61
  - A Time Before Nations • Europe’s First Nations • Drive Toward Nationalism
- The Democratic Impulse, pp. 62–65
  - The First Democracy • Age of Revolution • Democracy Movement Continues
- GED Practice Questions (Posttest), pp. 66–68
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 18 focuses on world history, which accounts for 15 percent of the questions on the GED Social Studies Test.

3. Ask students, What world events in your lifetime may become part of the story of world history? Why are they significant?

4. Have learners do the Sneak Preview activity on workbook pages 50–51. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 51.

5. Discuss the Vocabulary on page 53.

6. Tell students that the video will show people talking about important moments in world history. Say, As you watch the program, think about how human invention and creativity have marked world civilizations.

Show Program 18

Follow Up the Video Program

1. Ask students, Based on the video, how have humans' technological inventions fueled the course of history? How have new ideas spread and made history?

2. In the video, historians talk about the conditions that made early civilizations possible. Ask, What would life as a nomadic hunter-gatherer have been like? How would the development of a settled community change people's lives?

3. Bert Hall relates the rise of European monarchies to the introduction of gunpowder. Explain that this is just one man's interpretation. Others see economic forces—the growth of the middle class, trade, and towns—as causing the fall of feudalism and the growth of national monarchies. Discuss the nature of historical interpretation and fact vs. opinion.

4. Discuss the changes that the Industrial Revolution made in how and where people worked. Ask, How would moving from a farm to a factory town change a family's life? A man's life? A woman's life?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 53.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 66–68. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Social Studies online learning module, where they will be able to take an extended, interactive course related to world history. Students can also use Internet activities to practice taking GED-type questions that focus on social studies skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life
Ask students to discuss how democracy movements around the world have changed their own lives or the lives of people they know.

Activity 2: The Graphic Connection
Study a set of maps that reveal the significant changes in nations and national boundaries in Europe, the former Soviet Union, and Africa since the end of World War II. Help students read these changes on the maps and relate them to political movements.

Activity 3: The Pre-GED Connection
For students at the pre-GED level, outline and discuss the main features of historical periods from the workbook and video program—early civilizations, the Classical world, early nation-states, the Renaissance, the Industrial Revolution, and the 20th century.
PROGRAM 19

Economics

LESSON OBJECTIVES
1. Understand the market-based U.S. economy.
2. Investigate the roles that individuals play in the economy.
3. Evaluate the role of government in the economy.

WORKBOOK LESSON

Social Studies & Science Workbook
Program 19: Economics, pp. 69–88

Before You Watch, pp. 69–72
• Sneak Preview (Pretest), pp. 70–71
• Vocabulary, p. 72
After You Watch, pp. 73–88
• Key Points to Think About, p. 73
• Government Role in the Economy, pp. 74–77
  Government Policies • Foreign Policies • Regulations
• Jobs and Wages, pp. 78–81
  Supply and Demand • Minimum Wage • Occupation Types
  Individuals in the Economy, pp. 82–85
  Worker/Producer/Consumer Roles • Money Manager Role • Voter Role
• GED Practice Questions (Posttest), pp. 86–88

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test

Learning Module
Interactive course on social studies content and skills

Internet-based Activity
Including GED-style practice questions

VIDEO OVERVIEW

Major Ideas in the Video Program

- Economics – Economics involves choices. People weigh costs and benefits to make choices about earning, spending, and saving.
- Opportunity Cost – An opportunity cost is not being able to have one thing because you chose to have another. Resources are scarce.
- Market Economy – A system in which individuals can choose what they buy and sell. A market economy is driven by supply (associated with producers) and demand (associated with consumers).
- Competition – Occurs when producers vie for consumers or consumers vie for a product. Competition generally leads to the best price for a good or service.
- Consumer Economics – Consumers earn interest if they save money and pay interest if they buy on credit. Paying the minimum balance makes items cost much more.
- Labor Unions – Organizations of workers that bargain with employers over working conditions and wages began because of the terrible conditions in early factories.
- Government – The U.S. government passes labor and environmental laws, regulates businesses, and sets fiscal and monetary policies to slow or speed up the economy.

People and Ideas to Watch For

- Professor Gail Hoyt explains that market economies respond to consumers’ choices by providing more of what people want to buy—not only bread and milk, but also Beanie Babies and Hollywood movies.
- Teacher Tamara Giecek explains the concept of supply and demand with the example of the price of a pizza.
- Robert Theiss of Papa John’s, a pizza franchiser, discusses the challenges of international marketing in a global economy.
- Professor Patricia Cooper and historian Gregory Fitzsimons describe the brutal conditions in early factories, which led workers to organize labor unions.
- Giecek explains how fiscal and monetary policies are used to slow down or speed up the economy.
- Giecek and Professor William Hoyt define the uses of economic statistics such as the unemployment rate, the Consumer Price Index, and Gross Domestic Product.
PROGRAM 19 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 19 focuses on economics, which accounts for 20 percent of the questions on the GED Social Studies Test.

3. Ask students, What kinds of things do you do every day that have an impact on the economy? How does the economy affect you? List responses.

4. Have learners do the Sneak Preview activity on workbook pages 70–71. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 71.

5. Discuss the Vocabulary on page 73.

6. Tell students that the video will show people talking about how the U.S. economy works. Say, As you watch the program, think about who manages our economy and how. How are economic decisions made?

Show Program 19

Follow Up the Video Program

1. Ask students, Who is in charge of our economy? How much power can different people or institutions have in a market-based economy?

2. Review the basic market terminology with students: consumer, producer, supply, demand, competition. In your discussion, have students think of examples of these concepts that relate to your local area. Make a chart on the board.

3. In the video, Raymond Smith and Tamara Giecek discuss consumer credit. Ask, What happens when people pay for things on credit? Are there smart ways to use credit cards? Why or why not?

4. Discuss how the Federal Reserve Bank regulates the money supply and for what purposes. Draw on current events to illustrate the role of the Fed. Help students see how the business cycle of investment, growth, and recession is related to interest rates controlled by the Fed.

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 73.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 86–88. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Social Studies online learning module, where they will be able to take an extended, interactive course related to economics. Students can also use Internet activities to practice taking GED-type questions that focus on social studies skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Have small groups list a dozen typical household events. Students should identify at least one economic decision and one opportunity cost associated with each event.

Activity 2: The Graphic Connection

Collect economics-related articles with graphics from recent newspapers and newsmagazines. Help students relate the text of the articles to the graphics. For an extra challenge, make copies of the graphics without the articles and ask students to explain the graphics.

Activity 3: The Pre-GED Connection

Supply, demand, price! Divide your students into buyers and sellers. Give candies to the sellers and pennies to the buyers and tell them to bargain for prices. Sellers compete for the most pennies and buyers for the most candies.
LESSON OBJECTIVES
1. Understand the balance of power specified in our Constitution.
2. Describe federal, state, and local governments.
3. Evaluate the roles and responsibilities of citizens.

PROGRAM 20
Civics and Government

VIDEO OVERVIEW

Major Ideas in the Video Program

- **U.S. Constitution** – The Constitution balances political power between the states and the federal government. It also provides checks and balances among the three branches of the federal government:
  - **Legislative** – The two houses of Congress make laws. The Senate approves treaties, and the House of Representatives levies taxes. Members come from each state.
  - **Executive** – The president heads the executive branch, provides policy leadership, and appoints federal judges. The president may veto bills passed by Congress.
  - **Judicial** – The federal courts enforce the nation’s laws. The Supreme Court may rule that a law violates the Constitution.
- **Bill of Rights** – The first 10 amendments to the Constitution establish fundamental freedoms for all U.S. citizens.
- **Juries** – Citizens have the right to a trial by jury if accused of a crime. Juries must evaluate the evidence and decide guilt.
- **Amending the Constitution** – The process to change the Constitution is not easy. Changes cannot be made without wide national consensus.

People and Ideas to Watch For

- Professor Michael Berheide and Dr. Saundra Ardrey explain how the Articles of Confederation were replaced by the Constitution, written by James Madison, because they did not give the federal government enough power.
- Professor Berheide explains that the two houses of the legislative branch help “cool down” the heat of debate. He notes that events in Washington labeled as “gridlock” are the result of our constitutional system.
- Judge Gary Payne and attorney Lou Anna Redcorn explain the significance of juries.
- Host Pearce Bunting tells the dramatic story of the “Little Rock Nine,” students who desegregated Arkansas’s public schools, as an example of how the Constitution works.
- Professor Berheide discusses the importance of voting.
- The Jane Addams School for Democracy in St. Paul helps immigrants adjust to life in the U.S. and offers citizenship-test classes.

WORKBOOK LESSON

Social Studies & Science Workbook
Program 20: Civics and Government, pp. 89–108

Before You Watch, pp. 89–92

- Sneak Preview (Pretest), pp. 90–91
- Vocabulary, p. 92

After You Watch, pp. 93–108

- Key Points to Think About, p. 93
- Constitutional System, pp. 94–97
  - A Written Constitution
  - Amending the Constitution
  - Constitution Limits Power
- Federal and State Governments, pp. 98–101
  - Federalism
  - State Government
  - Local Government
- Citizens’ Rights and Responsibilities, pp. 102–105
  - The Rights of U.S. Citizens
  - Responsibilities of Citizenship
  - Getting Involved in Government
- GED Practice Questions (Posttest), pp. 106–108

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

- GED Practice Test
  - Learning Module
    - Interactive course on social studies content and skills
  - Internet-based Activity
    - Including GED-style practice questions

G-56 Teacher’s Guide
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 20 focuses on civics and government, which accounts for 25 percent of the questions on the GED Social Studies Test.

3. Ask students, What does citizenship mean in your life, among your family and friends? List responses.

4. Have learners do the Sneak Preview activity on workbook pages 90–91. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 91.

5. Discuss the Vocabulary on page 93.

6. Tell students that the video will show people talking about how the U.S. government works. Say, As you watch the program, notice who has power in our nation and how they can and cannot use it.

Show Program 20

Follow up the Video Program

1. Ask, Where does power lie, based on our Constitution? In your experience, how well does the separation of powers work?

2. In the video, the host explains passage of the Bill of Rights, and Dr. Ardrey lists the five freedoms guaranteed by the First Amendment. Ask students to recall these and other rights they know. List responses on the board and discuss. Ask, Do you think it was necessary to write down these rights?

3. Discuss the process of amending the Constitution. Remind students that only 17 amendments have been added in the more than 200 years that have passed since the Bill of Rights was adopted. Ask, Why do you think the founders deliberately made it difficult to amend the Constitution?

4. Discuss citizens’ roles and responsibilities in our democratic system. Ask, Do you vote? Why or why not? Have you served on a jury? Have your experiences of jury service reflected our constitutional ideas?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 93.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 106–108. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Social Studies online learning module, where they will be able to take an extended, interactive course related to civics and government. Students can also use Internet activities to practice taking GED-type questions that focus on social studies skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Discuss ways in which students’ lives have been affected by government activities and programs. List each influence and ask students to try to identify which particular branch or level of government is involved.

Activity 2: The Graphic Connection

Have students work in groups to create diagrams of the political checks and balances at the federal and state levels. See how many levels of detail can be graphically represented.

Activity 3: The Pre-GED Connection

Cut out news headlines and use them to illustrate the powers and duties of different levels and branches of government. Help students make a chart of the levels and branches of government, and fasten the headlines in the appropriate places on the chart.
LESSON OBJECTIVES
1. Understand how places define our world.
2. Investigate how the environment affects humans.
3. Evaluate the effects of human development on the environment.

PROGRAM 21
Geography

VIDEO OVERVIEW

Major Ideas in the Video Program
- **Geography** – Geography is an integrative science concerned with the nature of the earth (physical geography) and human habitation of the earth (cultural geography).
- **Geography and Identity** – People identify strongly with places they feel connected to.
- **Human Activity** – People adapt to their physical environment, but they also try to make their lives easier by changing it.
- **Environmental Impact** – Human activity has results that we can’t always predict. Water and air quality and ecosystems can be damaged. Ultimately, harming the earth harms humans.
- **Technology** – Geographers use tools such as Geographic Information Systems (GIS), a computerized mapping system, and the Global Positioning System (GPS) of satellites to find and record data.
- **Maps** – The two basic types of maps are topographic maps, which show the surface features of an area, and thematic maps, which can display any kind of information related to geography, such as historic migration routes or corn production.
- **Latitude and Longitude** – The basic grid system for mapping positions on the earth. Longitude lines run north-south; latitude lines circle the earth parallel to the equator.

People and Ideas to Watch For
- Cherokee historian Freeman Owle describes the sense of place felt by the Cherokee Indians in their native mountains—“This is where we should be.”
- Deborah Nordeen and Kurt Saari, both involved with efforts to preserve and manage the Florida Everglades, tell of the effects of human activity on this unique ecosystem and of human efforts to restore the natural cycle of water levels.
- Professor Gary Shannon describes a classic example of medical geography in which a doctor plotted cases of cholera on a map, thereby discovering that a particular public water pump was contaminated.
- Geographer Matthew Rosenberg describes the Global Positioning System—24 satellites that orbit the earth and provide the position of anyone holding a GPS device.
- Deborah Lindsay and Alexander Jarrett talk about the Degree Confluence Project—an international, Internet-based effort to document the locations where all latitude and longitude lines meet.

WORKBOOK LESSON

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INTERNET CONNECTIONS

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Physical Geography • Regions

GED Practice Test

Learning Module
Interactive course on social studies content and skills

Internet-based Activity

G-58 Teacher’s Guide
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 21 focuses on geography, which accounts for 15 percent of the questions on the GED Social Studies Test.

3. Ask students, How would you describe the geography of our community? List responses. Help students see that geography involves human characteristics as well as natural physical characteristics.

4. Have learners do the Sneak Preview activity on workbook pages 110–111. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 111.

5. Discuss the Vocabulary on page 113.

6. Tell students that the video will show people talking about geography in some very practical ways. Say, As you watch, think about how knowledge of geography can be used to solve real-world problems.

Show Program 21

Follow Up the Video Program

1. Ask, How can geography help us solve problems in our community? Our country?

2. In the video Freeman Owle and Charles Pace describe places special to them. Ask students, Where do you have a special "sense of place"? What are the physical and cultural features of that place that make it special for you? List responses.

3. The video discussed the impact of human development on the Everglades. Discuss with students how people have adapted to their environments to grow food, build houses, travel, and so on. Then ask how people have changed their environments in order to do these same things.

4. Discuss the tradeoffs between economic development and resource conservation, particularly in your local area. Ask, Who should decide how these tradeoffs should be managed? Whose interests are at stake, and who has the power to make decisions?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 113.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 126–28. Explain that these are similar to the questions they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and any incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Social Studies online learning module, where they will be able to take an extended, interactive course related to geography. Students can also use Internet activities to practice taking GED-type questions that focus on social studies skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life
Ask students to apply the concepts about regions on workbook page 115 to your local area. Ask them how the physical and cultural geographies of your area intersect. How widely do your students’ experiences vary?

Activity 2: The Graphic Connection
Collect and discuss examples of thematic maps. See what kinds of conclusions students can draw from these kinds of maps. Have students write sample questions about the maps and answer each other’s questions.

Activity 3: The Pre-GED Connection
Introduce pre-GED-level students to a map of the world. Point out the major oceans and continents, and talk about how major population centers and trade routes evolved in relation to physical geography.
PROGRAM 22

Passing the GED Science Test

LESSON OBJECTIVES
1. Understand the content and skills on the GED Science Test.
2. Investigate the types of questions on the test.
3. See how GED science questions are based in real-life contexts.

VIDEO OVERVIEW

Major Ideas in the Video Program
- **GED Content Areas** – Life Sciences (biology) (45%), Earth and Space Science (20%), Physical Science (chemistry and physics) (35%)
- **Types of Questions** – Multiple-choice questions are based on reading passages and graphics. (More than half the items on the test are based on either charts and graphics or text and graphics together.)
- **Contexts** – Questions are based on science topics in real world contexts. Students will not have to recall isolated facts.
- **Themes** – Many of the science items will be based on these general themes in science education as described in the National Science Education Standards (NSES):
  - Science as Inquiry
  - Science and Technology
  - Science in Personal and Social Perspectives
  - History and Nature of Science
  - Unifying Concepts and Processes
- **Thinking Skills** – Students will answer questions that require these skills:
  - **Comprehension** – understanding what they read in text or see on a graphic
  - **Application** – using information in a concrete situation
  - **Analysis** – exploring relationships among ideas
  - **Evaluation** – judging the soundness or accuracy of scientific information or methods

People and Ideas to Watch For
- Joan AUCHTER, Director of the GED Testing Service, stresses that the Science Test does not focus on recall of specialized knowledge; rather it tests critical thinking in real world science contexts.
- GED students and instructors discuss the GED Science Test. The students state that even though they are “rusty” on their scientific knowledge, they were pleased at how well they did when they were initially assessed with sample GED items. They point out that some science knowledge seemed to “come back” to them.
- One GED instructor indicates that much of the information a student needs to answer a question is provided in a reading passage or graphic. However, he also stresses that the likelihood for success on the test is improved if students have a fundamental knowledge of basic scientific concepts (such as the ones covered in the LiteracyLink materials).
- Various scientists discuss how they do their work by using the Scientific Method:
  - Observe and ask questions
  - Hypothesize
  - Test, collect, and analyze data
  - Draw conclusions

WORKBOOK LESSON

**Social Studies & Science Workbook**
Program 22: Passing the GED, pp. 149–160

GED Test Overview, p. 150
- Science Concepts (NSES), pp. 151–155
  - Science as Inquiry
  - Science and Technology
  - Science in Personal and Social Perspectives
  - History and Nature of Science
  - Unifying Concepts and Processes

GRAPHIC SKILLS
- Charts and Tables
- Circle, Line, and Bar Graphs
- Diagrams

NOTE: Topics in critical thinking skills are introduced in Lesson 16: Passing the GED Social Studies Test, pp. 13–19.

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test

Learning Module
Interactive course on science content and skills

Internet-based Activity
Including GED-style practice questions

G-60 Teacher’s Guide
**Program 22 Lesson Plan**

**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 22 provides an overview of the GED Science Test and that the main points are elaborated in the accompanying workbook lesson.

3. Ask, *What are some major scientific discoveries that have affected your life or the life of someone you know?* List responses on the board.

4. Tell students that the video will contain interviews from actual scientists. Say, *As you watch the program, think about what motivates these men and women to devote themselves to science.*

**Show Program 22**

**Follow Up the Video Program**

1. Ask students, *How did you react to these scientists? Did anything about them surprise you?*

2. One of the main focuses of the program is the Scientific Method. Ask, *What is the Scientific Method?* Review the steps with the students. Explain that understanding how scientists think about problems and issues will help students answer some of the questions on the GED Science Test.

3. Discuss the sample questions that were shown on the videotape. If you want to photocopy the science questions from the Passing the GED Science Test program to use for discussion, please see the Copymasters in this teacher’s guide. Discuss why the correct answers are correct and why the incorrect choices are wrong.

**Use Workbook Instruction and Practice**

1. Discuss the *GED Science Test Overview* on page 150.

2. Assign instruction and *GED Practice* questions on pages 151–155. Go over the sample questions and discuss the correct answers. Explain why incorrect choices are wrong (for example, don’t answer the question or contradict the source).

3. Work with students on the graphic literacy instruction and items on pages 156–160. Review the instructional material and the sample questions. After students have tried the *GED Practice* questions, discuss each one.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Science online learning module, where they will be able to take an extended, interactive course related to applying science concepts. Students can also use Internet activities to practice answering GED-type questions that focus on science skills and content.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: Passing the GED**

Ask students to list ways that they will prepare for the GED Science Test. In addition to using curricular activities, stress other ways that they can increase their science knowledge and skills: watching science programs on PBS, the *Discovery Channel*, and *Animal Planet*; helping their children apply the scientific method to science projects, and so on.

**Activity 2: The Graphic Connection**

Bring in recent news and popular science magazines—*Time*, *Newsweek*, *Discover*, and so on. Conduct a *Science Pictures Are Worth a Thousand Words* activity. Each student should choose a graph, table, or diagram about a current science issue in the news. Have students write brief explanations for their graphics, mount the graphics and descriptions, and create a science display in the classroom. Explain that more than half the questions on the GED Science Test are based on charts and graphics, so it is important that students practice for the test by interpreting science graphics that they see on TV and in print.
PROGRAM 23
Life Science

LESSON OBJECTIVES
1. Describe cell structure.
2. Understand genetics and evolution.
3. Explore how organisms interact with one another and with their environment.

Major Ideas in the Video Program
- **Cells** – All organisms are made up of the basic unit of life, the cell. Cells have three main components: cell membrane, cytoplasm, and nucleus. Plant cells also have a cell wall and chloroplasts. Cells perform life functions such as releasing energy from food, growing, and reproducing.
- **Ecosystems** – Organisms exist in complex communities called ecosystems. The organisms in an ecosystem are dependent on one another and on their environment. A food web describes a set of energy relationships.
- **Photosynthesis** – All energy in an ecosystem originally comes from the sun. The cells of green plants perform photosynthesis, capturing energy from sunlight and turning it into food that other organisms can eat.
- **Genetics** – DNA is the molecule that contains genetic information. The Human Genome Project is mapping human DNA. Treatments for genetic conditions may be developed.
- **Evolution** – Fossils provide evidence for evolution, the change in organisms over time.
- **Ecology** – Human activity has a great impact. For example, a pesticide such as DDT can enter the food web and adversely affect organisms it was not meant to harm.

People and Ideas to Watch For
- Biochemist Maria Ghirardi explains cell structure and describes photosynthesis, a process carried out in green plant cells in which the sun’s energy is captured and turned into food for all plants and animals.
- Biology professor Wintfred L. Smith explains that the dependencies among organisms and between organisms and their environment in an ecosystem are complex.
- Elaine R. Mardis and Sandra W. Clifton of the Washington University School of Medicine describe DNA and the implications of the Human Genome Project.
- Farm manager Ralph E. Ward describes how for centuries farmers have bred desirable characteristics in domestic animals.
- Paleontologist Glenn W. Storrs explains that fossils provide evidence for evolution and give a historical perspective on life on Earth.
- Biology teacher Mark A. Smith and naturalist David Haggard explain the impact of human activity on ecosystems, as exemplified by the effect of DDT on the bald eagle population.

WORKBOOK LESSON

Social Studies & Science Workbook
Program 23: Life Science, pp. 161–180

Before You Watch, pp. 161–164
- Sneak Preview (Pretest), pp. 162–163
- Vocabulary, p. 164

After You Watch, pp. 165–180
- Key Points to Think About, p. 165
- Similarities in Living Things, pp. 166–169
  - The Cell
  - Photosynthesis and Respiration
  - Cell Division

  - Genetics
  - Evolution
  - Classifying Living Things
- Organisms and Their Environments, pp. 174–177
  - Ecosystems
  - The Human Body and Disease
  - Human Activity and Ecosystems
- GED Practice Questions (Posttest), pp. 178–180

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy
- GED Practice Test
- Learning Module
  - Interactive course on science content and skills
- Internet-based Activity
  - Including GED-style practice questions

G-62 Teacher’s Guide
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 23 focuses on life science (biology). Tell students that almost half the questions on the GED Science Test cover life science topics.

3. Ask, What are some life science or medical news stories you’ve heard about recently? How might the breakthroughs described in these stories affect you and your family?

4. Have learners do the Sneak Preview activity on workbook pages 162–163. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 163.

5. Discuss the Vocabulary on page 164.

6. Tell students the video will give them an overview of life science through interviews with scientists and others in various life science fields. Say, As you watch the program, notice how living things have many similarities as well as differences.

Show Program 23

Follow Up the Video Program

1. Ask, What do all living things have in common? What are some differences?

2. The video begins with cells. Ask, What are the main parts of cells? What is photosynthesis? Why is it so important?

3. Genetics and heredity help explain how living things can be so similar and so different at the same time. Ask, What is DNA? What are some of the goals of the Human Genome Project? What are some ethical issues that arise because of our growing knowledge of human genetics?

4. Evolution is the change in organisms over time. Ask, What evidence is there that living things have evolved?

5. Human activity has a huge impact on ecosystems. Discuss the example of DDT and the bald eagle population. Ask, How do humans affect our local ecosystem?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 165.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 178–180. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Science online learning module, where they will be able to take an extended, interactive course related to life science. Students can also use Internet activities to practice answering GED-type questions that focus on science.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Explain that advances in human genetics may help us predict whether individuals may develop certain conditions and diseases. Ask, Would you take a genetic test to find out whether you have inherited a condition or disease? Why or why not?

Activity 2: The Graphics Connection

Have students draw their own simple diagrams of animal cells and plant cells. They should label the basic parts of the cell and list the important processes that cells carry out.

Activity 3: The Pre-GED Connection

For students who are at the pre-GED level, explain that there are many types of ecosystems. Ask students to bring in at least two photos from books or magazines that show different ecosystems. Discuss the life forms associated with each and their relationship with each other.
PROGRAM 24

Earth and Space Science

LESSON OBJECTIVES
1. Learn about Earth and its development.
2. Understand how Earth changes and how the oceans and atmosphere interact.
3. Explore humans’ impact on the environment.

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Plate Tectonics** – Earth has an inner core, an outer core, a mantle, and a crust, which is divided into rigid plates. Earthquakes and volcanoes usually occur along plate boundaries, although they can occur elsewhere.
- **Changing Planet** – The Earth is constantly changing. Our planet originally formed along with the rest of the solar system, cooling and developing an atmosphere and conditions that could support life because of its distance from the sun.
- **Rock Cycle** – Different types of rock—igneous, sedimentary, and metamorphic—form and reform. Rocks and fossils provide a record of Earth’s history.
- **Water Cycle** – Fresh water moves through the environment, from the atmosphere to the land to the oceans and back.
- **Weather** – Both short- and long-term weather conditions are caused by the movement of large air masses, which are influenced by the land and water over which they pass.
- **Resources** – Nonrenewable resources, such as coal and oil, are extracted and used up. Renewable resources, such as solar and wind energy, are in a virtually endless supply.

People and Ideas to Watch For

- Gary Patterson and Michael A. Ellis of the Center for Earthquake Research and Information describe a major earthquake of the past and explain plate tectonics. Although it’s difficult to predict when earthquakes will occur, scientists can usually predict where they will occur.
- Chris Webb, a physics and astronomy teacher, explains the origin and early history of Earth, the conditions that made it possible for life to develop, and the rock cycle.
- Biology professor Winfred L. Smith explains that fresh water is a fraction of all the water on Earth and describes the water cycle. Host Aaron Freeman discusses graphics on the Science Test, using a water cycle diagram as an example.
- Meteorologist Kenny T. Priddy explains how air masses produce weather and climate. Collecting and sharing data help meteorologists predict weather more accurately.
- Carol Riordan of the National Renewable Energy Laboratory and Cecile Warner of the Renewable Energy Resources Center explain how solar and wind power are renewable.

WORKBOOK LESSON

**Social Studies & Science Workbook**
Program 24: Earth and Space Science, pp. 181–200

Before You Watch,
pp. 181–184
- Sneak Preview (Pretest), pp. 182–183
- Vocabulary, p. 184
After You Watch,
pp. 185–200
- Key Points to Think About, p. 185
- Earth’s Place in the Universe, pp. 186–189
  - The Milky Way Galaxy
  - The Solar System
  - The Planet Earth

- The Changing Earth, pp. 190–193
  - The Movement of Earth’s Plates
  - The Rock Cycle
  - The Water Cycle
- People and the Environment, pp. 194–197
  - The Greenhouse Effect
  - Nonrenewable Resources
  - Alternate Sources of Energy
- GED Practice Questions (posttest), pp. 198–200

INTERNET CONNECTIONS

**Student Activities at www.pbs.org/literacy**

**GED Practice Test**
**Internet-based Activity**
Including GED-style practice questions

**Learning Module**
Interactive course on science content and skills
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 24 focuses on earth and space science, the study of the structures and processes of Earth. Explain that about one-fifth of the questions on the GED Science Test cover earth and space science topics.

3. Ask, What types of changes on Earth have you heard about on the news?

4. Have learners do the Sneak Preview activity on workbook pages 182–183. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 183.

5. Discuss the Vocabulary on page 184.

6. Tell students the video will show them some of the natural processes and human activity that cause change on Earth. Some occur slowly (the rock cycle); others occur quickly (earthquakes, changes in weather). Say, As you watch the program, look for changes that occur in the land, air, and oceans.

Show Program 24

Follow Up the Video Program

1. Ask, What processes are involved in changes in the land? The air? The oceans? Which of these changes occur relatively quickly? Which occur slowly?

2. Life developed on Earth because certain conditions existed. Ask, What conditions made life possible on Earth? List responses on the board.

3. The water cycle is an example of continuous change. Ask, What might happen to the water you poured down the drain this morning? How does human activity affect the quantity and quality of fresh water?

4. We use nonrenewable and renewable resources every day. Ask, What resources have you used today? Are these resources renewable or nonrenewable? Why?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 185.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 198–200. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Science online learning module, where they will be able to take an extended, interactive course related to earth and space science. Students can also use Internet activities to practice answering GED-type questions that focus on science.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Have the class make a chart describing the typical weather in your area during each of the four seasons. Be sure they include information on average temperature and typical precipitation.

Activity 2: The Graphics Connection

Refer students to the solar system table on page 187 of the workbook. Have students make a bar graph using the diameter data for the inner planets. Ask, How does a bar graph make comparing the diameters of planets easier?

Activity 3: The Pre-GED Connection

For students who are at the pre-GED level, focus on basic earth science concepts. For example, give students copies of the weather page from your local paper, and review the information that is shown there.
LESSON OBJECTIVES
1. Learn about the structure and states of matter.
2. Understand how elements behave when combined.
3. Explore the behavior of various chemicals.

PROGRAM 25
Chemistry

VIDEO OVERVIEW

Major Ideas in the Video Program

■ Matter – Chemistry is the study of the composition and properties of matter. Matter takes up space and has mass. There are three states of matter: solid, liquid, and gas.

■ Element – A basic substance that cannot be broken down and still be the same element.

■ Mixture – A combination of substances without change in their composition.

■ Compounds – Two or more elements that chemically combine.

■ Atoms – All matter is made up of atoms. Within an atom protons carry a positive charge; electrons a negative charge. The two balance each other out. Neutrons have no charge.

■ Chemical Reaction – Occurs when two or more elements or compounds combine, are broken down, or are rearranged. Cooks use chemical reactions when preparing food.

■ Periodic Table – A chart listing elements by atomic number (the number of protons in the nucleus of one atom of the element). The table groups elements with similar properties.

■ Uses – Chemists analyze matter in order to better understand and use substances around us. Chemicals can pollute the environment, but it is also possible to clean up chemical pollution.

People and Ideas to Watch For

■ Glassblower Stephen R. Powell demonstrates changes of state with glass; it has the properties of a liquid when heated and a solid when cooled.

■ Chemistry teacher Charlotte Ray explains elements, mixtures, compounds, and atomic structure. She demonstrates a chemical reaction using sulfuric acid to break down sugar into the element carbon and the compound water.

■ Harold McGee discusses kitchen chemistry, or cooking. He shows two chemical reactions: (1) heating sugar to form caramel and (2) combining an acid and a base to produce carbon dioxide bubbles, making pancake batter light.

■ Chemistry professors John P. Selegue and F. James Holler explain the periodic table. Host Aaron Freeman shows how to use information in the table to answer questions.

■ Chemist Bonnie R. Hames explains how chemists analyze the properties of common materials such as wood.

■ David Foster and Julie Gee of Hidden River Cave explain how chemical pollution of groundwater in the cave was cleaned up.

WORKBOOK LESSON

Social Studies & Science Workbook
Program 25: Chemistry, pp. 201–220

Before You Watch, p. 201

• Sneak Preview, pp. 202–203
• Vocabulary, p. 204

After You Watch, pp. 205–220

• Key Points to Think About, p. 205
• The Structure of Matter, pp. 206–209

Elements and Compounds • Atoms • States of Matter

• How Elements Behave, pp. 210–213

The Periodic Table • Chemical Bonds • Chemical Reactions

• How Chemicals Behave, pp. 214–217

Mixtures • Acids and Bases • Hydrocarbons and Polymers

• GED Practice Questions (Posttest), pp. 218–220

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
Interactive course on science content and skills

Internet-based Activity
Including GED-style practice questions
**PROGRAM 25 LESSON PLAN**

**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Before showing Program 25, explain that it focuses on a physical science—chemistry, the study of matter. Explain that about one-third of the questions on the GED Science Test cover physical science topics.

3. Ask, *What are some chemicals that you use every day?*

4. Have learners do the Sneak Preview activity on workbook pages 202–203. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 203.

5. Discuss the *Vocabulary* on page 204.

6. Tell students the video will explain different classifications of matter and show what happens when matter is combined or broken down. Say, *As you watch the program, look for uses of chemistry in everyday life and on the job.*

**Show Program 25**

**Follow Up the Video Program**

1. The video showed practical applications of chemistry. Ask, *What are some uses of chemistry in everyday life and on the job?*

2. Matter can be classified in several ways. Ask, *In what ways can matter be classified? What are the differences among a solid, a liquid, and a gas? What are the differences among an element, a mixture, and a compound?* You might make a concept map of responses on the board, with Matter written in the middle; solid, liquid, and gas, with their definitions, to the left; and element, mixture, and compound, with their definitions, to the right.

3. Discuss the structure of the atom. Ask, *Why does a stable atom have no charge? What happens if an electron is taken away?*

4. The periodic table provides information about each element. Ask, *What can you learn about an element from its position in the periodic table?*

**Use Workbook Instruction and Practice**

1. Discuss the *Key Points* on page 205.


3. After learners have finished the lesson, have them work through the *GED Practice* questions on pages 218–220. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Science online learning module, where they will be able to take an extended, interactive course related to chemistry. Students can also use Internet activities to practice answering GED-type questions that focus on science.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

The “Kitchen Cooking” segment of the video showed two chemical reactions: making caramel from sugar and causing pancake batter to rise. Ask students to make a list of other chemical reactions involved in food or cooking.

**Activity 2: The Graphics Connection**

The periodic table is at the core of chemistry. Using the portion of the table shown on page 210 of the workbook, have students decode the information on several elements. For each element decoded, make a list of data.

**Activity 3: The Pre-GED Connection**

For students who are at the pre-GED level, focus on basic chemistry concepts. For example, help students distinguish mixtures from compounds, and have them make a list of common mixtures and compounds.
Before You Watch, p. 221
- Sneak Preview, pp. 222–223
- Vocabulary, p. 224

After You Watch, pp. 225–240
- Key Points to Think About, p. 225
- Physical Laws, pp. 226–229
  - The Laws of Motion • Work • Heat

- Waves, pp. 230–233
  - What Is a Wave? • How Waves Interact with Matter • Electromagnetic Radiation
- Magnetism, Electricity, and Nuclear Physics, pp. 234–237
  - Magnetism • Electricity • Nuclear Physics
- GED Practice Questions (Posttest), pp. 238–240

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
Interactive course on science content and skills

Internet-based Activity
Including GED-style practice questions
PROGRAM 26 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 26 focuses on physics, one of the physical sciences. Physics is the study of the relationship between matter and energy. Tell students that about one-third of the questions on the GED Science Test cover physical science topics.

3. Explain that one law of physics states that every action has an equal and opposite reaction. Ask, What is an everyday example of this law?

4. Have learners do the Sneak Preview activity on workbook pages 222–223. Tell learners that the exercise is designed to introduce the topics that will be covered in the video program and the corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 223.

5. Discuss the Vocabulary on page 224.

6. Tell students the video will present information about many types of energy. Say, As you watch the program, make a list of all the types of energy that are mentioned.

Show Program 26

Follow Up the Video Program

1. Ask, What forms of energy were explained or demonstrated in the video? List students’ responses.

2. Ask, What are Newton's three laws of motion? Have students give an example of each law in action.

3. Sound is a disturbance that travels as a wave through matter. Ask, What is the relationship between the frequency of a sound and its pitch? Why do most women have higher-pitched voices than most men?

4. The electromagnetic spectrum contains electromagnetic waves of varying wavelengths. Ask, What are some examples of electromagnetic radiation? How are they used?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 225.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 238–240. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Science online learning module, where they will be able to take an extended, interactive course related to physics. Students can also use Internet activities to practice answering GED-type questions that focus on science.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Professor Lumpp explained that an electrical circuit contains conductors, resistors, and a source of power. Have students list examples of these items from a circuit in the classroom and one in their home.

Activity 2: The Graphics Connection

Refer students to the diagrams of fission and fusion on page 236 of the workbook. Ask them to create a compare-and-contrast table or Venn diagram showing the similarities and differences between fission and fusion.

Activity 3: The Pre-GED Connection

For students who are at the pre-GED level, focus on basic physics concepts. For example, go over the concepts of energy, work, and force so that students will understand the special uses of these terms in physics.
LESSON OBJECTIVES
1. Understand GED math content and skills.
2. Investigate the types of questions on the test.
3. Learn how to approach problems based on real-life contexts.

PROGRAM 27
Passing the GED Math Test

VIDEO OVERVIEW

Major Ideas in the Video Program
- **GED Content Areas** – Number Operations and Number Sense (20–30%); Measurement and Geometry (20–30%); Data Analysis, Statistics, and Probability (20–30%); and Algebra, Functions, and Patterns (20–30%).
- **Types of Questions** – 40 multiple choice and 10 alternate format (bubble grids and coordinate plane grids) based on readings, graphs, tables, and diagrams. (About one-half of the items are based on graphics.)
- **Contexts** – Most questions are based on common adult life experiences.
- **Themes** – The math items relate to the standards and themes of the National Council for Teachers of Mathematics (NCTM). Some of these standards are:
  - Problem Solving
  - Reasoning and Proof
  - Communication
  - Connections
  - Representation
- **Thinking Skills** – Students will answer questions that require:
  - **Procedural skills** – selecting and applying procedures correctly.
  - **Conceptual skills** – recognizing and applying math concepts and principles.
  - **Application and Problem Solving** – using strategies to solve problems and judge the reasonableness of solutions.

People and Ideas to Watch For
- Joan Auchtner, Executive Director of the GED Testing Service, explains that good reading skills are necessary to solve the math items on the GED Test.
- GED students and instructors discuss the importance of hard work and motivation. One student explains that you must know your basic math facts. Another relates how working on GED math helped her gain job skills.
- Zalman Usiskin, Professor of Education from the University of Chicago, explains how to analyze and eliminate wrong choices when solving a multiple-choice problem.
- Kenneth Pendleton, GED Testing Service, explains the use of calculators on the GED Test and the different types of test items.
- GED instructors explain the steps in solving a problem:
  - Understand the question.
  - Find the facts you need.
  - Choose the correct operations.
  - Solve the problem.
  - Make sure your answer is reasonable.

Students will have 90 minutes to answer 50 questions.

WORKBOOK LESSON

Math Workbook
Program 27: Passing the GED Math Test, pp. 13–22
GED Math Test Overview, pp. 14
Passing the GED Math Test, pp. 15–22
  Three Types of Math Questions • Calculator Skills for the GED Math Test • Number Operations with the Calculator • Advanced

PROBLEM SOLVING
Problem Solving with the Calculator • Special Calculator Keys and Functions • Special Formats for GED Items • Filling in Coordinate Grid Planes • Plotting Points to Complete a Figure

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy
GED Practice Test
Learning Module
Interactive course on math content and skills

Internet-based Activity
Including GED-style practice questions

G-70 Teacher's Guide
PROGRAM 27 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Before showing Program 27, explain that it provides an overview of the GED Math Test. Make clear that students should pay careful attention to the information about the test and that the main points are elaborated in the accompanying workbook lesson.

3. Ask, *In the past week, when have you used math to solve problems?* List responses on the board.

4. Tell students that the video will contain interviews from math instructors and students who have taken the GED Math Test. Say, *As you watch the program, look for advice about solving GED math problems.*

Show Program 27

Follow Up the Video Program

1. Ask students, *What general advice did the students and teachers give about taking the GED Math Test? What advice seemed most helpful to you?*

2. Ask students, *Do you have any major questions about this test?*

3. One of the main focuses of the program is the problem-solving method. Ask, *What steps did the instructors suggest that you follow to solve math problems?* Review the steps. Explain that using a step-by-step approach to word problems will reduce stress and help students avoid errors.

4. Discuss the sample questions that were shown on the videotape. If you want to photocopy the math questions from the Passing the GED Math Test program to use them for discussion, please see the Copymasters in this teacher’s guide. Discuss why the correct answers are correct and why the incorrect choices are wrong.

Use Workbook Instruction and Practice

1. Discuss the *GED Math Test Overview* on page 14.

2. Assign instruction pages and *GED Practice* questions on pages 15–19. Discuss the sample questions and the correct answers. Explain why incorrect choices are wrong.

3. Work with students on the alternate-format questions on pages 20–22. Review the instructional material and the sample questions. After students have completed the *GED Practice* questions, discuss each one. Make sure students understand that there may be more than one way to enter a correct answer on a fill-in grid.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to applying math concepts. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and content.

2. A teacher may view the GED online learning modules from the LiteTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the *GED Connection* online curriculum.

Lead Group Activities

**Activity 1: Passing the GED**

Ask students to list ways that they will prepare for the GED Math Test. In addition to using curricular activities, stress other ways that they can increase their math knowledge and skills: reading charts and graphs in newspapers and magazines, helping their children with math homework, using estimation and mental math while shopping, and so on.

**Activity 2: The Graphic Connection**

Bring in recent newspapers and magazines such as USA Today, *Time*, and *Newsweek*. Have each student cut out a table or graph, paste the graphic on a large card, and write one question that can be answered using the graphic. Students should write the answer to the question on the back. After checking their work, have students trade cards and attempt to answer the questions.
LESSON OBJECTIVES
1. Explore problem-solving approaches.
2. Weigh situations and make decisions.
3. Recognize when to use estimation and when to solve for an exact answer.

PROGRAM 28
Number Sense

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Number Sense** – Number sense is an idea of and a feeling for numbers. We all have number sense to some degree and use it to solve problems in our daily lives. For example, we use number sense when we decide whether we can afford to make a large purchase.

- **The Purpose of Numbers** – Numbers can be used to count, compare, measure, and combine quantities.

- **Operations** – The four operations are adding, subtracting, multiplying, and dividing.

- **Math as Language** – Numbers are a universal language. You must spend time learning the terms used in mathematics in order to master the subject.

- **Linear** – Numbers are linear. A number can be greater than, less than, or equal to another number.

- **Estimation** – Some GED math problems can be solved by estimating. Estimation can also be used to check the reasonableness of an answer. Learning when to estimate and when to compute is important.

People and Ideas to Watch For

- **GED instructors**, shoppers, workers, and artists explain that number sense is needed to make everyday decisions.

- **Keith Devlin**, Dean of Science from St. Mary’s College, compares numbers to shipping containers. With numbers, we work with symbols instead of actual objects.

- **Zalman Usiskin**, Professor of Education from the University of Chicago, explains that numbers can be “synonyms,” or equivalent.

- **Lane Alexander**, dance teacher, and Frank Orrall, musician, explain that number sense can be developed; eventually people are able to feel or just “know” a count. James Edwards, instructor, says we all need to get to the point where we “feel” numbers.

- **Teacher Billie Travis** advises students to be aware of their learning style—whether they learn math best by reading (visual learners), hearing (auditory learners), or doing (kinesthetic learners).

WORKBOOK LESSON

Math Workbook
Program 28: Number Sense, pp. 23–40

**Before You Watch**, p. 23
- Sneak Preview (Pretest), pp. 24–25
- Vocabulary, p. 26

**After You Watch**, pp. 27–40
- Key Points to Think About, p. 27
- Your Approach to Learning Math, pp. 28–29
- Building on Your Experiences • Finding Your Own Approach to Learning
- Understanding Our Number System, pp. 30–33

WORKING WITH PLACE VALUE • WORKING WITH INTEGERS • EXPRESSING PARTS OF A WHOLE • SEEING NUMBER RELATIONSHIPS AND PATTERNS • APPLYING NUMBER SENSE
- Estimating, pp. 34–37
- Using Rounding to Estimate • Using Front-End Estimation • Deciding When to Estimate
- GED Practice Questions (Posttest), pp. 38–40

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Interactive course on math content and skills

Internet-based Activity
Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 28 focuses on number sense, something we use to make everyday decisions. Explain that number sense is also important when studying for and taking the GED Math Test.

3. Ask, When you go to the grocery store, how do you know that the money that you have is enough to pay for the items you are purchasing?

4. Have learners do the Sneak Preview activity on workbook pages 24–25. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 25.

5. Discuss the Vocabulary on page 26.

6. Tell students that the video will contain information about how number sense is used to make decisions. Say, As you watch the program, ask yourself, how do I go about making decision in these same kinds of situations?

Show Program 28

Follow Up the Video Program

1. Ask students, Now that you understand the meaning of number sense, think of situations in which you have used number sense in the last month. Make a list on the board.

2. One student in the video was described as helping her boyfriend buy a car. Ask, Why is it important for people buying a car to consider the entire financing plan and not just the amount of the monthly payment?

3. Patricia Duryea, a cooking instructor, talks about the importance of measuring accurately, yet relates that experienced chefs rarely measure ingredients. Ask, Why do experienced cooks no longer need measuring tools? Discuss how number sense becomes more accurate with experience.

4. In the video, Professor Usiskin says that estimation can be used to solve many problems. Discuss the use of estimation to solve multiple-choice questions.

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 27.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 38–40. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to using number sense to solve problems. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Invite students to make a list of ten grocery items on the board with appropriate prices. Then have students estimate a total. Have them try different estimation strategies.

Activity 2: The Graphic Connection

Have students look at the number line on page 33. Discuss how the number line could be used to make quick comparisons and decisions. Ask, Which person’s sales were closest to $175? (Sammy) Without the number line, you would have to do several subtraction problems.

Activity 3: The Pre-GED Connection

For students who are at the pre-GED level, focus on comprehension of basic estimation strategies. Discuss: When estimating while shopping, why is it important to round up instead of down?
LESON OBJECTIVES
1. Apply a five-step approach to solving problems.
2. Choose and apply operations correctly.
3. Make sure the results make sense.

PROGRAM 29
Problem Solving

VIDEO OVERVIEW

Major Ideas in the Video Program

- **The Problem-Solving Process** – Understanding the process is often more valuable than getting an answer. Once you understand how to solve a particular type of problem, you can apply the same process to other problems. Follow these five steps:
  - Understand the question.
  - Find the facts you need.
  - Set up the problem with the correct operations.
  - Do the calculations.
  - Make sure your answer is reasonable.

- **Set Up** – Certain words in a problem tell you what operation to use. Some problems can be solved in more than one way.

- **Order of Operations** – When calculating a problem, operations must be performed in a certain order: (1) operations within parentheses, (2) exponents, (3) from left to right, multiplication and division, and (4) from left to right, addition and subtraction.

- **Role of Number Sense** – Once you have an answer, always ask, “Does my answer seem reasonable? Does it make sense?”

People and Ideas to Watch For

- Zalman Usiskin, Professor of Education from the University of Chicago, explains the importance of understanding a problem and the question you are trying to answer.

- Throughout the video, a customer is trying to buy a used car. The car dealer makes suggestions and tries to explain financing options. His explanations are not always correct.

- Dennis Puhr, a GED instructor, helps his students understand how to evaluate car deals and financing options. He explains how to estimate the interest for any large purchase.

- Keith Devlin, Dean of Science from St. Mary’s College, explains the importance of order in solving problems. Durrant Freeman and other GED instructors explain the order of operations.

- Several credit counselors discuss the importance of making a budget to decide whether you can afford a large purchase.

WORKBOOK LESSON

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**Math Workbook**
Program 29: Problem Solving, pp. 41–62

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**INTERNET CONNECTIONS**

Student Activities at www.pbs.org/literacy

- **GED Practice Test**
- **Learning Module**
  - Interactive course on math content and skills

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Before You Watch, pp. 41–44
- Sneak Preview (Pretest), pp. 42–43
- Vocabulary, p. 44

After You Watch, pp. 45–62
- Key Points to Think About, p. 45
- Basic Operations Review, pp. 46–51
  - Adding and Subtracting
  - Multiplying
  - Dividing
  - Working with Remains
  - Writing Equations to Solve Problems
  - Solving One-Step Equations
- Solving Word Problems, pp. 52–55
  - A 5-Step Strategy to Problem Solving
  - Too Much or Not Enough Information
  - Applying Formulas
- Solving Multi-Step Problems, pp. 56–59
  - Breaking the Plan Into Steps
  - Using the Order of Operations
  - Solving Set-up Problems
  - Properties of Operations
- GED Practice Questions (Posttest), pp. 60–62

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Internet-based Activity
Including GED-style practice questions
PROGRAM 29 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 29 focuses on problem solving as a tool for making life decisions. It is also needed for answering questions on the GED Math Test.

3. Say, Some people think that word problems are hard or tricky. Why do you think word problems are hard for some people? Discuss their responses.

4. Have learners do the Sneak Preview activity on workbook pages 42–43. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 43.

5. Discuss the Vocabulary on page 44.

6. Tell students that the video will describe a five-step approach to problem solving. Say, As you watch the program, think about the problems that the people are trying to solve and the way they go about solving them. We will discuss these issues after the program.

Show Program 29

Follow Up the Video Program

1. Several people in the video were planning large purchases. Ask, How do you decide whether you can afford to buy a car or other purchase? Do you follow the steps described in the program?

2. Review the simple interest formula shown in the video: Interest = principal \times rate \times time. Show how the formula could be used to find the interest, monthly payment, and amount paid back for a used car. Have students suggest the purchase price, interest rate, down payment, and length of loan.

3. Point out that many life situations require more than one step to find an answer. Ask, How can you know which step to do first? Discuss the role of number sense in deciding what to do.

4. Professor Usiskin says that relying on rules and procedures to solve problems is a “crutch.” Ask, What do you think he means? Do you agree with his thinking?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 45.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 60–62. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to problem solving. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Have students write two sales pitches, one using accurate numbers and one making the deal sound better than it really is. Have students read their deals to the class. Encourage students to use number sense to spot the bad deal.

Activity 2: The Graphic Connection

Have students look at the furniture price list on page 49. Ask, How is the first column of numbers different from the numbers in the final column? Remind the students to read all labels to understand the numbers in a graphic.

Activity 3: The Pre-GED Connection

For students who are at the pre-GED level, focus on the application of the order of operations. Write this problem on the board and model each step of the solution: $3 + 4 \times (15 - 6) + 12 - 5$. 
VIDEO OVERVIEW

**Major Ideas in the Video Program**

- **Decimals as Fractions** – Decimals are one way to show part of a whole number just as cents show part of a dollar. Any fractional quantity can be represented by a decimal, a fraction, or a percent.
- **Place Value** – The position of each decimal digit indicates its value. Each position to the right is ten times smaller than the position to the left.
- **Comparing** – To compare decimal numbers, compare the place-value columns.
- **Adding and Subtracting** – Before adding and subtracting decimal numbers, you must write the numbers so that the decimal points are aligned.
- **Multiplying and Dividing** – When you multiply, you place the decimal point in the answer after you finish the operation. When you divide, you move the decimal point in both the divisor and the dividend and then place the decimal point in the answer before you do the operation.

**People and Ideas to Watch For**

- Teacher Billie Travis explains the meaning of written money amounts.
- Zalman Usiskin, Professor of Education from the University of Chicago, explains that the decimal point means “plus.” For example, 2.5 means $2 + \frac{5}{10}$ or $2 + \frac{1}{4}$.
- A bank employee emphasizes the importance of correctly placing the decimal point when working with money and demonstrates how to fill out a deposit slip.
- Keith Devlin, Dean of Science from St. Mary’s College, shows how to interpret the numbers on an electronic gasoline pump.
- Throughout the video, instructors and students demonstrate decimal operations. Attention is given to the correct placement of the decimal point in the answer.
- Billie Travis advises students not to be afraid of working with decimals and math.

WORKBOOK LESSON

**Math Workbook**

Program 30: Decimals, pp. 63–84

Before You Watch, pp. 63–66
- Sneak Preview (Pretest), pp. 64–65
- Vocabulary, p. 66

After You Watch, pp. 67–84
- Key Points to Think About, p. 67
- Using Decimal Values, pp. 68–69
  - The Meaning of Decimal Values
  - Rounding Decimals
  - Comparing and Ordering Decimals

- Basic Operations with Decimals, pp. 70–75
  - Adding and Subtracting Decimals
  - Multiplying Decimals
  - Solving Multi-Step Problems
  - Dividing Decimals

- Everyday Decimals, pp. 76–79
  - Working with Money
  - Working with Time
  - Working with Distance

- GED Practice Questions (Posttest), pp. 80–84

INTERNET CONNECTIONS

Student Activities at [www.pbs.org/literacy](http://www.pbs.org/literacy)

- GED Practice Test
- Learning Module
  - Interactive course on math content and skills
- Internet-based Activity
  - Including GED-style practice questions

G-76 Teacher’s Guide
PROGRAM 30 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 30 focuses on decimals as a way to show a fractional part of a whole number. Explain that decimals appear on the GED Math Test.

3. Ask, How do you encounter decimals in your everyday life? Most students will probably say as money.

4. Have learners do the Sneak Preview activity on workbook pages 64–65. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 65.

5. Discuss the Vocabulary on page 66.

6. Tell students that the video will demonstrate how to add, subtract, multiply, and divide decimals. Say, As you watch the students and instructors solve problems, ask yourself how they know where to place the decimal point in the answer.

Show Program 30

Follow Up the Video Program

1. Remind students that they saw people solve decimal problems by adding, subtracting, multiplying, and dividing. Deciding where to put the decimal point is an important part of the process. Ask, Where do you put the decimal point when you add two decimals? Subtract? Multiply? Divide?

2. Point out that students already have a great deal of experience with decimals since they understand money. Write the measurement 5.2 miles and the amount $5.20 on the board. Ask, How can the money amount help you understand the measurement?

3. Understanding how to use zeros is important to working with decimals. Ask, When does adding a zero to a number change the value of the number? When can you add zeros without changing the value?

4. Billie Travis suggested regularly balancing a checkbook to practice using decimals. Ask, What other everyday experiences could give you practice with decimals?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 67.

2. Assign instruction and practice on pages 68–79.

3. After learners have finished the lesson, have them work through the GED Practice questions on pages 80–84. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive. Make sure that they have entered their alternate-format answers in an acceptable way.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to decimals. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Have students list different places where they have seen decimal numbers.

Activity 2: The Graphic Connection

Have students look at the map on page 79. Invite students to suggest a route through three cities and estimate the total miles without using pencil and paper. Discuss which digits are more important in making a close estimate.

Activity 3: The Pre-GED Connection

For students who are at the pre-GED level, associate the numbers in each problem with dollars and cents. For example, ask, Which is greater—5.6 meters or 5.48 meters? Show the relationship to $5.60 and $5.48.
LESSON OBJECTIVES

1. Understand the meaning of fractions as an amount and a number.
2. Add, subtract, multiply, and divide fractions.
3. Solve problems involving time, money, and measurement.

PROGRAM 31

Fractions

VIDEO OVERVIEW

Major Ideas in the Video Program

- Fractions – A fraction compares a number of parts to a whole. However, fractions are also numbers themselves. As numbers, they represent values between whole numbers.
- Parts of a Fraction – The top number is the numerator; the bottom, the denominator. The bar represents division; the numerator is divided by the denominator.
- Adding and Subtracting – You must have a common denominator before you can add or subtract. A common denominator can be found among multiples of the denominators.
- Multiplying and Dividing – Because fractions are division, multiplying and dividing are easier than adding and subtracting when denominators differ.
  - Cancel if possible before multiplying.
  - To divide, invert and multiply.
- Prime Factoring – To reduce, list the prime numbers that, when multiplied, equal the numerator and denominator and then cancel.

People and Ideas to Watch For

- Patricia Durseya, a cooking instructor, explains how she helps her students understand fractional measurements.
- Frank Orrall, composer and musician, explains how beats of music are divided into halves, fourths, eighths, and sixteenths.
- Teacher Billie Travis explains how to borrow when working with mixed numbers and how to cancel using prime factorization.
- Patricia Wilkins, business manager of a stable, explains how she uses fractions to figure out vitamin supplements for the horses.
- Zalman Usiskin, Professor of Education from the University of Chicago, shows how dividing by a fraction results in a larger number.

WORKBOOK LESSON

Math Workbook
Program 31: Fractions, pp. 85–106

Before You Watch, pp. 85–88
- Sneak Preview (Pretest), pp. 86–87
- Vocabulary, p. 88

After You Watch, pp. 89–103
- Key Points to Think About, p. 89
- Basic Operations with Fractions, pp. 90–95
  - Understanding Fractions
  - Reducing Fractions
  - Adding and Subtracting Like Fractions
  - Adding and Subtracting Unlike Fractions
  - Improper Fractions and Mixed Numbers
  - Multiplying Fractions
  - Dividing Fractions

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

- GED Practice Test
- Learning Module
  - Interactive course on math content and skills
- Internet-based Activity
  - Including GED-style practice questions

Problem Solving with Fractions, pp. 96–99
- Working with Mixed Numbers
- Choosing the Correct Operation
- Equivalent Fractions and Decimals
- Common Fractions and Decimal Equivalencies

Everyday Fractions, pp. 100–103
- Finding Discounts and Sale Prices
- Working with Finances
- Working with Time
- Working with Measurement
- GED Practice Questions (Posttest), pp. 104–106

G-78 Teacher's Guide
**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 31 focuses on fractions. Tell students that they will solve problems with fractions on the GED Test.

3. Ask, *What are some ways that you use fractions in your life? What fractions do you use most often?* List their responses.

4. Have learners do the *Sneak Preview* activity on workbook pages 86–87. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 87.

5. Discuss the *Vocabulary* on page 88.

6. Tell students that the video will show how to add, subtract, multiply, and divide fractions. Ask, *If a problem seems difficult, think about how that makes you feel.*

**Show Program 31**

**Follow Up the Video Program**

1. An instructor in the video says that many students began to have difficulty in math when they got to fractions. Ask, *Why do some people think fractions are difficult? How do you feel about fractions?*

2. In the video, cooking instructor Patricia Duryea explains how she helps students understand measurements. Invite students to imagine that they have a measuring cup with no other markings. Ask, *If you had to estimate \( \frac{3}{4} \) of a cup, how would you do it?* Ask students to suggest other common fractions that are approximately \( \frac{3}{4} \).

3. Fractions can be considered in two ways: as part of a whole or, as instructor Dennis Puhr shows with doughnuts, as part of a group. Have learners write three statements with fractions (for example, one-half of the doughnuts were missing). Classify each fraction as part of a whole or part of a group.

4. The musicians in the video seem to be able to “hear” fractions. Ask if any students play musical instruments. If so, invite them to explain to the class how they keep time.

**Use Workbook Instruction and Practice**

1. Discuss the *Key Points* on page 89.


3. After learners have finished the lesson, have them work through the *GED Practice* questions on pages 104–106. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to fractions. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at [www.pbs.org/literacy](http://www.pbs.org/literacy). Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

Write the fractions \( \frac{7}{8}, \frac{1}{4}, \frac{2}{3}, \text{ and } \frac{1}{2} \) on the board. Encourage students to think of each fraction as part of a work task. Say, *What would it mean if you had finished \( \frac{2}{3} \) of a job? Would you have barely started or be almost finished?*

**Activity 2: The Graphic Connection**

Have students look at the table of salon services on page 106. Remind students that they can convert fractions to decimals if they prefer working with decimals. Have them convert the fractions of hours to decimals.

**Activity 3: The Pre-GED Connection**

For students who are at the pre-GED level, point out that they can think of the denominator as a label. The fraction \( \frac{3}{4} \) is 3 fourths. The word *fourths* is the label, just as $3$ means 3 dollars.
PROGRAM 32
Ratio, Proportion, and Percent

VIDEO OVERVIEW

Major Ideas in the Video Program
- **Ratios** – A ratio uses division to compare numbers; ratios can be written as fractions and follow many of the same rules.
- **Unit Rates** – We often compare number of items to total price or miles to gallons. A unit rate compares an amount to 1.
- **Percents** – A percent is a ratio that compares a number with 100.
- ** Benchmarks** – Use your number sense when dealing with percents. The fraction and decimal equivalents of 50%, 25%, 10%, and 1% are useful.
- **Proportions** – A proportion sets up equal ratios. If a proportion is written correctly, the cross products can be used to write an equation to solve for an unknown number.
- **Uses** – Percents are used in figuring sale prices and interest. Proportion is used in map scales and perception.

People and Ideas to Watch For
- Keith Devlin, Dean of Science from St. Mary’s College, figures out the cost of buying produce. Other shoppers evaluate grocery prices using unit rates.
- Jon Arason, a city planner, uses a FAR number (Floor Area Ratio) to determine the size and height of a building on a lot.
- Zalman Usiskin, Professor of Education from the University of Chicago, lists benchmarks to use in working with percents.
- Dennis Puhr, instructor, works with students to figure sale prices and shows how cross-products are used to figure proportions.
- Joel Hynek, Effects Supervisor at Manex Entertainment, explains how camera angles, shadows, and other visual tricks using proportion can fool an audience into thinking the model of a building is real.

WORKBOOK LESSON

Math Workbook
Program 32: Ratio, Proportion, and Percent, pp. 107–128

**Before You Watch**, pp. 107–110
- Sneak Preview (Pretest), pp. 108–109
- Vocabulary, p. 110

**After You Watch**, pp. 111–123
- Key Points to Think About, p. 111
- Working with Ratios, pp. 112–113
  - Understanding Ratios • Working with Rates
- Working with Proportions, pp. 114–117
  - Understanding Proportions • Solving Proportions in Word Problems

**Working with Map Scales** • **Solving Two-Part Proportion Problems**
- Working with Percent, pp. 118–123
  - Understanding Percent • Solving Percent Problems • Solving for Part and Rate • Finding the Part • Finding the Rate • Solving for the Whole • Using the Percent Formula • Finding Successive Percents • Finding Rate of Change

**GED Practice Questions (Posttest)**, pp. 124–128

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
Interactive course on math content and skills

Internet-based Activity
Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 32 shows how ratio, proportion, and percent are related and how they can be used to choose the best buy, compare gas mileage, and so on. Explain that these kinds of problems also appear on the GED Math Test.

3. Ask, When do you use ratios, proportions, or percents? As an example, say, A store sells two sizes of laundry soap: a 75-oz box for $7.50 and a 64-oz box for $6.50. How do you decide which is the better buy?

4. Have learners do the Sneak Preview activity on workbook pages 108–109. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 109.

5. Discuss the Vocabulary on page 110.

6. Tell students that the video will show how to use ratio, proportion, and percent to make comparisons and solve problems. Say, As you watch the video, note how fractions are related to ratios, proportions, and percents.

Show Program 32

Follow Up the Video Program

1. Ask, How can your understanding of fractions help you solve ratio, proportion, and percent problems?

2. People in the video used ratio, proportion, and percent to figure best buys and discounts. Ask, In what ways might learning more about ratio, proportion, and percent help you in your life?

3. The relationship between percents, fractions, and decimals is discussed on the video. Ask, To find 75% of a number, you must multiply by 0.75 or find 3/4 of the number. When would multiplying by 0.75 be easier? When would 3/4 be easier?

4. Percent benchmarks were listed in the video as a way to use number sense. Many people use other percent shortcuts (for example, to find 20%, find 10% and double it). Discuss shortcuts students can use with percents.

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 111.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 124–128. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive. You may need to review how to enter fractions and decimals in the grid.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to ratio, proportion, and percent. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LiTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Bring an ad for grocery specials. Read a quoted price and have students practice calculating the cost of purchasing a greater number of items.

Activity 2: The Graphic Connection

Use the graph of library grant expenditures on page 126. Ask, About what fraction of the grant money will be spent on furniture? Discuss how the relationship between fractions and percents helps you understand the graph.

Activity 3: The Pre-GED Connection

Relate solving a proportion to raising a fraction to higher terms. Begin with $\frac{3}{4} = \frac{?}{12}$. After solving, put the numbers in a situation: If 3 bars of soap cost $4, how many bars can you buy for $12?
LEsson Objectives

1. Make conversions within the English system of measurement.
2. Understand how the metric system works.
3. Find perimeter and area.

Program 33
Measurement

Video Overview

Major Ideas in the Video Program

- **Units** – Units of measurement for time, distance, size, and weight give us an idea of the relative size of things. Each unit can be broken down into smaller units. To measure, you must understand the divisions of the measurement tool you are using.

- **Conversions** – Benchmark conversions such as feet to yards are useful to know. The most common are given on the GED Math Test.

- **Linear** – Measures distance, including perimeter around a two-dimensional surface.

- **Area** – Measures a two-dimensional surface: length × width.

- **Volume** – Measures a three-dimensional amount: length × width × height.

- **U.S. Customary (or English) System** – Americans prefer this system, but the units are irregular, so conversions are more involved.

- **Metric System** – The basic units are the meter, liter, and gram. The system is based on powers of ten. Once you know the meaning of the prefixes—centi-$\frac{1}{100}$, milli-$\frac{1}{1000}$, kilo-$\frac{1000}{1}$—you can quickly convert measurements.

People and Ideas to Watch For

- Edward Schweitzer, graphic designer at Incognito, explains how designers use points and points to break an inch into smaller units used to measure type size and spacing.

- Patricia Duryea, cooking instructor, states that knowing the relationship between units (for example, tablespoons and fluid ounces) is essential when cooking.

- Susan Hill, architect at Tate Hill Jacobs Architects, discusses the importance of converting measurements in order to give directions to subcontractors on a project.

- Patricia Wilkins, a landscape designer, explains how she figured out how many feet of lumber, square feet of paving stones, and cubic feet of mulch to buy to make a patio in her yard.

- Zalman Usiskin, Professor of Education from the University of Chicago, gives helpful information about the metric system and how the units are derived.

Workbook Lesson

Math Workbook Program 33: Measurement, pp. 129–148

Before You Watch, pp. 129–132
- Sneak Preview (Pretest), pp. 130–131
- Vocabulary, p. 132

After You Watch, pp. 133–148
- Key Points to Think About, p. 133
- The English System of Measurement, pp. 134–137
  - Finding Benchmarks
  - Making Measurement Conversions
  - Solving Everyday Measurement Problems

- The Metric System, pp. 138–141
  - Understanding Metric Units
  - Making Metric Conversions
  - Solving Everyday Problems

- Finding Perimeter and Area, pp. 142–145
  - Understanding Perimeter and Area
  - Working with Squares and Rectangles
  - Working with Irregular Shapes

- GED Practice Questions (Posttest), pp. 146–148

Internet Connections

Student Activities at www.pbs.org/literacy

GED Practice Test

Learning Module
Interactive course on math content and skills

Internet-based Activity
Including GED-style practice questions
PROGRAM 33 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 33 focuses on measurement—its importance in everyday life and on the GED Math Test.


4. Have learners do the *Sneak Preview* activity on workbook pages 130–131. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 131.

5. Discuss the *Vocabulary* on page 132.

6. Tell students that the video will demonstrate how workers use measurement on their jobs. Say, *As you watch the video, notice which strategies the workers use to make conversions between units.*

Show Program 33

Follow Up the Video Program

1. Ask, *During the video, you saw workers using measurement on the job. How did their understanding of benchmarks and unit relationships help them do their job?* Discuss all responses.

2. Ask, *What measurement tools have you actually used in your life?* If possible, bring scales, measuring cups and spoons, and tape measures to class for direct experiences.

3. The host of the video, Kim Leigh Smith, notes that the GED Math test includes the common conversions students will need to answer questions. Discuss how proportions are used when converting from one unit of measure to another.

4. Many people estimate measurements. The landscape architect in the video often rounded up. Ask, *Why was rounding up a good strategy for the job she was doing?*

Use Workbook Instruction and Practice

1. Discuss the *Key Points* on page 133.


3. After learners have finished the lesson, have them work through the *GED Practice* questions on pages 146–148. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to measurement. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the *GED Connection* online curriculum.

Lead Group Activities

**Activity 1: In Your Life**

Ask students to imagine that they are going to buy new carpeting for a room in their home. Have them measure the length and width and calculate the square footage of the room. Students may want to look up carpet prices to find the cost of completing the job.

**Activity 2: The Graphic Connection**

Have students look at the graphic of four packages on page 139. Ask, *The four packages are close to the same size. Are they close to the same weight?* Discuss students’ responses.

**Activity 3: The Pre-GED Connection**

Help students who are at the pre-GED level understand how measurements are used to define the space in between whole numbers. Have them use adding machine tape to make their own “inch” (about two feet in length), marking halves, fourths, eighths, and sixteenths, as shown on a standard ruler.
LESSON OBJECTIVES

1. Solve formulas by substitution
2. Solve formulas by isolating the variable.
3. Apply perimeter, circumference, area, and volume formulas to solve real-life problems.

PROGRAM 34
Formulas

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Formulas** – A formula is a tool, or set of instructions, for solving a problem. It has letters, or variables, and operations.
- **Solving Formulas** – To solve a formula, you substitute numbers for the variables and do the operations. First you may need to isolate the unknown variable on one side of the equal sign. Whatever operation you perform on one side, you must perform on the other.
- **Steps** – You may need to use one formula to solve for a number that is needed in another formula (such as finding the diameter of a circle before its circumference). Or you may need to use more than one formula (such as finding the area of a combination shape).
- **Pi (π)** – Pi is a constant needed to solve problems involving circles. Its value approximates 3.14, or \( \frac{22}{7} \).
- **Common Formulas** –
  - \( A = lw \) (area of a rectangle)
  - \( r = \frac{d}{2} \)
  - \( C = 2 \pi r = d \)
  - \( A = \pi r^2 \) (area of a circle)
  - \( V = lwh \)
  - \( V = \pi r^2 h \) (volume of a cylinder)
- **The GED Test** – A page of formulas is given with the test, but a test-taker needs to know what a formula is used for and how to use it.

People and Ideas to Watch For

- Jon Arason, Director of Annapolis Department of Planning and Zoning, says that formulas can be written into laws to control the size of signs and billboards.
- Susan Hill, architect for Tate Hill Jacobs Architects, shows how formulas are used to determine the area of irregular shapes on the blueprint of a school.
- Captain William Pinkney, Master of the *Amistad*, explains how the formula \( d = rt \) can be used by a ship’s captain to determine the distance traveled at sea.
- Zalman Usiskin, Professor of Education from the University of Chicago, explains the value of pi and how it is used in the formula for circumference.
- Sam Guard, a construction manager, calculates the amount of concrete needed to fill a cylindrical hole. He takes measurements and proceeds through a series of formulas and unit conversions.
- A team of students shows how they calculated the area of combined shapes.

WORKBOOK LESSON

**Math Workbook**
Program 34: Formulas, pp. 149–168

Before You Watch, pp. 149–152
- Sneak Preview (Pretest), pp. 150–151
- Vocabulary, p. 152

After You Watch, pp. 153–168
- Key Points to Think About, p. 153
- Using Formulas to Solve Problems, pp. 154–157
  - Understanding Formulas
  - Solving by Substitution
  - Using the GED Formulas Page

- Solving for Other Variables, pp. 158–161
  - Applying the Rules of Algebra
  - Using Formulas to Solve Set-Up Problems
- Using Geometry Formulas, pp. 162–165
  - Finding Perimeter and Area
  - Finding Volume
- GED Practice Questions (Posttest), pp. 166–168

INTERNET CONNECTIONS

**Student Activities at www.pbs.org/literacy**

GED Practice Test

Learning Module
Interactive course on math content and skills

Internet-based Activity
Including GED-style practice questions
PROGRAM 34 LESSON PLAN

Set Up the Video Program
1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 34 focuses on using formulas to solve problems. Tell students that any formula they need to use on the GED Math Test will be given to them.

3. Ask, What formulas have you used in the past? Make a list of the formulas students know (for example, figuring out total pay by multiplying hours times hourly wage).

4. Have learners do the Sneak Preview activity on workbook pages 150–151. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 151.

5. Discuss the Vocabulary on page 152.

6. Tell students that the video will explain how to apply certain formulas. Say, As you watch the program, look for ways that people use formulas at work, and why.

Show Program 34

Follow Up the Video Program
1. Several people in the video use formulas to do their jobs. Ask, How do people use formulas on the job? In what ways do formulas make their work easier?

2. Near the end of the video, a construction manager goes through many steps to find the amount of concrete to order for a certain job. Ask, Why is step-by-step thinking important when working with formulas?

3. Discuss the value of . Ask, When would you use 3.14 for the value of pi? When would you use \( \frac{22}{7} \)?

4. Remind students that they will be able to use a calculator on some GED math problems. Ask, How would a calculator make working with formulas easier? In what ways would it make solving problems more difficult?

Use Workbook Instruction and Practice
1. Discuss the Key Points on page 153.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 166–168. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet
1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to formulas. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life
Have students choose a problem-solving experience that they encounter often (for example, figuring a discount or finding a 15% tip) and have them write a formula for it.

Activity 2: The Graphic Connection
Have students look at the landscaping plan on page 163. Remind them that there is often more than one way to solve a problem. Point out that the plan as drawn divides the space into a triangle and parallelogram. Say, Suppose you need to find the total area of the space. What is another way you could divide the figure?

Activity 3: The Pre-GED Connection
For students who are at the pre-GED level, bring several boxes or containers. Have them work in small groups to find the volume of each. Emphasize the need to find the area of the base first.
LESSON OBJECTIVES
1. Understand the terms used in geometry.
2. Solve problems involving lines and angles.
3. Solve problems involving similar triangles and right triangles.

PROGRAM 35

Geometry

Major Ideas in the Video Program
- Geometry – Geometry deals with the way we see the world. To understand geometry, you must learn its special terms—point, line, ray, and so on.
- Angles – An angle is formed by two rays sharing the same endpoint (vertex).
- Degrees – A circle has 360 degrees. This system allows us to measure angles and navigate on the three-dimensional earth.
- Angle Relationships – Angles are classified as right, acute, or obtuse. You can often find the measure of an unknown angle when the measure of another angle is known. This applies to vertical angles, complementary angles, supplementary angles, and angles created by a transversal and parallel lines.
- Triangles – Triangles are classified by their angles: right, equilateral, isosceles, scalene. You can use ratio and proportion to find similar triangles and the Pythagorean relationship to solve for one side of a right triangle when the lengths of the other sides are known.

People and Ideas to Watch For
- Edward Schweitzer, a graphic designer for Incognito, shows how rectangles can be used on a two-page layout to help make the information easier to read and remember.
- Zalman Usiskin, Professor of Education from the University of Chicago, explains the classification of angles.
- Captain William Pinkney, Master of the Amistad, discusses latitude and longitude and explains how triangulation using satellite data can be used to fix an exact location on the earth.
- A GED class finds the measures of angles formed by a transversal.
- Susan Hill, architect for Tate Hill Jacobs Architects, shows how the relationship between a triangle and a rectangle can be used to find the area of a triangle drawn on a house blueprint.

WORKBOOK LESSON

Math Workbook
Program 35: Formulas, pp. 169–190

Before You Watch, pp. 169–172
- Sneak Preview (Pretest), pp. 170–171
- Vocabulary, p. 172

After You Watch, pp. 173–190
- Key Points to Think About, p. 173
- Working with Lines and Angles, pp. 174–177
- Understanding Lines and Angles • Supplementary and Complementary Angles • Working with Vertical Angles • Working with Transversals
- Working with Triangles, pp. 178–181
  Kinds of Triangles • Similar and Congruent Triangles • Working with Square Roots • Understanding the Pythagorean Relationship
- Working with Circles, pp. 182–185
  Understanding Circles • Finding Circumference • Finding Area • Finding the Volume of Cylinders
- GED Practice Questions (Posttest), pp. 186–190

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
Interactive course on math content and skills

Internet-based Activity
Including GED-style practice questions

G-86 Teacher’s Guide
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 35 focuses on understanding lines, angles, and triangles. Point out that understanding the meaning of the terms will help students answer questions on the GED Test.

3. Say, Where do you see angles and triangles in your everyday life? What do you already know about their properties? List responses on the board.

4. Have learners do the Sneak Preview activity on workbook pages 170–171. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 171.

5. Discuss the Vocabulary on page 172.

6. Tell students that the video will demonstrate how to use given angle and side measures to find unknown angle and side measures in different situations. Say, As you watch the video, try to solve these problems yourself.

Show Program 35

Follow Up the Video Program

1. Ask, Did you solve some of the measurement problems in the same way that the people in the video did, or did you solve them differently? Discuss how there is often more than one way to solve a geometry problem.

2. Throughout the video, students and teachers use the properties of figures to find the measures of angles and sides. Draw two intersecting lines on the board. Ask, Which angles look equal? How could we prove they are equal?

3. Have students find examples of each type of angle in the classroom. Ask, Why do you think there are more right angles used in construction than any other angle type?

4. To find the area of a triangle, the video showed two methods. An instructor used the formula. An architect doubled the triangle to form a rectangle, found the area of the rectangle, and then divided the area in half. Ask, How are these methods the same?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 173.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 186–190. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive. You may need to review the procedure for entering numbers in the alternate grid.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to geometry. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

**Activity 1: In Your Life**

Have students find a two-page layout in a magazine and look for the underlying geometry. They can draw geometric figures to represent the photos and blocks of type on separate paper.

**Activity 2: The Graphic Connection**

Have students redraw the graphic for question 2 on page 179 of the workbook as two individual triangles. Label all known measurements. Point out that redrawing a graphic may be a good strategy for solving GED Math Test problems.

**Activity 3: The Pre-GED Connection**

Have students draw a clock and figure out several possible times in which the hands would form 30°, 60°, 90°, and 120° angles.
LESSON OBJECTIVES

1. Find data using tables and charts.
2. Read and understand bar graphs, line graphs, and circle graphs.
3. Find mean, median, and mode.

PROGRAM 36
Data Analysis, Parts One and Two

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Data** – Data are bits of information that can be arranged in tables and graphs.
- **Tables** – Tables help the reader locate data easily. Read the row and column headings. Find specific data where they intersect.
- **Graphs** – Bar, or column, graphs compare and contrast data. Circle graphs show the relationship of parts to a whole. Pictographs use pictures to represent numbers. Line graphs often show changes over time.
- **Misleading Graphs and Tables** – Certain numbers may be left out or benchmarks not used to suggest unjustified conclusions.
- **Central Tendency** – Mean, median, and mode are different ways to describe the typical values of a set of data.

People and Ideas to Watch For

- A diet counselor explains how charts and double-line graphs are used to help a dieter in a weight-loss program.
- An investment counselor uses a table to find how much $100 will grow in 50 years.
- Edward Schweitzer, a graphic designer for Incognito, explains how charts and graphs make numbers more accessible to the reader.
- Zalman Usiskin, Professor of Education from the University of Chicago, draws conclusions from graphs in the newspaper. Later he demonstrates how to find the mean, median, and mode of a set of data.
- A columnist suggests that data can be manipulated to influence the reader.

WORKBOOK LESSON

Math Workbook
Program 36: Data Analysis, Parts One and Two

Before You Watch, pp. 191–194 and 211–214
- Sneak Previews (Pretests), pp. 192–193 and 212–213
- Vocabulary, pp. 194 and 214

After You Watch, pp. 195–210 and 215–226
- Key Points to Think About, pp. 195 and 215
- Reading Tables, Charts, and Pictographs, pp. 196–199
- Finding Information in Tables and Charts • Understanding Pictographs
- Understanding Bar and Line Graphs, pp. 200–203
- Reading a Bar Graph • Reading Double-Bar and Stacked-Bar Graphs • Reading Line Graphs • Making Predictions
- Understanding Circle Graphs, pp. 204–207
- How Circle Graphs Are Organized • Solving Problems with Circle Graphs
- Understanding Data, pp. 216–219
- Collecting Data • Using Frequency Tables and Line Plots • The Normal Distribution Curve
- Mean, Median, and Mode, pp. 220–223
- Finding the Mean • Finding Median and Mode • Everyday Problems in Data Analysis
- GED Practice, pp. 208–210 and 224–26

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Interactive course on math content and skills

Internet-based Activity
Including GED-style practice questions
Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 36 demonstrates how to use tables and graphs to find data. Tell students that tables and graphs are found not only on the GED Math Test but also on the Social Studies and Science Tests.

3. Ask, Where do you see or use tables and graphs? What kinds of information do they give you? List responses on the board.

4. There are two workbook lessons that accompany Program 36. You may want to show the video program twice, as you introduce each lesson. Before each viewing, have learners do the Sneak Preview activities on workbook pages 192–193 and 212–213, respectively. You may wish to discuss the questions and answers using the feedback on pages 193 and 213.

5. Discuss the Vocabulary on pages 194 and 214.

6. Tell students that the video will show how people use tables and graphs. Say, As you watch, see if you can identify the purpose of each graphic.

Show Program 36

Follow Up the Video Program

1. Throughout the video, people emphasize the power of graphs and charts to communicate clearly. Ask, How did each table or graph help communicate the data it was intended to? Remind students of specific graphics, such as the caloric chart, the pictograph of military personnel, and the investment table.

2. Zalman Usiskin finds newspaper graphs and points out that prior knowledge (for example, knowing when percents are being shown) is sometimes needed. Ask, Why do newspapers include charts and graphs? What prior knowledge do you need for reading them?

3. Several instructors discuss central tendency. Say, The students in a math class took a test. The average grade was 85%. What does this average tell you about the class?

4. A columnist in the video says that data can be used to support any position. Ask, What can you do when you read tables and graphs to make sure you are not being misled?

Use Workbook Instruction and Practice

1. Discuss the Key Points on pages 195 and 215.


3. After learners have finished each lesson, have them work through the GED Practice questions on pages 208–210 and 224–226, respectively. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to using data analysis to solve problems. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Have students bring a newspaper or magazine graphic to class. They should tell the purpose of the graphic, explain all labels, and ask one question that can be answered using the data.

Activity 2: The Graphic Connection

Have students look at the AC Electronics graph at the top of workbook page 200. Ask, Does the change in the sizes of the bars show a trend? Discuss how, in order for there to be trend, a graph has to show changes over time.

Activity 3: The Pre-GED Connection

Have students create a bar graph showing how students travel to the class. Then help them use the same data to make a circle graph.
LESSON OBJECTIVES
1. Use statistics to draw conclusions.
2. Understand and interpret surveys and polls.
3. Find the probability of single events as well as independent and dependent events.

PROGRAM 37
Statistics and Probability

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Sampling** – To gather information about a large population, sample the population. If a sample is large enough, representative, and chosen at random (for example, each member of the entire population has a chance of being chosen), the data gathered can be applied to the larger population.

- **Margin of Error** – A margin of error tells you by what percent (+ or −) the actual data may vary.

- **Probability** – By comparing the number of desirable outcomes to the number of possible outcomes, you can find the chance, or probability, that an event will occur. Probability can be expressed as a fraction, a ratio, a decimal, or a percent.

- **Independent and Dependent Events** – Events are independent when the result of the first event does not affect the second event (for example, flipping a coin). Events are dependent when the first event does affect the second (for example, drawing a second card from a deck without replacing the first card).

People and Ideas to Watch For

- Jon Arason, a city planner, explains how census data is used to allocate funds and build housing and schools.

- Zalman Usiskin, Professor of Education from the University of Chicago, explains the difficulties in getting an accurate census and how to estimate undercounted populations.

- A pollster explains methods for choosing a sample and discusses how the results of a survey can be skewed by the way in which questions are asked.

- Kim Leigh Smith, the host, explains how the probability of flipping a coin heads up can be expressed as a fraction and how fractions are multiplied to find the probability that more than one event will happen.

- Keith Devlin, Dean of Science from St. Mary’s College, compares the chance of winning a state lottery to the chance of finding a dime hidden in a football field.

WORKBOOK LESSON

**Math Workbook**
Program 37: Statistics and Probability, pp. 227–246

Before You Watch, pp. 227–230
- Sneak Preview (Pretest), pp. 228–229
- Vocabulary, p. 230

After You Watch, pp. 231–246
- Key Points to Think About, p. 231
- Using Statistics to Draw Conclusions, pp. 232–233
  - Making Sense of Statistics
- Understanding the Meaning of Chance, pp. 234–237

INTERNET CONNECTIONS

**Student Activities at www.pbs.org/literacy**

GED Practice Test
Learning Module
- Interactive course on math content and skills

Internet-based Activity
- Including GED-style practice questions
PROGRAM 37 LESSON PLAN

Set Up the Video Program

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 37 focuses on statistics and probability. Tell students that statistics and probability, along with data analysis, make up 20% to 30% of the questions on the GED Math Test.

3. Ask, Where do you see the results of polls and surveys? List responses on the board.

4. Have learners do the Sneak Preview activity on workbook pages 228–229. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 229.

5. Discuss the Vocabulary on page 230.

6. Tell students that the video will explain how to find the probability of events. Say, As you watch the program, note the kinds of events whose probability is discussed. Think of events in your life whose probability you would want to know.

   Show Program 37

Follow Up the Video Program

1. Ask, What events were discussed in terms of probability? What events in your life would you like to know the probability of?

2. Set this scenario for students: Suppose that of 100 voters, exactly 50 are for a proposal, and 50 are against it. Ten of the voters are chosen at random and are asked how they will vote. Of the ten, 6 are for the proposal, and 4 are against it. How does this example demonstrate the danger of relying too much on polls? Discuss how many voters the students think they would need to sample to be sure of their results.

3. A statistician in the video says that if you are not told the margin of error of a poll, the data does not mean much. Ask, What do you think is meant by this statement?

4. Tell students, When playing a dice game, a player bets she will roll a 5, saying, ’I’m due for a 5. I haven’t rolled one in a long time.” What is wrong with her thinking?

Use Workbook Instruction and Practice

1. Discuss the Key Points on page 231.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 242–246. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive. Review the alternate grids and rules for entering answers if necessary.

Have Students Use the Internet

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to statistics and probability. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities

Activity 1: In Your Life

Have students calculate the probability of guessing the correct answer from among five choices on the GED Test. Then discuss how eliminating improbable choices before guessing improves the probability of being correct.

Activity 2: The Graphic Connection

Ask students to expand the tree diagram on workbook page 238 so that it shows the possible results of three coin tosses.

Activity 3: The Pre-GED Connection

Use 8 coins to demonstrate the possibilities when tossing a coin two times: 2 heads; 2 tails; 1 head 1 tail; 1 tail 1 head. Ask, How does this show that the probability of tossing 2 heads is 1 in 4?
LESSON OBJECTIVES

1. Work with positive and negative numbers.
2. Apply commutative and associative properties.
3. Solve simple equations by isolating the variable.

PROGRAM 38
Introduction to Algebra

VIDEO OVERVIEW

Major Ideas in the Video Program

- **Algebra** – Algebra focuses on operations and strategies. In arithmetic, the equal sign tells you to write the answer. In algebra, it acts as the center of a balancing scale.
- **Equation** – An equation is a statement that two expressions are equal. Solve an equation by finding value(s) for the variable(s) that make(s) the statement true. Substituting expressions can help solve an equation.
- **Inverse Operations** – Inverse, or opposite, operations can be used to isolate a variable. As long as the same operation is performed on both sides of the equal sign, the equation will remain balanced.
- **Properties** – Some powerful properties of arithmetic and multiplication can be applied to solve various problems:
  - **Commutative** – \( a + b = b + a \)
  - **Associative** – \( (a + b) + c = a + (b + c) \)
  - **Distributive** – \( a(b + c) = ab + ac \)
- **Signed Numbers** – Numbers can be positive or negative. Absolute value tells you the distance a number is from zero.

People and Ideas to Watch For

- Keith Devlin, Dean of Science from St. Mary’s College, compares algebra to the game of chess. You can learn the rules quickly, but it takes time to understand all the possible strategies.
- A bookkeeper explains how she uses a spreadsheet with an algebraic formula programmed in to keep books for a garage.
- Teacher Billie Travis and Zalman Usiskin, Professor of Education from the University of Chicago, demonstrate how to isolate variables, substitute and simplify expressions, and apply algebraic properties.
- Usiskin explains signed numbers in terms of east-west directionality and shows how to add, subtract, multiply, and divide them.
- Travis says that many students have a general fear of algebra because they have been told it is hard, but she reassures learners that they can learn algebraic methods and apply them.

WORKBOOK LESSON

Math Workbook
Program 38: Introduction to Algebra, pp. 247–268

Before You Watch, pp. 247–250
- Sneak Preview (Pretest), pp. 248–249
- Vocabulary, p. 250

After You Watch, pp. 251–268
- Key Points to Think About, p. 251
- Working with Signed Numbers, pp. 252–255
  - Using a Number Line
  - Adding Signed Numbers
  - Subtracting Signed Numbers
  - Multiplying and Dividing Signed Numbers
  - A Review of the Order of Operations
  - Signed Numbers and Calculators
- Working with Expressions, pp. 256–259
  - Simplifying Algebraic Expressions
  - Evaluating Expressions
  - Working with Exponents
  - Using Scientific Notation
- Working with Equations, pp. 260–265
  - Solving Equations
  - Writing Equations
  - Algebra Word Problems
  - More Algebra Word Problems
  - GED Practice Questions (Posttest), pp. 266–268

INTERNET CONNECTIONS

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
- Interactive course on math content and skills

Internet-based Activity
- Including GED-style practice questions

G-92 Teacher's Guide
Set Up the Video Program
1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 38 focuses on algebra as a strategy. Tell students that 20% to 30% of the questions on the GED Math Test involve algebra.

3. Ask, What do you know about algebra? Help students see that by working with formulas such as \( A = \frac{1}{2}bh \); they have already done algebra problems. Emphasize that they can build on what they already know.

4. Have learners do the Sneak Preview activity on workbook pages 248–249. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 249.

5. Discuss the Vocabulary on page 250.

6. Tell students that the instructors in the video will present a great deal of information. Say, As you watch the video, don’t try to memorize how each problem is done. Instead, look for general rules that you can apply to many problems.

Show Program 38

Follow Up the Video Program
1. Ask, What methods and rules did you see in the video that can be applied to many problems? List responses and discuss.

2. To do her job, the bookkeeper in the video used a spreadsheet. Ask, How did she use algebra to do her job? (Because an algebraic formula that could be used with each garage ticket had been programmed, she did not have to do the arithmetic herself. Instead, the computer did the work.)

3. In the video, the host used negative numbers to talk about a loss of yards in football and an overdrawn check. Have students think of other real-life situations that involve negative numbers.

4. Remind students that they will be able to use a calculator on the GED Math Test. Discuss using the calculator to solve problems such as \(-5 + 3; -12 + \frac{3}{2}; 5 - 15\); and \(10 - (-6)\).

Use Workbook Instruction and Practice
1. Discuss the Key Points on page 251.


3. After learners have finished the lesson, have them work through the GED Practice questions on pages 266–268. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive.

Have Students Use the Internet
1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to algebra. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the GED Connection online curriculum.

Lead Group Activities
Activity 1: In Your Life
Have students take turns announcing a checkbook balance and describing three banking transactions. The rest of the class should record the transactions using positive and negative numbers and then solve for the new balance.

Activity 2: The Graphic Connection
Draw a number line and give students practice reading between points on the negative side.

Activity 3: The Pre-GED Connection
Give students practice with signed numbers using counters or paper clips. Choose black for positive numbers and red for negative (for example, to add +5 and −7, the students take 5 black and 7 red). Point out that \(+1 + -1 = 0\). Have students remove black and red pairs until only 2 red counters remain. The answer is −2.
LEsson Objectives
1. Graph a linear equation.
2. Recognize patterns and functions in real-life situations and problems.
3. Understand and apply slope.

Program 39
Special Topics in Algebra and Geometry

video overview

Major Ideas in the Video Program

- **Patterns** – Finding patterns is a mathematical as well as a life skill. In a number or spatial pattern, some part repeats. That part can sometimes be described by an equation.
- **Graphing an Equation** – Values that make an equation true can be plotted on a grid to give a picture.
- **Coordinate Grid** – A coordinate grid is a horizontal x-axis crossed by a vertical y-axis. Any point on the grid can be named by an ordered pair: \((x, y)\). The point where the axes cross is the origin, \((0,0)\).
- **Solution Set** – A line shows the solution set, or all possible values, of a linear equation.
- **Positive and Negative Slope** – If a line rises as it moves from left to right, its slope is positive. If it descends, its slope is negative.
- **Reflections on a Coordinate Grid** – Multiplying both coordinates of each point in a figure by \(-1\) will turn the figure 180°.

People and Ideas to Watch For

- Weavers explain how patterns are formed using threads. The patterns are compared to the horizontal and vertical lines in a graph or coordinate grid.
- Zalman Usiskin, Professor of Education from the University of Chicago, points out that patterns occur everywhere (for example, items in a grocery store are grouped in patterns that help shoppers find them). He then shows how a pattern can be pictured by graphing the height of a child at different ages.
- Teacher Billie Travis writes an equation for comparing time to distance and then plots it on a coordinate grid.
- Usiskin demonstrates how multiplying by \(-1\) is like looking at something from the opposite direction; it turns a picture 180°.

Workbook Lesson

**Math Workbook**
Program 39: Special Topics in Algebra and Geometry, pp. 269–296

Before You Watch, pp. 269–272
- Sneak Preview (Pretest), pp. 270–271
- Vocabulary, p. 272

After You Watch, pp. 273–296
- Key Points to Think About, p. 273
- Working with Inequalities, pp. 274–277
  - Solving Inequalities
  - Graphing Solutions to Inequalities
  - Using Inequalities to Solve Word Problems
- Understanding Patterns and Functions, pp. 278–281
  - Recognizing Patterns and Functions
  - Graphing a Function
- Coordinate Geometry, pp. 282–291
  - Understanding the Coordinate Plane
  - Plotting Points
  - Graphing a Line
  - Finding the Slope of a Line
  - Finding the y-Intercept
  - Finding the Distance Between Points
  - Finding the Solution to Quadratic Equations
- GED Practice Questions (Posttest), pp. 292–296

Internet Connections

Student Activities at www.pbs.org/literacy

GED Practice Test
Learning Module
Including GED-style practice questions

Internet-based Activity
**Set Up the Video Program**

1. Preview the video. You may select segments (as time coded on the video cover) for use with your class.

2. Explain that Program 39 focuses on using algebra and geometry to create a picture of an equation on a grid. Remind students that grids are one answer format found on the GED Math Test.

3. Tell students that equations help describe patterns. Ask, *Where do you find patterns in your everyday life?* If necessary, guide them with questions such as, *What happens to our bodies as we grow older? What happens to street numbers as you walk a street?*

4. Have learners do the *Sneak Preview* activity on workbook pages 270–271. Explain that the exercise is designed to introduce the topics that will be covered in the video program and corresponding workbook lesson. After the activity, you may wish to discuss the questions and answers using the feedback on page 271.

5. Discuss the *Vocabulary* on page 272.

6. Tell students that the video will show people plotting points on a coordinate grid. Say, *As you watch the video, pay attention to how to plot positive and negative coordinates.*

**Show Program 39**

**Follow Up the Video Program**

1. Draw a coordinate grid on the board. Ask, *Where would you plot a point with two negative coordinates? Two positive? A negative and a positive? A positive and a negative?*

2. Say, *The weavers in the video used small printed patterns to understand the design of the cloth. In what ways were the patterns similar to a graph on a coordinate grid?*

3. Give students a sample situation: Sam earns $6 for each $2 that I earn. Help them write an equation and then plot the solution on a grid. Ask, *Which way of representing the relationship seems easiest to understand—the words, the equation, or the graph?*

4. Reinforce the concept of slope by drawing several steps on the board. Discuss how stairs have rise (the vertical boards) and run (the horizontal board where we step).

**Use Workbook Instruction and Practice**

1. Discuss the *Key Points* on page 273.


3. After learners have finished the lesson, have them work through the *GED Practice* questions on pages 292–296. Explain that these are similar to the questions that they will see on the GED Test. You may go over the questions with the class, discussing both the correct answer and incorrect answer choices that the students found attractive. Make sure students have correctly marked alternate grid items.

**Have Students Use the Internet**

1. Have students go to the PBS LiteracyLink website at www.pbs.org/literacy. Students should log onto their Home Space and then follow the links to the GED Math online learning module, where they will be able to take an extended, interactive course related to coordinate grids. Students can also use Internet activities to practice answering GED-type questions that focus on math skills and strategies.

2. A teacher may view the GED online learning modules from the LitTeacher Home Space. Use your own username and password to log onto the PBS LiteracyLink website at www.pbs.org/literacy. Then follow the link to the *GED Connection* online curriculum.

**Lead Group Activities**

**Activity 1: In Your Life**

Invite students to find patterns that they can graph (for example, pay to hours worked, average number of study hours per day, average number of pounds lost in week).

**Activity 2: The Graphic Connection**

Have students work in small groups to make a graph of the data of Lillian’s pay on workbook page 278. Ask, *Does the graph form a line? If so, what does that tell you about the data?*

**Activity 3: The Pre-GED Connection**

Give students a rule and have them create a series by applying the rule to the numbers from 1 to 10 [for example, (1) add 5.5; (2) multiply by 2; and (3) subtract 4, then multiply by 3]. Allow students to experiment with other rules.
Learning Unit Planning Tool

You can use this planner to keep track of the *GED Connection* components. You can check off an activity when it is completed or write in the date of completion.

Name: ___________________________________________  *GED Connection* Start Date: __________

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Sample Test Questions/Answers
from the “Passing the GED Writing Test” Video

Items 1 to 5 refer to the following memo.

To: All employees of Acme Manufacturing
From: Brenda Fisher, Safety Coordinator
Date: November 11, 2001
Re: Annual “Safety Counts” Campaign

(A)

(1) Our annual safety campaign will begin Monday. (2) Beginning with a safety meeting for all employees at 10 a.m. in the large conference room.

(B)

(3) Everyone who works here knows that Acme is a company that makes safety its top priority. (4) There were 19 on-the-job injuries in the past year. (5) To look for ways to reduce this number, a committee of employees studied workplace safety and attended national workshops on accident prevention. (6) In addition, they attended seminars on productivity, which many members found particularly enjoyable.

(C)

(7) In the coming week, we will hold safety meetings and a safety slogan contest. (8) We will be, if everyone makes an effort, able to reduce injuries and make our company a safer place to work.

1. Sentences 1 and 2: Our annual safety campaign will begin **Monday.**
   **Beginning with a safety meeting for all employees at 10 a.m. in the large conference room.**

Which is the best way to write the underlined portion of these sentences? If the original is the best way, choose option (1).

(1) Monday. Beginning with
(2) Monday, beginning with
(3) Monday. To begin with
(4) Monday. Having begun with
(5) Monday with

**Discussion:** Sentence 2 is actually a sentence fragment. Answer options (1), (3) or (4) can be eliminated because none of these corrects this basic problem—the “sentence” remains a fragment.

Options (2) and (5) both combine the sentence fragment with sentence 1. The best answer is (5) **Monday with** because option 2 is unnecessarily repetitive (“… campaign will begin Monday, beginning with …”).
2. Sentence 8: We will be, if everyone makes an effort, able to reduce injuries and make our company a safer place to work.

If you rewrote sentence 8 beginning with the phrase “If everyone makes an effort,” the next words should be

(1) able we will be
(2) we will be able
(3) making our company
(4) reducing injuries will make
(5) injuries reduce and company make

Discussion: The best answer is (2) we will be able as in “If everyone makes an effort, we will be able to reduce injuries and make our company a safer place to work.” The other options are either awkwardly written or unclear.

3. Sentence 3: Everyone who works here know that Acme is a company that makes safety its top priority.

What correction should be made to sentence 3?
(1) Change works to work
(2) Change know to knows
(3) Change is to are
(4) Change makes to make
(5) Replace its with it’s

Discussion: The best answer is (2) Change know to knows. This corrects an error in subject-verb agreement. The verb “know” goes with “everyone,” an indefinite pronoun taking a singular verb, i.e., “Everyone knows.” In options (1), (3), and (4), the subject-verb pairs agree (“who works,” “Acme is,” and “company makes”). Option 5 suggests replacing the possessive “its” with the contraction it’s (i.e. “it is”), which would be incorrect.
4. Sentence 6: In addition, they attended seminars on productivity, which many members found particularly enjoyable.

Which revision should be made to the placement of sentence 6?
(1) Move sentence 6 to follow sentence 1
(2) Move sentence 6 to follow sentence 4
(3) Move sentence 6 to follow sentence 7
(4) Remove sentence 6
(5) No revision is necessary

Discussion: The problem with this sentence is that it is not relevant to the rest of the memo. The memo is about safety, but sentence 6 is about a seminar on productivity. The best answer is (4) Remove sentence 6.

5. Sentence 4: Their were 19 on-the-job injuries in the past year.

What correction should be made to sentence 4?
(1) Replace Their with There
(2) Insert a comma after 19
(3) Insert a comma after injuries
(4) Replace past with passed
(5) No correction is necessary

Discussion: Two answer options relate to commas and two to homonyms. Sentence 4 does not need commas, eliminating options (2) and (3). “Past” is used correctly, but “Their,” a possessive pronoun, is not. The best answer is (1) Replace Their with There.
Writing Resources
Related to the GED Connection™ Videos

The GED Connection: Writing programs feature a number of professional writers from a variety of genres, including fiction, non-fiction, poetry, and journalism. In one program viewers will visit an entertaining website that features the Bulwer-Lytton Fiction Contest, a contest for examples of “bad” writing. The following list provides information on the writers and their work for those interested in learning—and reading—more.

Information about The Bulwer-Lytton Fiction Contest, including samples of past entries and winners, can be found on a website run by Scott Rice of San Jose State University, at: www.bulwer-lytton.com. Entries from this contest are featured in Program 6: Writing Style and Word Choice; Scott Rice also appears in Program 7: Effective Sentences.

Denise Chavez refers to herself as a ‘performance writer.’ With an interest in drama as a means of personal expression, Chavez has an extensive background in theater and has written numerous plays in addition to poetry, short stories, and novels. Active in the Chicano community and deeply committed to integrating bilingualism into her works, Chavez has received numerous awards, including the American Book Award for Face of an Angel (Farrar, Straus & Giroux, © 1994; available in paperback from Warner Books). Chavez appears throughout the Writing programs; she reads an excerpt from Face of an Angel in Program 3: Getting Ideas on Paper.

Other works by Denise Chavez include:
Loving Pedro Infante
The Last of the Menu Girls

Joan Fiset is a poet whose collection of poetry, Now the Day Is Over, was published by Blue Begonia Press in 1997. She has been teaching for more than 30 years and is a writer in residence at the Richard Hugo House in Seattle, WA (www.hugohouse.org). She is featured in Program 4: The Writing Process and Program 5: Organized Writing.

Darrell Fry is a staff writer for the St. Petersburg Times, Tampa Bureau. Look for his sports features in the St. Petersburg Times online at www.sptimes.com/Sports.shtml. He is featured in Program 5: Organized Writing and Program 8: Grammar and Usage.

Natalie Goldberg’s book, Writing Down the Bones: Freeing the Writer Within (Shambhala, © 1986), has changed the way in which writing is practiced and taught. She continues to advise writers about their craft in Thunder and Lightning: Cracking Open the Writer's Craft (Bantam Books, © 2000). Goldberg has been teaching seminars in writing for more than 25 years. An ardent practitioner of Zen meditation, she is also a painter whose book Living Color: A Writer Paints Her World discusses painting as her second art form. Goldberg is featured in Program 3: Getting Ideas on Paper.

Other works by Natalie Goldberg include:
Banana Rose
Long Quiet Highway
Wild Mind
Mindy McAdams is the Knight Chair in New Technologies and the Democratic Process at the University of Florida. She has more than 11 years of copy editing experience, having worked for The Washington Post and for Time Magazine. Her web sites are packed with useful information on a variety of topics and feature such activities as an interactive spelling test, strategies for the game of Go, and links to other helpful sites. Visit McAdams' web sites at www.sentex.net/~mmcadams and www.mindy.mcadams.com. McAdams is featured in Program 8: Grammar and Usage and Program 9: Spelling, Capitalization, and Punctuation.

Ragged Edge, a magazine focused on disability rights, is published bimonthly by The Avocado Press, P.O. Box 145, Louisville, KY 40201. Electric Edge, the online edition of the magazine, is available at www.ragged-edge-mag.com. Correspondence and submissions should be directed to editor@ragged-edge-mag.com. The editor and a contributor are featured in Program 6: Writing Style and Word Choice.

Ken Tucker is a Critic at Large for Entertainment Weekly. Look for his reviews on the magazine's website at http://www.ew.com/ew/daily. He appears in several programs, notably in Program 6: Writing Style and Word Choice.

Frank X Walker is a native Kentuckian with an extensive background in the arts and education. A founding member of the Affrilachian Poets, his photographs, poetry, short stories and essays have been featured in numerous publications. Walker is the Director of Kentucky's Governor's School for the Arts. He is featured in Program 3: Getting Ideas on Paper where he reads a segment from "Black Mountain."

By Frank X Walker:
Affrilachia, (Old Cove Press, © 2000)

Crystal E. Wilkinson is the Assistant Director of Kentucky's Carnegie Center for Literacy and Learning. A member of the Affrilachian Poets, Wilkinson teaches creative writing at the Center and for Kentucky's Governor's School for the Arts. Wilkinson appears in several Writing programs; she reads an excerpt from Blackberries, Blackberries (The Toby Press, © 2000) in Program 4: The Writing Process.

Shawn Wong is Chairman of the English Department at the University of Washington, Seattle, and has been hailed as a pioneer of Asian American literature. In 1974, he co-edited an anthology of Asian American literature; his novel Homebase won the Pacific Northwest Booksellers Award. Wong appears in several Writing programs.

Works by Shawn Wong include:
American Knees (Simon & Schuster Trade, © 1996)
Homebase: A Novel
Aiiieeee!
Sample Test Questions/Answers
from the “Passing the GED Reading Test” Video

Items 1 and 2 refer to the following excerpt.

WHAT KIND OF WORLD IS CREATED IN THIS MOVIE?

The movie’s darkness is essential to its hold on us. The whole conception of Batman and Gotham City is a nighttime vision—a childlike fantasy of the big city that the muggers took over. The caped crusader who can find his way around in the miasmal dark is the only one who can root out the hoods. The good old boy Batman has his shiny-toy weapons (the spiked gauntlets, the utility belt equipped with projectile launcher, even the magnificent Batwing fighter plane), but he’s alone. The bad boys travel in packs: the Joker and his troupe of sociopaths break into the Flugelheim Museum, merrily slashing and defiling the paintings—the Joker sees himself as an artist of destruction.

Excerpt from “Batman,” from *For Keeps* by Pauline Kael. Used by permission of Curtis Brown, Ltd., © 1989 Pauline Kael. All rights reserved.

1. Based on the review, which of the following is an accurate statement?
   (1) The bad guys will all be wearing hoods.
   (2) Much of the action will take place at night.
   (3) Batman travels with a pack of loyal followers.
   (4) Gotham City is a small town.
   (5) The Joker steals paintings from the museum.

   **Discussion:** This is a comprehension question requiring the reader to understand what s/he read. Two answer options can be eliminated because they are clearly not supported by the passage—options (3) and (4). Option (1) can be ruled out because the bad guys are called “hoods”; they’re not wearing hoods. In the passage, the Joker “slashes and defiles” paintings, but he does not steal them eliminating option (5). The best answer is (2) **Much of the action will take place at night** which is supported by the references to the “movie's darkness,” “nighttime vision,” and “miasmal dark.”

2. What is the purpose of describing Batman’s weapons as “shiny toys”?
   (1) It suggests that Batman is not real.
   (2) It distinguishes Batman from the Joker.
   (3) It supports the opinion that the movie is a “childlike fantasy.”
   (4) It shows that Batman is not powerful.
   (5) It makes Batman stand out from the movie’s darkness.
Discussion: This is an analysis question. All answer options except option (3) can be ruled out: option (1) because there’s nothing to suggest Batman isn’t real, even though his weapons are described as toys; option (2) because Batman’s and the Joker’s weapons are not compared, even though the characters are; option (4) because the passage tells us that Batman is powerful by describing him as the only one who can “root out the hoods”; and option (5) because “shiny” refers to the toys, not to Batman. Answer (3) it supports the opinion that the movie is a “childlike fantasy” is the best choice—a “childlike fantasy” and “shiny toys” go together.

Item 3 refers to the following excerpt.

WHAT WAS THE WRITER’S SECRET TO NABBING SCHOLARSHIPS?

One day in my junior year, I noticed a posting at my school about a scholarship offered by Discover Card. I filled out the application and, to my astonishment, won $2,500 at the state level, and $15,000 as one of nine national winners. Once I realized that you don’t need to be an Albert Einstein or a Michael Jordan to win, I entered as many scholarship competitions as I could. Three dozen contests and some 25 victories later, I had won almost $90,000, nearly enough to pay for my entire Harvard education.


3. Based on the strategy the author used to obtain scholarships, when looking for a job he will most likely:
   (1) apply for less demanding positions.
   (2) go to a recruitment agency for help.
   (3) become discouraged if he does not get the first job.
   (4) apply for many job openings in his field.
   (5) pursue a high-paying career.

Discussion: This question requires the reader to apply what s/he has read to a new or different situation. The best choice would be (4) apply for many job openings in his field since this was the approach the writer used in applying for scholarships—he applied for as many scholarships as possible.
Item 4 refers to the following excerpt.

**WHAT KIND OF WOMAN IS AMA EATON?**

Ama Eaton isn’t really my aunt. I call her that because it’s what my mother called her the first time I came here with my uncles. Ama’s about the same age as my mother, and they are cousins in a roundabout way, second cousins I think, but Mama calls her that out of respect for what she knows and who she is. Mama respects her and is jealous. Mama’s made her choices and they are different. Still, she’d like to learn from the old people, live the way we used to, but she wants it modern, too. Ama says it’s not about choices but about heart and heart is what Mama’s low on. Because of how Ama lives, she’s a woman both admired and ridiculed, sometimes by the same people and in the same moment of time. You could say she’s “traditional” even though she has no healing herbs or roots or songs. Not that I know of. What she’s got is herself, and that’s all she has. She doesn’t even have a stick to shake, my mom says.


4. Which of the following best describes the narrator’s attitude toward Ama Eaton?

   (1) superior
   (2) jealous
   (3) curious
   (4) critical
   (5) admiring

**Discussion:** The best answer option is (5) admiring even though the narrator never says she admires Ama Eaton. But, the narrator does seem to be comparing her mother to Ama, and not favorably (her mother is “low on” heart). There’s nothing in the passage that suggests the narrator feels superior, jealous or critical; in fact, the narrator’s tone is always respectful, interested in Ama. If anyone seems critical or jealous, it’s the narrator’s mother, not the narrator. Option (4) is the only other possible answer because the narrator does seem to want to know about Ama. This question, however, is a good example of finding the best answer. It is a synthesis question, which requires the test-taker to look at the whole passage and determine the best answer from the clues in the passage.
Item 5 refers to the following excerpt.

WHAT HAS THE SPEAKER LOST AND HOW IS SHE DEALING WITH HER LOSSES?

One Art

The art of losing isn’t hard to master;
so many things seem filled with the intent
to be lost that their loss is no disaster.

Lose something every day. Accept the fluster
of lost door keys, the hour badly spent.
The art of losing isn’t hard to master.

Then practice losing farther, losing faster:
places, and names, and where it was you meant
to travel. None of these will bring disaster.

I lost my mother’s watch. And look! my last, or
next-to-last, of three loved houses went.
The art of losing isn’t hard to master.

I lost two cities, lovely ones. And, vaster, some
realms I owned, two rivers, a continent.
I miss them, but it wasn’t a disaster.

--Even losing you (the joking voice, a gesture
I love) I shan’t have lied. It’s evident
the art of losing’s not too hard to master
though it might look like (Write it!) like disaster.

“One Art” from The Complete Poems: 1927–1979 by Elizabeth Bishop. © 1979, 1983 Alice Helen Methfessel. Reprinted by permission of Farrar, Straus and Giroux. LLC. All rights reserved.

5. Which of the following best describes the speaker’s attitude toward the losses she has experienced?

(1) She is grief-stricken.
(2) She feels guilty about the losses.
(3) She is proud of her optimism in the face of loss.
(4) She hates the people responsible for her losses.
(5) She tries to conceal/minimize the pain the losses have caused.

Discussion: The speaker doesn’t seem grief-stricken about her losses; she misses some of the things she’s lost, but says specifically that many of them are no disaster, ruling out option (1). There’s no sense of feeling guilty or of assigning blame for her losses either—so answers (2) and (4) can be eliminated. She seems resigned to the fact that loss is part of life, but not optimistic, so option (3) is not the best choice. Throughout the poem she does say that loss is no disaster, but it’s almost as if she’s trying to convince herself that she doesn’t care—making option (5) She tries to conceal/minimize the pain the losses have caused the best answer. Selecting this answer requires the recognition that there’s a difference between what the speaker in the poem literally says and what she means.
KET interviewed a number of writers and poets, theater professionals, GED students and teachers and others to explore the elements of various genres of literature. This list of resources, by program, provides more information about some of the featured writers and a variety of related special sites.

**Program 11: Passing the GED Reading Test**

**Featured Writers**

**Pauline Kael** (1919–2001) was an influential American film critic known for the reviews she wrote for the *New Yorker* magazine for over 20 years. She published a number of books, mostly collections of reviews, including *I Lost It at the Movies* (1965), *Kiss Kiss Bang Bang* (1968), *The Citizen Kane Book* (1971), *Deeper into Movies* (1973), *Taking It All In* (1984), and *For Keeps* (1989), the collection that contained the review of “Batman” which is excerpted in this program.

**Linda Hogan** is a Chickasaw poet, novelist, and essayist. She was a finalist for the Pulitzer Prize for her novel, *Mean Spirit*, and the National Book Critics Circle Award for her book of poetry, *The Book of Medicines*. She has received numerous awards including an American Book Award. This program features an excerpt from her novel *Power*; for more information, visit [www.wwnorton.com/catalog/spring98/power.htm](http://www.wwnorton.com/catalog/spring98/power.htm).

**Poet Elizabeth Bishop** (1911–1979) published nine books of poetry and several volumes of prose. Her last book, *Geography III*, was published in 1976 and established her as major force in contemporary literature. She was awarded the Fellowship of The Academy of American Poets in 1964 and served as a Chancellor from 1966 to 1979. This program includes her poem “One Art” from *The Complete Poems: 1927–1979*. For more information about Bishop, visit The Academy of American Poets website at [www.poets.org](http://www.poets.org).

**Related Sites**

*U. S. News & World Report* is a weekly national newsmagazine devoted largely to reporting and analyzing national and international affairs, politics, business, health, science, technology, and social trends. This program features an excerpt from an article published in the magazine; the magazine can be found online at [www.usnews.com](http://www.usnews.com).

The **National Museum of Women in the Arts** (1250 New York Ave., NW, Washington, D.C. 2005, [www.nmwa.org](http://www.nmwa.org)) is dedicated to recognizing the contributions of women artists. It includes a permanent collection featuring works of art by women, special exhibits, education programs, and a library and research program. The museum was the location for the KET interview with Renee Shaw.
Program 12: Nonfiction

Featured Writer

**Luis Rodriguez** (1954– ) is a writer, poet, journalist and critic whose work has appeared in *The Nation*, *Los Angeles*, *Americas Review* and other publications. *Always Running: La Vida Loca, Gang Days in L.A.* is his autobiographical account of his life growing up in Watts and the East Los Angeles area where he became involved with gangs at the age of 11. Rodriguez reads and discusses an excerpt from this book in the “Nonfiction” program. For more information about Rodriguez, visit The Academy of American Poets website at [www.poets.org](http://www.poets.org).

Related Resources

The **Greatest Films Website** ([www.filmsite.org](http://www.filmsite.org)) is an award-winning website containing, among other things, commentary and background information on hundreds of classic Hollywood and other American films in the last century.

**Sam Adams**, a film critic for the *Philadelphia Citypaper*, discusses film criticism and the difference between fact and opinion. For more examples of movie reviews, visit the *Citypaper’s* website at [www.citypaper.net/movies.shtml](http://www.citypaper.net/movies.shtml).

Program 13: Fiction

Featured Writers

**Edwidge Danticat** is a writer born in Haiti in 1969 where she was raised by her aunt. She was reunited with her parents in the U.S. at age 12 and began publishing two years later. Her short stories have appeared in over 20 periodicals and been collected in *Krik? Krak!* which was a National Book Award finalist. Danticat reads and discusses an excerpt from her novel *Breath, Eyes, Memory* in this program. The book was an Oprah Book Club Selection; a website by the publisher about the book can be located at [www.randomhouse.com/features/danticat](http://www.randomhouse.com/features/danticat).

American writer **James Baldwin** (1924–1987) published his first novel, *Go Tell It On the Mountain* (1953), to excellent reviews which established him as an important new voice in American letters. During his long and distinguished career, he published novels (*Giovanni’s Room, If Beale Street Could Talk*, among others), short story collections (*Going to Meet the Man*, from which the excerpt from “Sonny’s Blues” is drawn), essays (*Notes of a Native Son, The Fire Next Time*), plays (*The Amen Corner, Blues for Mr. Charlie*), and more. The Internet School Media Center James Baldwin page provides access to numerous websites devoted to Baldwin and his work ([http://falcon.jmu.edu/~ramseyil/baldwin.htm#B](http://falcon.jmu.edu/~ramseyil/baldwin.htm#B)).
**Flannery O’Connor** (1925–1964) is one the leading voices of Southern—and indeed American—literature. During her brief career, she published two novels—*Wise Blood* (1952) and *The Violent Bear It Away* (1960)—and two short-story collections—*A Good Man Is Hard To Find* (1955) and *Everything That Rises Must Converge* (1965). She attended Georgia State College for Women, which is now Georgia College and State University and the repository of the Flannery O’Connor Collection. Visit that collection at http://library.gcsu.edu/~sc/foc.html for more information about O’Connor. Another excellent resource can be found at the Flannery O’Connor Childhood Home site (www.lis.unc.edu/flannery).

Kentucky poet and writer **George Ella Lyon** reads and discusses an excerpt from Flannery O’Connor’s “A Good Man Is Hard to Find” in the “Fiction” program. For a list of her books, visit http://my.linkbaton.com/bibliography/lyon/george+ella.

**Edgar Allan Poe** (1809–1849), known as our finest writer of psychological horror and one of our best poets and credited with defining the modern short story and creating the first literary detective. There are a number of fine websites devoted to Poe. One good one is Qrisse’s Edgar Allan Poe Pages at www.poedecoder.com/Qrisse.

An excerpt from Edgar Allan Poe’s short story, “The Tell-Tale Heart,” is dramatized in the “Fiction” program and discussed by **Martha Womack**, an English teacher who manages a website, *Precisely Poe*, dedicated to “setting the record straight about Poe.” *The Poe Decoder*, a project started by a small group of Poe enthusiasts to make criticism and information on Poe and his work available on the Internet, includes a segment on “The Tell-Tale Heart” by Womack. To find out more about Poe, “The Tell-Tale Heart,” and Precisely Poe, visit the Poe Decoder website at www.poedecoder.com. This site will also lead you to the Poe Museum in Richmond, VA, where the segment with Womack was taped.
Program 14: Poetry

Featured Poets

Robert Hayden (1913–1980) published his first book of poems, *Heart-Shape in the Dust*, in 1940. His poetry gained international recognition in the 1960s and he was awarded the grand prize for poetry at the First World Festival of Negro Arts in Dakar, Senegal, in 1966 for his book *Ballad of Remembrance*. In 1976, he became the first black American to be appointed as Consultant in Poetry to the Library of Congress (later called the Poet Laureate). Learn more about Hayden at the Academy of American Poets website at [www.poets.org](http://www.poets.org).

Hayden’s poem, “Those Winter Sundays,” from *Angle of Ascent: New and Selected Poems*, is featured in the “Poetry” program. It was selected by numerous people as a “favorite poem” as part of the Favorite Poem Project, a website initiated by Robert Pinsky, the 39th Poet Laureate of the United States. The Favorite Poem Project allows Americans to submit their “favorite poems” as well as their responses to poetry. Visit the Project at [http://www.favoritepoem.org](http://www.favoritepoem.org). For a copy of Hayden’s poems as well as letters from Americans about the poem, go to [http://www.bu.edu/favoritepoem/poems/hayden](http://www.bu.edu/favoritepoem/poems/hayden).

Another “favorite poem” is Robert Frost’s “Stopping by Woods on a Snowy Evening.” Robert Frost (1874–1963) published his first poem in 1894; by the 1920s, he was America’s most celebrated poet. He published numerous collections of poetry and received four Pulitzer Prizes for his work. Visit the Academy of American Poets website at [www.poets.org](http://www.poets.org) for information. For the complete text of Robert Frost’s poem with responses to it and video clips, visit the Favorite Poem Project website at [http://www.bu.edu/favoritepoem/poems/frost/stopping.html](http://www.bu.edu/favoritepoem/poems/frost/stopping.html).

Emily Dickinson (1830–1886) is another of America’s most famous—and beloved—poets. Her poem “I’m Nobody! Who are you?” was also selected by many as a favorite poem. The Academy of American Poets website ([www.poets.org](http://www.poets.org)) contains information about Dickinson, and the Favorite Poem Project provides the text of the poem, responses to the poem, with video at [http://www.bu.edu/favoritepoem/poems/dickinson/nobody.html](http://www.bu.edu/favoritepoem/poems/dickinson/nobody.html).

Poet Sonia Sanchez (1934– ) is currently a tenured Professor of English and Women’s Studies at Temple University in Philadelphia. She is the winner of numerous awards for her work as both an activist and a poet. Her book *homegirls & handgrenades* earned the 1985 American Book Award. She is also the author of children's fiction and plays. For Program 14: Poetry, she introduces a GED class to a poem by Robert Hayden and reads her own poem, “Last Recording Session/for papa joe” from her book of poetry, *Under a Soprano Sky*. The “Women Writers of Color” website is a rich source of information at [http://voices.cla.umn.edu/authors/SoniaSanchez.html](http://voices.cla.umn.edu/authors/SoniaSanchez.html).
Program 15: Drama

Featured Writer

Playwright and critic George Bernard Shaw (1856–1950) was born in Dublin, Ireland, but lived most of his life in Great Britain. He was an internationally renowned playwright and involved throughout his life in local and international politics. He received the 1925 Nobel Laureate in Literature “for his work which is marked by both idealism and humanity, its stimulating satire often being infused with a singular poetic beauty” (The Nobel Foundation). The Nobel Prize Internet Archive at provides access to numerous websites devoted to Shaw and his work at http://nobelprizes.com/nobel/literature/1925a.html. His plays include Pygmalion, Major Barbara, Saint Joan, Arms and the Man, and the play excerpted in the “Drama” program, Heartbreak House. For more information about Heartbreak House, check out the dramaturgical materials prepared by Cary M. Mazer for the People's Light & Theatre Company's June 1998 production of the play at http://www.english.upenn.edu/~cmazer/hhnote.html.

Related Resources

The Philadelphia Young Playwrights Festival is an arts-education organization that taps the potential of youth and inspires learning through playwriting. This intensive, year-round program pairs local professional playwrights with classroom teachers. In the “Drama” program, playwright Larry Moses works with GED student Milagros Vega on her play, Consequences, which is featured in the “Drama” program. To learn more about PYPF, visit their website at http://www.libertynet.org/pypf.

During the “Drama” program, viewers are treated to rehearsals and a scene from Heartbreak House performed by actors at Actors Theatre of Louisville. The then-ATL artistic director (and director of the play), Jon Jory, and dramaturg, Michael Dixon, as well as the three actresses provide insight into the play, its theme, and their characters. Learn more about Actors Theatre of Louisville by visiting their website at http://www.actorstheatre.org.
Onscreen Literary Passages Featured in Program 12: Nonfiction

Nonfiction Passage #1
Excerpt from Review of “His Girl Friday” by Tom Dirks
“Greatest Films” Website (www.filmsite.org)

“His Girl Friday” (1940) is Howard Hawks’ speedy and hystericly funny screwball comedy, one of the best examples of its kind in film history. The madcap, giddy film (the second screen version of the original play) is best remembered for its overlapping dialogue, rapid-fire delivery, breakneck speed, word gags, plot twists, “in” jokes, mugging, sarcastic insults, frantic pace and farcical script. With screenplay writer Charles Lederer (scriptwriter of the film version of “The Front Page” in 1931), Hawks brilliantly transformed Ben Hecht’s and Charles MacArthur’s classic 1928 Broadway play “The Front Page” with a major script change—one of the main male characters, Hildy Johnson, became female—Hildegard Johnson. The gender swap brought an entirely new angle to the film, making it more than a satirical view and social commentary on the operation of a newsroom.

With its plot about a ruthless editor and a politically corrupt city, it became a romantic comedy with a love story and a sophisticated battle of the sexes. The film marked the beginning of a number of screwball comedies in the 1940s which emphasized the conflict for women in deciding between love/marriage and professional careers.
Nonfiction Passage #2

Excerpt from *Always Running* by Luis Rodriguez (Curbstone Press, © 1993). Reprinted with the permission of Curbstone Press.

We pull into a parking lot at the Union station. It’s like a point of no return. My father is still making his stand. Mama looks exhausted. We continue to sit in our seats, quiet now as Dad maneuvers into an empty space. Then we work our way out of the car, straightening our coats, gathering up boxes and taped-over paper bags: our “luggage.” Up to this juncture, it’s been like being in a storm—so much instability, of dreams achieved and then shattered, of a silence within the walls of my body, of being turned on, beaten, belittled and pushed aside; forgotten and unimportant. I have no position on the issue before us. To stay in L.A. To go. What does it matter? I’ve been a red hot ball, bouncing around from here to there. Anyone can bounce me. Mama. Dad. Rano. Schools. Streets. I’m a ball. Whatever.

We are inside the vast cavern of the station. Pews of swirled wood are filled with people. We sit with our bags near us, and string tied from the bags to our wrists so nobody can take them without taking us too. My father turns to us, says a faint goodbye, then begins to walk away. No hugs. He doesn’t even look at us.

“Poncho.”

The name echoes through the waiting area.

“Poncho.”

He turns. Stares at my mother. The wet of tears covers her face. Mama then says she can’t go. She will stay with him. In L.A. I don’t think she’s happy about this. But what can a single mother of four children do in Mexico? A woman, sick all the time, with factory work for skills in a land where work is mainly with the soil. What good is it except to starve.

“Está bien,” Dad says as he nears my mother. “We will make it, mujer. I know it. But we have to be patient. We have to believe.”

Mama turns to us and announces we are not leaving. I’m just a ball. Bouncing outside. Bouncing inside. Whatever.
Onscreen Literary Passages Featured in Program 13: Fiction

Fiction Excerpt #1

Excerpt from **Breath, Eyes, Memory** by Edwidge Danticat, (Soho Press, NY, © 1994). Reprinted by permission.

I woke up with Tante Atie leaning over my bed. She was already dressed in one of her pink Sunday dresses, and had perfume and face powder on. I walked by her on my way to the wash basin. She squeezed my hand and whispered, “Remember that we are going to be like mountains and mountains don’t cry.”

“Unless it rains,” I said.

“When it rains, it is the sky that is crying.”

When I came from the wash basin, she was waiting for me with a towel. It was one of many white towels that she kept in a box under her bed, for special occasions that never came. I used the towel to dry my body, then slipped into the starched underwear and the dress she handed me.

The suitcase was in a corner in the kitchen. The table was covered with white lace cloth. Tante Atie’s special, unused china plates and glasses were filled with oatmeal and milk.

She led me to the head of the table and sat by my side. A slight morning drizzle hit the iron grills on the door.

“If it rains, will I still have to go?” I asked her.

She ran her finger over a shiny scar on the side of her head.

“Yes, you will have to go,” she said. “There is nothing we can do to stop that now. I have already asked someone to come and drive us to the **aeroport**.”

[243 words]
Fiction Excerpt #2


And Sonny hadn't been near a piano for over a year. And he wasn't on much better terms with his life, not the life that stretched before him now. He and the piano stammered, started one way, got scared, stopped; started another way, panicked, marked time, started again; then seemed to have found a direction, panicked again, got stuck. And the face I saw on Sonny I'd never seen before. Everything had been burned out of it, and at the same time, things usually hidden were being burned in, by the fire and fury of the battle which was occurring in him up there.

Yet, watching Creole's face as they neared the end of the first set, I had the feeling that something had happened, something I hadn't heard. Then they finished, there was scattered applause, and then, without an instant's warning, Creole started into something else, it was almost sardonic, it was Am I Blue. And, as though he commanded, Sonny began to play. Something began to happen. And Creole let out the reins. The dry, low, black man said something awful on the drums, Creole answered, and the drums talked back. Then the horn insisted, sweet and high, slightly detached perhaps, and Creole listened, commenting now and then, dry, and driving, beautiful and calm and old. Then they all came together again, and Sonny was part of the family again. I could tell this from his face. He seemed to have found, right there beneath his fingers, a damn brand-new piano. It seemed that he couldn't get over it. Then, for a while, just being happy with Sonny, they seemed to be agreeing with him that brand-new pianos certainly were a gas.

[284 words]
Fiction Excerpt #3


The grandmother didn’t want to go to Florida. She wanted to visit some of her connections in east Tennessee and she was seizing at every chance to change Bailey’s mind. Bailey was the son she lived with, her only boy. He was sitting on the edge of his chair at the table, bent over the orange sports section of the Journal. “Now look here, Bailey,” she said, “see here, read this,” and she stood with one hand on her thin hip and the other rattling the newspaper at his bald head. “Here this fellow that calls himself The Misfit is aloose from the Federal Pen and headed toward Florida and you read here what it says he did to these people. Just you read it. I wouldn’t take my children in any direction with a criminal like that aloose in it. I couldn’t answer to my conscience if I did.”

Bailey didn’t look up from his reading so she wheeled around then and faced the children’s mother, a young woman in slacks, whose face was as broad and innocent as a cabbage and was tied around with a green head-kerchief that had two points on top like a rabbit’s ears. She was sitting on the sofa, feeding the baby his apricots out of a jar. “The children have been to Florida before,” the old lady said. “You all ought to take them somewhere else for a change so they would see different parts of the world and be broad. They never have been to east Tennessee.”

The children’s mother didn’t seem to hear her but the eight-year-old boy, John Wesley, a stocky child with glasses, said, “If you don’t want to go to Florida, why dontcha stay at home?” He and the little girl, June Star, were reading the funny papers on the floor.

“She wouldn’t stay at home to be queen for a day,” June Star said without raising her yellow head.

[323 words]
Fiction Excerpt #4

Excerpt from *The Tell-Tale Heart by Edgar Allen Poe*, 1845 [Public Domain]

Upon the eighth night I was more than usually cautious in opening the door. A watch’s minute hand moves more quickly than did mine. Never before that night had I felt the extent of my own powers--of my sagacity. I could scarcely contain my feelings of triumph. To think that there I was, opening the door, little by little, and he had not even to dream of my secret deeds or thoughts. I fairly chuckled at the idea; and perhaps he heard me; for he moved on the bed suddenly, as if startled. Now you may think that I drew back--but no. His room was as black as pitch with the thick darkness (for the shutters were close fastened, through fear of robbers), and so I knew that he could not see the opening of the door, and I kept pushing it on steadily, steadily.

I had my head in, and was about to open the lantern, when my thumb slipped upon the tin fastening, and the old man sprang up in the bed, crying out --“Who's there?”

I kept quite still and said nothing. For a whole hour I did not move a muscle, and in the meantime I did not hear him lie down. He was still sitting up in the bed listening; just as I have done, night after night, hearkening to the death watches in the wall.
Onscreen Literary Passages Featured in Program 14: Poetry

Poem #1


Sundays too my father got up early
and put his clothes on in the blueblack cold,
then with cracked hands that ached
from labor in the weekday weather made
banked fires blaze. No one ever thanked him.

I’d wake and hear the cold splintering, breaking.
When the rooms were warm, he’d call,
and slowly I would rise and dress,
fearing the chronic angers of that house,
speaking indifferently to him,
who had driven out the cold
and polished my good shoes as well.
What did I know, what did I know
of love’s austere and lonely offices?

Poem #2


Whose wood these are I think I know
His house is in the village, though;
He will not see me stopping here
To watch his woods fill up with snow.

My little horse must think it queer
To stop without a farmhouse near
Between the woods and frozen lake
The darkest evening of the year.

He gives his harness bells a shake
To ask if there is some mistake.
The only other sound’s the sweep
Of easy wind and downy flake.

The woods are lovely, dark, and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.
Poem #3


I’m nobody! Who are you?
Are you – Nobody – Too?
Then there’s a pair of us?
Don’t tell! they’d advertise – you know!

How dreary – to be – Somebody!
How public – like a Frog –
To tell one’s name – the livelong June –
To an admiring Bog!

Poem #4


don’t be so mean papa
cuz the music don’t come easily now
don’t stomp the young dude
straining over his birthright
he don’t know what he doing yet
his mornings are still comin
one at a time
don’t curse the night papa joe
cuz yo beat done run down
we still hear yo fierce tides
yo midnight caravans singing tongues into morning
don’t be so mean man
one day he’ll feel the thunder in yo/hands
yo/arms wide as the sea
outrunning the air defiantly
you been ahead so long
can’t many of us even now
follow the scent you done left behind
don’t be so mean man un less
you mean
to be mean
to be
me
when you mean
to be
mean
Onscreen Literary Passages Featured in Video Program 15: Drama

Drama Passage #1


NOTE: The entire scene is reproduced here, although text on screen stops a little more than halfway through the scene on the video.

SCENE 4

(Scene 4 takes place three weeks later. Elizabeth is cleaning the living room. She finds Luis’ jacket on the floor. She picks it up and a bundle of money falls to the floor. She picks up the money and counts it.)

ELIZABETH

(Talking to herself) What’s Luis doing with four thousand dollars? (She puts the money back in the jacket and waits for Tony Sr. to come home. Tony Sr. walks in.)

TONY SR.

Honey, I’m home. (He kisses his wife on the cheek.) I have great news. I got a job today. It even pays more than my old job. Isn’t that great?

ELIZABETH

Yeah, honey, that’s great. (She begins to cry.)

TONY SR.

What’s wrong? My news was good, but you don’t have to cry.

ELIZABETH

Oh, my god, Tony. (She stands and gets Luis’ jacket.) I was cleaning and I found Luis’ jacket on the floor. I picked it up and money fell out of it. (She shows him the money.)

TONY SR.

He might be saving money.

ELIZABETH

There’s four thousand dollars in here. He’s only been working at McDonald’s for three weeks. How can he have so much money? I think he’s selling drugs.

TONY SR.

Four thousand dollars! I hurt him if he’s selling drugs. I swear I will. (Just then Luis walks in.)

LUIS

What’s going on in here?
TONY SR.
You tell us what’s going on with this. *(He shows Luis the money.)*

LUIS
What ... are you looking through my things now?
*(Tony Sr. shoves him on the sofa.)*

TONY SR.
Are you dealing?

LUIS
No dad.
*(Tony Sr. picks him up and pushes him against the wall. He points his finger in his face.)*

TONY SR.
Boy, you better not be dealing. I swear I’ll hurt you.
*(Elizabeth stands between Luis and Tony Sr.)*

ELIZABETH
Please, Tony, calm down. Let’s talk to him calmly. *(They sit on the sofa.)* Look, son, we want the truth. Are you dealing?

LUIS
No, mom.

[ED NOTE: Reading continues without graphics.]

ELIZABETH
Then where did you get four thousand dollars?

LUIS
I’m saving it for Hector; he’s buying a car. It’s his money.

ELIZABETH
It’s not only the money, but look at you. How can you afford all that jewelry and new clothes and those Timberlands? They cost 120 dollars. Your job at McDonald’s ain’t enough to buy all that.

LUIS
Look *(yelling at his mother)*, I’ve been saving money, ok?

TONY SR.
Boy, don’t get smart with your mother.
*(Luis gets up and pushes the sofa.)*

LUIS
I don’t have to take this ----. I’m not a baby. I’m 16 years old.
*(Tony Sr. smacks Luis on the face.)*
TONY SR.
Don’t talk to your mother like that.

ELIZABETH
Luis, sweety, we love you. We don’t want you to get hurt.

TONY SR.
Elizabeth, don’t treat him like a baby. (Tony pushes Luis.) I swear, Luis, if you’re selling drugs, I’ll call the police myself and have you arrested. (Luis walks away from his dad.)

LUIS
Do what you want. (He walks out of the house.) (Elizabeth looks at Tony’s face. She sees he’s very angry.)

ELIZABETH
What are we going to do?

TONY SR.
I don’t know. Let me take care of it. (He kisses his wife and goes to work.)

Drama Passage #2

Excerpt from Heartbreak House by George Bernard Shaw. Reprinted with permission of the Society of Authors on behalf of the Bernard Shaw Estate.

MRS HUSHABYE: Ellie, my darling, my pettickins [kissing her], how long have you been here? I’ve been at home all the time: I was putting flowers and things in your room; and when I just sat down for a moment to try how comfortable the armchair was I went off to sleep. Papa woke me and told me you were here. Fancy you finding no one, and being neglected and abandoned. [Kisses her again.] My poor love! [She deposits Ellie on the sofa. Meanwhile Ariadne has left the table and come over to claim her share of attention.] Oh! You’ve brought someone with you. Introduce me.

LADY UTTERWORD: Hesione: is it possible that you don’t know me?

MRS HUSHABYE [conventionally]: Of course I remember your face quite well.

Note: The scene continues on the video without text.
Sample Test Questions/Answers
from the "Passing the GED Social Studies Test" Video

Item 1 is based on the following article.

In ancient Egypt, there were gods of the earth, the air and the water, as well as gods responsible for many aspects of life. Some of the most powerful gods had huge public temples built in their honor. Others were worshipped at small shrines in homes.

Two popular deities were Bes, god of the family, and Taweret, goddess of pregnant women. In statues, Bes was depicted as part human and part lion, sometimes carrying a sword to protect the family. Taweret was shown as a pregnant hippopotamus, and Egyptians prayed to her for a safe delivery.

1. Based on this information, which statement best summarizes the nature of religion in ancient Egypt?
   (1) Religion was not very important in ancient Egypt.
   (2) Religion was used mostly to entertain children.
   (3) Ancient Egyptians worshipped only a few gods.
   (4) Religion played an important part in Egyptian daily life.
   (5) People could not publicly practice religion in ancient Egypt.

Discussion: This question asks the test taker to summarize the passage. The best answer is (4) Religion played an important part in Egyptian daily life. Passage details such as the reference to many gods, the fact that Egyptians worshipped in public temples and at home, and that they prayed to gods to protect aspects of daily life support the conclusion that religion was important. These same details would lead you to eliminate the other four options.
2. Your company sells a video that helps employers provide safety training for workers who speak little English. Based on the information conveyed in this map, in which states would you want to be sure to advertise your video?

(1) Illinois and Ohio
(2) North Dakota and South Dakota
(3) Maine and Michigan
(4) Virginia and South Carolina
(5) Florida and California

**Discussion:** This question asks the test taker to read what the map shows and to apply that information in a practical way. So, the employers most likely to need this video would be located in states where there are many people just learning to speak English. States with many foreign-born people would be good prospects so answer choices can be evaluated by consulting the legend and looking on the map to see what percentage category of foreign-born population each state has. Florida and California are both in the highest category, which is not true of the other states listed, so option (5) is the best answer. This question also requires an ability to identify the states.
3. The U.S. economy slowed down in 2001. Based on this information and the information in the graph about North American trade, which of following conclusions is best supported?

(1) Mexico and Canada exported products only to the United States as a result of NAFTA.
(2) NAFTA had little effect on trade relationships between countries in North America.
(3) Canada’s and Mexico’s economies are likely to have also slowed down in 2001.
(4) Canada and Mexico did not want to trade with the United States in the 1990s.
(5) Exports from the United States to Canada are likely to have increased in 2001.

Discussion: This question requires an ability to analyze and evaluate information found in the graph. While it does not require knowing what NAFTA is—it’s the North American Free Trade Agreement adopted in 1993—knowing a bit about NAFTA probably would help.

The graph shows Canadian and Mexican exports to the United States increasing in the 1990s. According to the graph, sales to the U.S. represented 77% of Canadian and Mexican exports in 1996 and grew to nearly 85% by 2000. If the countries had exported products only to the U.S., the percentage on the graph would be 100. So option (1) is incorrect. According to the title of the graph, the increased exports were partly a result of NAFTA, which rules out option (2). The graph does not indicate whether Canada and Mexico wanted to trade or not, but the fact that sales increased would imply they did, eliminating option (4). And there’s nothing in the information or graph that supports option (5). However, option (3) Canada’s and Mexico’s economies are likely to have also slowed down in 2001 reflects the idea that the economies of the U.S., Canada, and Mexico are dependent upon each other, a conclusion supported in the graph and making that answer choice the best.
4. Which of the following statements related to the information in this graph is an opinion rather than a fact?

(1) NAFTA reduced barriers to trade among North American countries.
(2) NAFTA was one reason Canadian and Mexican exports to the United States increased in the late 1990s.
(3) The economies of North American countries have become more dependent upon each other as a result of NAFTA.
(4) NAFTA strengthened the economies of Canada and Mexico.
(5) NAFTA resulted in more Canadian-made goods being sold in the United States.

Discussion: The best answer is option (4) NAFTA strengthened the economies of Canada and Mexico. The other statements are facts. Whether NAFTA made Canada’s and Mexico’s economies stronger could be debated. It did increase the exports to the U.S., but some might argue that this made Mexico and Canada too dependent on the U.S. economy.
5. In 1918, U.S. President Woodrow Wilson put forth a program he believed was a good plan for settling the war. It included the formation of an international alliance for peace called the “League of Nations” in which nations would agree not to make secret treaties, to drop economic barriers and tariffs, and to reduce their armaments. Wilson asked the United States Congress to vote to join the League of Nations, but many isolationist Congressmen were opposed. So Wilson tried to bring popular pressure on Congress by promoting his League of Nations in a 9,500-mile transcontinental speaking tour. Wilson’s effort is depicted in this 1919 cartoon from The Chicago Daily News.

What is the main idea of the cartoon?
(1) The Senate and House should not accept the League of Nations
(2) Hatred exists between Woodrow Wilson and the Congress.
(3) The League of Nations is a good idea to achieve world peace.
(4) The United States Congress and the President work for the people.
(5) The Senate and the House are more powerful than the President.

Discussion: This cartoon shows Wilson taking his plan beyond the Senate and House. It doesn’t really take a stand on the League of Nations or on what the Congress—represented by the two seated figures—and Woodrow Wilson thought of each other. However the door that Wilson is heading for represents the American people. This and the caption, “Going to Talk to the Boss,” indicate that the cartoonist believes that the people should rule. So the best answer is (4) The United States Congress and the President work for the people.
Social Studies Resources
Related to the GED Connection™ Videos

For the GED Connection: Social Studies programs, KET visited a wide variety of people and places for information that would help adults prepare for the GED Social Studies Test as well as enrich their understanding of history, economics, civics, and geography. This list provides information on some of these resources.

Program 17: Themes in U. S. History

Museum of the Cherokee Indian
P.O. Box 1599
Cherokee NC 28719
http://www.cherokeemuseum.org

The Museum of the Cherokee Indian tells the story of the Cherokee and their ancestors from 12,000 years ago through the present, exploring who the Cherokee are and why they are still here.

Jamestown Island and Yorktown Battlefield
Williamsburg area, VA

There are a number of websites associated with two of America’s most important historical landmarks—the Jamestown National Historical Site, site of the first permanent English colony in North America, and Yorktown Battlefield, site of the final, major battle of the American Revolutionary War and symbolic end of Colonial English America. These two sites are part of the National Park Service’s Colonial National Historical Park (http://www.nps.gov/colo). The Yorktown Victory Center is maintained by the Jamestown-Yorktown Foundation (http://www.historyisfun.org/jyf1/yvc.html). The Association for the Preservation of Virginia Antiquities, at http://www.apva.org/tour/three.html, also provides information.

The Frederick Douglass National Historic Site
Washington, D.C.
http://www.nps.gov/frdo/freddoug.html

Frederick Douglass’ life spanned nearly 80 years, from the time that slavery was universal in America to the time it was becoming a memory. Douglass freed himself from slavery, and through decades of tireless efforts, he helped to free millions more. The Frederick Douglass National Historic Site is dedicated to preserving his legacy.
Program 18: Themes in World History

NM's Creative Impulse: The Artist's View of World History and Western Civilization
http://history.evansville.net/index.html

Nancy Mautz, a high school and university world history teacher, has created an extensive and award-winning website that views history through the eyes of artists—composers, writers, painters, sculptors, etc. The website contains information, resources, and links that provide insight into the history, people, places, events, daily life, and arts and culture of various periods of world history, ranging from the early civilizations through the Renaissance to recent times.

Europe In Retrospect
http://www.britannia.com/history/euro/index2.html

Raymond F. Betts, historian and Director Emeritus of the Gaines Center for the Humanities at the University of Kentucky, has written several books. One has been republished on the "Britannia" website and offers a brief history of the past 200 years of European history.

Program 19: Economics

Lowell National Historical Park
Lowell, MA
http://www.nps.gov/lowe

The Lowell National Historical Park commemorates the history of America's Revolution. The park includes the Boott Cotton Mills Museum with its operating weave room of 88 power looms, the “mill girl” boardinghouses, and other 19th century commercial buildings. The guided tours tell the story of the transition from farm to factory, chronicle immigrant and labor history and trace industrial technology.

Bureau of Labor Statistics
http://stats.bls.gov

The U. S. Department of Labor’s Bureau of Labor Statistics offers a wealth of information on the economy, inflation and spending, productivity, careers and looking for work, and how much people earn.
Program 20: Civics and Government

Neighborhood House
http://nbhouse.real-time.com

Jane Addams School for Democracy
http://www.publicwork.org

The Neighborhood House Association is a multi-purpose human service agency that works in partnership with individuals, families and organizations promoting personal growth and fostering community leadership and cultures on the West Side of St. Paul, Minnesota. It houses several programs, including the Jane Addams School for Democracy, a community-based education initiative aimed at promoting productive citizenship. The School is part of the Center for Democracy and Citizenship at the University of Minnesota. KET visited the Neighborhood House and the Jane Addams School to see their outreach efforts with various immigrant groups, most especially their efforts in support of Hmong immigrants.

Hull House
http://cpl.lib.uic.edu/004chicago/timeline/hullhouse.html

The Neighborhood House and the Jane Addams School for Democracy were inspired by the work of Jane Addams who helped hundreds of Chicago immigrants and others gain a place of self-respect in society. She established Hull House in 1889 in Chicago. She is known as the mother of social work and won a Nobel Peace Prize for her work.

The National Archives and Records Administration Exhibit Hall
http://www.nara.gov/exhall/exhibits.html

This site features copies and information about numerous important American documents, including the Declaration of Independence and the U. S. Constitution.

Congressional Research Service of the Library of Congress
http://www.access.gpo.gov/congress/senate/constitution/toc.html

This site provides a copy of the U. S. Constitution annotated with Supreme Court rulings.
Program 21: Geography

Geography with Matt Rosenberg
http://geography.miningco.com/science/geography

This site is chock-full of information about geography, containing articles, information on cultural and physical geography, and maps and geographical information about every country, state, continent, and ocean on the planet.

Kentucky Historical Society
Frankfort, KY
http://www.state.ky.us/agencies/khs

The Kentucky Historical Society has numerous programs devoted to preserving and exploring the state’s heritage, including an extensive collection of historical maps as well as a state history museum. Check out the resources available through your state’s historical society.

Everglades National Park
Florida
http://www.nps.gov/ever

Spanning the southern tip of the Florida peninsula and most of Florida Bay, Everglades National Park is the only subtropical preserve in North America. This site contains information about the park and its ecosystem and is the basis of a segment on man’s affect on the environment in the “Geography” program.

Geographic Information Systems (GIS)

GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information. This site, maintained by the U.S. Geological Survey, provides information about this technology and its applications.

Degree Confluence Project
http://confluence.org

The goal of the Degree Confluence Project is to visit each of the latitude and longitude integer degree intersections in the world and to take pictures at each location. The pictures and stories are posted at this site. KET cameras accompanied a modern-day explorer as she located a degree confluence in California.
Sample Test Questions/Answers
from the “Passing the GED Science Test” Video

**Item 1 refers to the following article.**

In some restaurants, cooked food is placed under infrared lamps to keep it warm until it is served. The atoms in the food absorb the infrared radiation given off by the lamps. This radiation causes the atoms in the food to vibrate more rapidly.

1. Based on the information above, what is the best definition of temperature?
   (1) the discharge of heat
   (2) the discharge of infrared radiation
   (3) the transfer of radiation from one object to another
   (4) the average motion of the atoms in a substance
   (5) the flow of energy from a warmer object to a colder object

**Discussion:** The best answer is (4) the average motion of the atoms in a substance. The passage states that the lamps keep food warm and that the infrared radiation the lamps give off causes the atoms in the food to vibrate more rapidly. From this you can assume that the temperature of the food is related to the atoms in the food vibrating more rapidly. None of the other answers are supported by any information in the passage.
Items 2 and 3 refer to the following article.

Some physicians are worried about the safety of the sport soccer because, in experiments, adult soccer players didn’t do as well on memory tests as swimmers and track athletes. Scientists think that the practice of heading—hitting the ball with the head—in soccer might cause minor brain damage that leads to memory loss. Heading can cause the brain to twist, breaking nerve cells. If the impact from the ball is hard enough, heading can also lead to concussions (bruises of the brain). Some scientists wonder if the memory-loss experiments are good proof that heading causes brain damage. They note that a low score on a memory test does not necessarily mean a person has memory problems in real life.

2. According to the passage, what kind of brain damage can heading cause?

   (1) bruising of the brain and broken nerve cells
   (2) bruising of the brain and memory loss
   (3) broken nerve cells and memory loss
   (4) the formation of extra blood vessels
   (5) skull fractures

Discussion: The correct answer is (1) bruising of the brain and broken nerve cells, as stated in the passage. Options (2) and (3) are incorrect because memory loss is a result not a form of brain damage. No mention is made of options (4) and (5) in the passage.

3. Which of the following evidence, if available, would best support the conclusion that heading causes brain damage?

   (1) friends reporting that soccer players are more forgetful than other people
   (2) professional soccer players reporting that they have problems remembering things
   (3) statistics showing that soccer players suffer thousands of concussions per year
   (4) a comparison of CAT scans of soccer players and swimmers indicating soccer players’ brains have more injured areas
   (5) a comparison of the IQ tests of soccer players and swimmers indicating that soccer players have a higher average intelligence

Discussion: The correct answer is (4) a comparison of CAT scans of soccer players and swimmers indicating soccer players’ brains have more injured areas. It includes both a comparison to other athletes and physical evidence of damage from the CAT scans (a type of X-ray photograph), making it the best evidence that soccer players suffer more brain damage.

Options (1) and (2) are possible indications of brain damage, but they need to be backed up with controlled research and physical evidence. Option (3) is incorrect, because concussions in and of themselves do not necessarily indicate sustained brain damage. The brain may be able to heal. Also this option mentions no comparison to other sports. Option (5) is incorrect because intelligence, as measured by an IQ test, is not a test for brain damage.
Items 4 and 5 are based on the following article:

A tornado is a violently rotating column of air that extends from a thundercloud to the ground. This map shows the average number of tornadoes reported in some Midwestern and central states for a 29-year period.

4. According to the map, which state shown has averaged the most tornadoes per year for the time period given?
   (1) Colorado (CO)
   (2) Kansas (KS)
   (3) Oklahoma (OK)
   (4) Texas (TX)
   (5) New Mexico (NM)

Discussion: Reading the map and comparing the number of tornadoes listed for each state reveals the correct answer to be (4) Texas.

5. This map shows the average number of tornadoes in each state. It would also be possible to find statistics on the average number of tornadoes per 10,000 square miles. This statistic would be important because the states:
   (1) are not equal in population
   (2) are not equal in area
   (3) are not equal in revenues
   (4) do not all have the same weather patterns
   (5) do not all have the same number of tornadoes

Discussion: The best answer would be (2) are not equal in area. Since some states are larger than others, this statistic would help measure the number of tornadoes per unit of area and compare the frequency of tornadoes in a meaningful way. None of the other answers—while factual—relate to the square-mile statistic.
Science Resources
Related to the GED Connection™ Videos

KET visited with many scientists and others in science-related fields whose worksites sponsor a variety of public programs. This list of resources, by program, provides more information about some of these people and sites—contact or visit them to learn more.

Program 23: Life Science

The Cincinnati Museum Center
1301 Western Ave
Cincinnati, OH
www.cincymuseum.org

Cincinnati Museum Center’s Museum of Natural History & Science is open to the public and maintains collections in a variety of areas, including fossils.

Human Genome Project
www.ornl.gov/hgmis/education/students.html

This web site, The Student Guide to the Human Genome Project, explains the Human Genome Project and genetics in layman’s terms. The site is sponsored by the U.S. Department of Energy Office of Science, Office of Biological and Environmental Research, Human Genome Program.

National Renewable Energy Laboratory
Golden, CO
www.nrel.gov

Scientists at the National Renewable Energy Laboratory (NREL) are researching new energy technologies to benefit both the economy and the environment. Among their more than 50 areas of investigation are wind energy, photovoltaics, biomass-derived fuels, and energy efficient buildings.

Newport Aquarium
One Aquarium Way
Newport, KY 41071
www.newportaquarium.com

The Newport Aquarium is the home to “11,000 dangerous, bizarre and beautiful creatures” and 60 state-of-the-art exhibits including “Surrounded by Sharks,” “Kingdom of Penguins” and “Gator Bayou.”
Reelfoot Lake State Park
Route 1, Box 2345
Tiptonville, TN
www.state.tn.us/environment/parks/reelfoot/eagles.htm

Visit this special website to learn more about the bald eagles at Reelfoot Lake and to see the eagles live in their natural habitat.

Shaker Village of Pleasant Hill
Harrodsburg, KY
www.shakervillageky.org

Shaker Village of Pleasant Hill is the largest and most completely restored Shaker community and living history museum in the U.S. In addition to activities such as riverboat excursions and self-guided tours, Shaker Village offers a number of educational experiences and hands-on workshops in topics including agriculture, architecture, historic livestock and horticulture.

Program 24: Earth & Space Science

Center for Earthquake Research and Information
The University of Memphis
Memphis, TN
www.ceri.memphis.edu

The Center for Earthquake Research and Information (CERI) conducts research on the causes and consequences of earthquakes and provides safety information about earthquake hazards for citizens and governments. While they have a particular interest in the New Madrid seismic zone, their research and projects are global in scope.

Program 25: Chemistry

American Cave Conservation Association, Inc.
American Cave Museum and Hidden River Cave
Horse Cave, KY
www.cavern.org/ACCA/index.htm

The American Cave Museum in Horse Cave, Kentucky, is the only museum in the U.S. devoted to caves, groundwater, and environmental issues in karst areas. There are exhibits demonstrating groundwater science, local cave history and cave biology. Eco-tours are available through Hidden River Cave, located next door to the museum.

*On Food And Cooking: The Science and Lore of the Kitchen*
By Harold McGee, © 1984 Simon & Schuster

Harold McGee’s book provides a fascinating look at chemistry in the kitchen, while touching on topics as diverse as botany, philosophy, anatomy and history.
The Periodic Table of Comic Books
Compiled by John P. Selegue and F. James Holler
Department of Chemistry
University of Kentucky
Lexington, KY
www.uky.edu/Projects/Chemcomics

Professors Selegue and Holler use comic book superheroes and adventures to help explain the elements on the Periodic Table. Their website was a Top-50 Winner of the Sci/Tech Web Awards 2001 from Scientific American.

Stephen Rolfe Powell, Glassblower
Centre College, Danville, KY
http://personal.centre.edu/~powells/glass.html

Stephen Rolfe Powell is a glassblower with a national reputation. Visit this web site for an animated glass blowing demonstration. The site also includes information about Powell and a gallery of his works.

Program 26: Physics

George C. Marshall Space Flight Center
Marshall Space Flight Center, AL
www.msfc.nasa.gov

The George C. Marshall Space Flight Center is NASA’s premier organization for developing space transportation and propulsion systems and for conducting microgravity research. MSFC has extensive educational projects and opportunities and a media department able to provide a wealth of materials and information.
Sample Test Question/Answer
from the “Passing the GED Math Test” Video

**Sample Test Question:**

In the year 2000 the cost to mail a letter in the United States was $0.33 for the first ounce plus $0.22 for each additional ounce. Which of the following expressions can be used to find the cost of mailing an 8-ounce letter?

1. $0.33 + 8(0.22)$
2. $0.22 + 7(0.33)$
3. $8(0.33) - 0.22$
4. $0.33 + 7(0.22)$
5. $8(0.33 + 0.22)$

**Discussion:** The program uses a problem-solving process to answer this question. First, understand the question. What is this problem asking? The question is asking for the expression used to find the cost of mailing an 8-ounce letter. In other words, it’s asking the test taker to set up the problem, not solve it.

Next, find the relevant information you need, i.e., the costs of the first ounce and each additional ounce as well as the weight of the letter.

Next, answer the question—in this case, set up the problem. One way to do this is to begin with 33 cents for the first ounce, which leaves seven ounces at 22 cents each. Add 33 cents to 7 times 22 cents. Since we only need to find the expression, we can stop here and look for our answer among the choices. The correct answer is option (4) $0.33 + 7(0.22)$.

Note that several of these answer options seem similar—using the same numbers and operations, but in different combinations. This is a reminder to read all the answers carefully and check your answer.
Mathematics Resources
Related to the GED Connection™ Videos

The *GED Connection Math* programs feature numerous GED students and teachers working with math concepts one would expect to find on the GED Test.

In addition, the series features two experts: Zalman Usiskin and Keith Devlin. Usiskin is Professor of Education at the University of Chicago and a recipient of the National Council of Teachers of Mathematics (NCTM) Lifetime Achievement Award for Distinguished Service to Mathematics Education. He is the director of the University of Chicago School Mathematics Project, which produced a complete curriculum for grades 7–12 and is a leading force in current reform efforts in math education. Devlin is a professional mathematician, an author of more than 20 books, and “the Math Guy” for National Public Radio (NPR). At the time the series was produced, he was Dean of Science at Saint Mary’s College of California and a Senior Researcher at Stanford University.

The *GED Connection Math* programs also show real people who talk about and demonstrate how they use math in their personal and workday lives. Some of these people, organizations, and sites are profiled below.

**Lane Alexander**
http://www.chicagotap.com/instruction/alexander.htm

Lane Alexander, internationally recognized leader of the renaissance of tap and percussive dance, is founder and artistic director of the Chicago Human Rhythm Project and currently on the faculty of Northwestern University. He and his students appear in Program 28: Number Sense.

**The Amistad Project**
http://amistad.mysticseaport.org

The Amistad Project is a major research effort of Mystic Seaport and The Museum of America and The Sea, located in Mystic, CT (www.mysticseaport.org). The project details the shipboard uprising known as the Amistad Revolt of 1839–1842 and its effects upon the legal, political, and popular debate over slavery in America. The Mystic Seaport and Amistad websites contain historical information, timelines, maps, court records, and extensive curricular material. Captain Pinkney of the Amistad appears in Program 32: Ratio, Proportion, and Percent; Program 34: Formulas; and Program 35: Geometry.
Churchill Weavers
www.churchill-weavers.com

Churchill Weavers was established in 1922 in Berea, KY, by David Churchill and his wife. Churchill, who had been a missionary in India, was an inventor by nature; during his time in India, he developed a new design for weaving looms. It was this design he brought to Berea, and these looms are still in use today, producing handcrafted woven items of the finest quality. Churchill is also credited with the invention of the first retractable airplane landing gear and the first airplane wing de-icer used during WWII. Churchill Weavers is featured in Program 39: Special Topics in Algebra and Geometry.

The Motley Fools
www.fool.com

Providing investment strategies for personal and professional business growth, the Motley Fools offer financial advice for “Everyman.” Their motto is “to educate, amuse, and enrich.” They publish books, produce syndicated newspaper columns, host seminars, and market Motley Fool merchandise. The Motley Fools appear in Program 32: Ratio, Proportion, and Percent and Program 36: Data Analysis—they’re the guys in the funny hats!

National Foundation for Credit Counseling
http://www.nfcc.org

The GED Math programs feature several consumer credit counselors. The National Foundation for Credit Counseling (NFCC) is a national non-profit network of 1,450 member agencies designed to provide assistance to people dealing with stressful financial situations. The organization can refer people to accredited community agencies for low-cost assistance.

Poi Dog Pondering
http://www.poidogpondering.com/poi.html

For more than a decade, the musical collective Poi Dog Pondering has produced CDs and unique live shows—musical and visual extravaganzas that combine pop, rock, funk, house and soul performed by the band’s dozen or so members. Currently based in Chicago, the KET cameras caught up with them in their recording studio to find out about the connections between music and number sense (Program 28) and fractions (Program 31). Two members of the group composed all the music for the GED Connection Orientation, Reading, Writing, and Mathematics programs as well as all the music for the companion series, Workplace Essential Skills.