

READING & WRITING



MATHEMATICS



SCIENCE



SOCIAL STUDIES

COMMON CORE ACHIEVE

Mastering Essential Test Readiness Skills
for High School Equivalency Exams

Why the Common Core Shift?

Nearly 4 million middle-skill jobs are unfilled today because there aren't enough people with the right skills and education. To bridge that gap, high school equivalency expectations must evolve to align with the critical skills and knowledge that adults need to get these jobs—skills aligned with the College and Career Readiness Standards for Adult Education, a subset of the Common Core State Standards.

New Opportunities and Challenges

Created to ensure adult learners develop the skills needed to meet the rigorous demands of today's college and career expectations, the Common Core Standards will be the foundation for college readiness and high school equivalency exams. Moving forward, these standards will create new opportunities and challenges such as:

- **Increased rigor and depth of knowledge** expectations for students, as well as an instructional shift for teachers
- **Multiple high school equivalency exam options** for the first time in history
- **Greater focus on college and career readiness** beyond simply passing the test



COMMON CORE

HIGH SCHOOL EQUIVALENCY SERIES



Let's Meet these Challenges Together

McGraw-Hill Education has been a trusted partner in adult education for more than 40 years, and is committed to providing educators and students the resources needed to meet these challenges head on.

For adult educators who want more for their students than to just pass a test, McGraw-Hill Education presents the *Common Core High School Equivalency Series*—a suite of three brand new programs not just aligned, but built upon the new standards. It offers a budget-friendly curriculum that prepares students for test success while developing the foundation for ongoing college and career readiness.

COMMON CORE BASICS

Grade Equivalent 6-8



"The adult education system cannot stand still while the world around us is changing."

— Cheryl Keenan, Director of Adult Education and Literacy, OVAE; NCFL 2013

Test success with a strong foundation for college and career readiness—a budget-friendly approach

COMMON CORE ACHIEVE

Grade Equivalent 9-12

POWERUP!

Getting Started with Computers
and Keyboarding

COMMON CORE ACHIEVE

Grade Equivalent 9-12

Common Core Achieve **prepares** adult learners and educators for the shift to Common Core, **adapts** to increased rigor with Evidence-Based Instruction and Depth of Knowledge, and helps students **achieve** not only test success, but a strong foundation for college and career readiness.

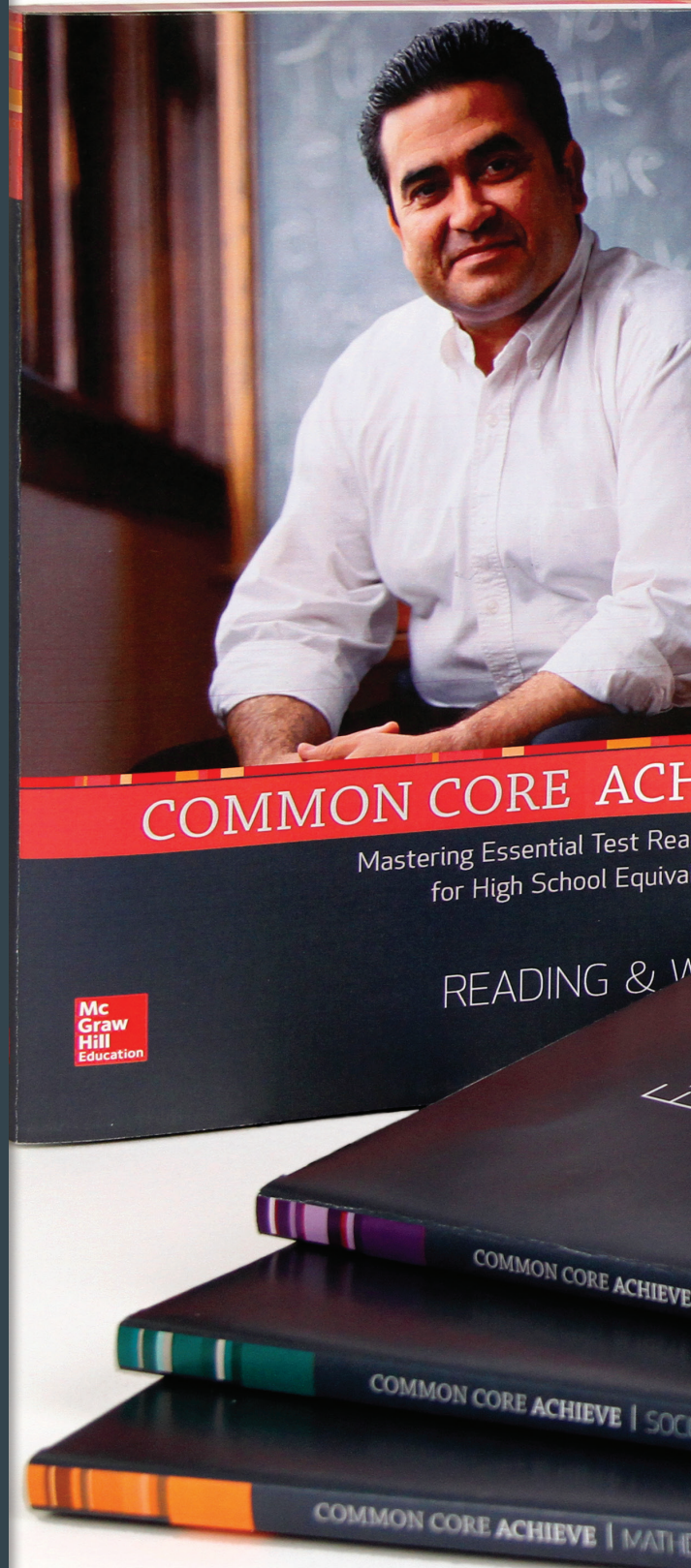
Achieve Success

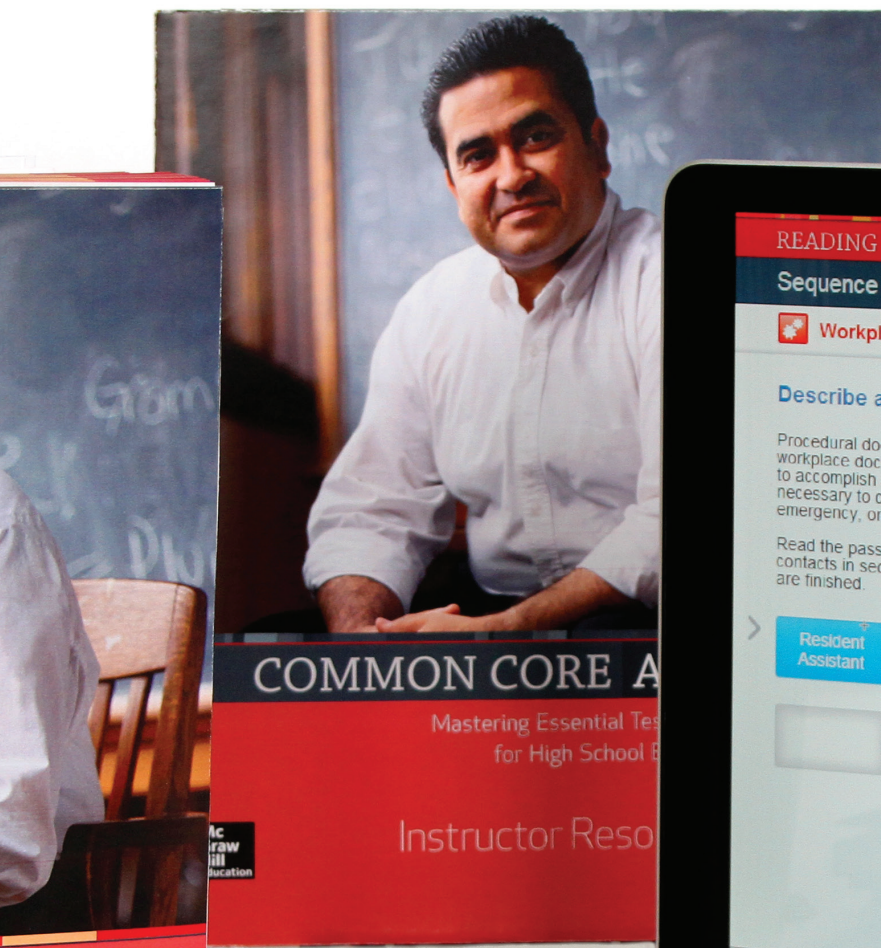
For adult educators who want more for their students than to just pass a test, **Common Core Achieve**, a part of the McGraw-Hill Common Core High School Equivalency Series, offers a budget- friendly curriculum that prepares students for success on test day and beyond.

With a focus on the instruction needed for all 2014 high school equivalency exams and test preparation specific to each exam—the 2014 GED Test®, the TASC™, and the HiSET™—**Common Core Achieve** strives to help students pass a test, and achieve their ultimate goals of postsecondary and workplace success.

Common Core Achieve Offers:

- Flexible digital programs built to meet the varied needs of instructors and students
- Adaptive test preparation targeted towards your high school equivalency exam
- Instruction focused around Webb's Depth of Knowledge
- Emphasis on 21st Century and Workplace skills
- Contextualized instruction tied to real-world tasks
- Program-specific instructor support and professional development
- Alignments for all program components to the College and Career Readiness Standards for Adult Education





COMMON CORE A
Mastering Essential Test
for High School B
Instructor Reso

ACHIEVE

Business Skills
Agency Exams

Exercise Book
HiSET™

SCIENCE

AL STUDIES

EMATICS

COMMON CORE ACHIEVE
Mastering Essential Test Business Skills
for High School Equivalency Exams

HiSET™ Exercise Book

TASK™ Exercise Book

GED® Test Exercise Book



READING & WRITING

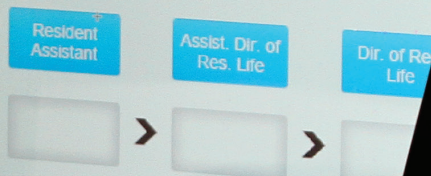
Sequence Events

Workplace Skills

Describe a Procedure

Procedural documents often tell employees the steps to follow in the workplace. Many workplace documents require that the reader understand the sequence of events in order to accomplish a task. For example, an office document may describe the procedures necessary to complete new-employee forms, the steps to follow in the event of an emergency, or the guidelines for filing a complaint.

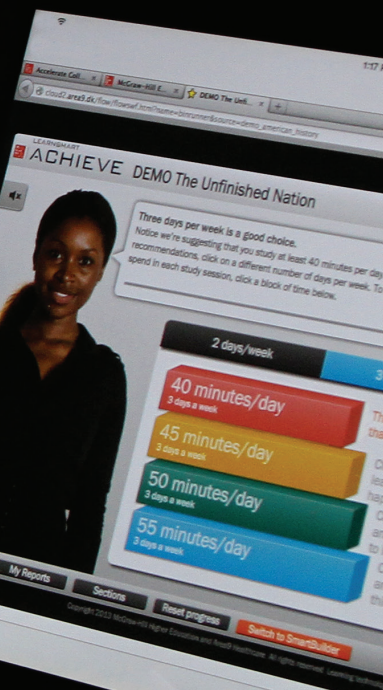
Read the passage. What is the correct order for forwarding contacts in sequential order from first to last. Click the Check



State Univer

Section 5.35 S

When the Univer
a student, proced
the complaint.



ACHIEVE DEMO The Unfinished Nation

Three days per week is a good choice.
Notice we're suggesting that you study at least 40 minutes per day.
recommendations, click on a different number of days per week. To
spend in each study session, click a block of time below.

2 days/week

40 minutes/day

45 minutes/day

50 minutes/day

55 minutes/day

Set Deadline

My Reports

Sections

Reset progress

Switch to SmartBuilder

Built From the Ground Up upon the Common Core and College & Career Readiness Standards

Each Core Subject Module starts with a diagnostic pretest to assess student strengths and weaknesses, and help determine areas of focus. *Common Core Achieve* then weaves Core Skills and Practices into each lesson to effectively prepare students for Common Core-based high school equivalency exams and career success.

Lesson Objectives describe what students will learn and provide goals for students to work toward.

Core Skills and Practices provide College and Career Readiness-based support and extension of lesson objectives.

Key Terms and Vocabulary are categorized in one of the following ways:

- **Tier 2:** high-utility, high-frequency words that students will encounter across the spectrum of domains
- **Tier 3:** content-specific words related to the particular subject in which students are working
- **Test words:** words that students may see in an exam in any subject area



LESSON 1.1 Order Rational Numbers

LESSON OBJECTIVES

- Identify rational numbers
- Order fractions and decimals on a number line
- Calculate absolute value

CORE SKILLS & PRACTICES

- Use Math Tools Appropriately
- Apply Number Sense

Key Terms

absolute value
the distance a number is from zero

integers
the set of whole numbers and their opposites

rational number
the set of numbers that can be expressed as the division of two integers

Vocabulary

denominator
the bottom number of a fraction that represents the total number of parts contained in the whole of a fraction

numerator
the top number in a fraction that represents the part of the whole the fraction is describing

order
to place in the proper sequence

Key Concept

Rational numbers include whole numbers, fractions, decimals, and their opposites. A number line is a useful math tool for comparing and ordering rational numbers idea.

Rational Numbers

You are surrounded by rational numbers. Take a ride on a subway, for example. A number identifies the subway line that you need. Other numbers tell you the cost of the fare, the time your train arrives at the station, and how many stops you will pass before reaching your destination. The numbers you use every day are examples of rational numbers.

Types of Numbers

When we count, we use the numbers 1, 2, 3, 4, 5... These are called natural numbers. If there are no objects to count, the number 0 is included. The set of natural numbers and 0 are the whole numbers.

Whole Numbers



In some instances, we need more than whole numbers to describe or measure a quantity. Think about temperature. Negative numbers describe temperatures below zero. **Integers** are the whole numbers and their opposites.

Integers

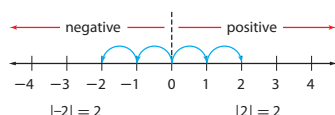


The Key Concept describes the main idea of the lesson and connects the lesson to students' prior knowledge or experience.

Prepares Students for Test Success, College Classes, and the 21st Century Workplace

Common Core Achieve includes features critical to success on new Common Core-based high school equivalency exams, while preparing students for workplace success.

The absolute value of 2 (written $|2|$) is 2, and the absolute value of -2 (written $|-2|$) is also 2 because both numbers are a distance of 2 units from 0. Because 0 is zero distance from itself, the absolute value of 0 is 0.



Adding and Subtracting Integers Using Absolute Value

When adding two integers, look at the signs of the integers. If the integers have like signs, find the sum of the integers' absolute values. Then give the sum the same sign as both integers. For example, $-6 + -12 = -18$. If the integers have unlike signs, subtract the integers' absolute value as shown in.

Example 4: Unlike Signs

Add $-8 + 6$.

Step 1 Subtract the integers' absolute values.

$$|-8| - |6| = 8 - 6 = 2$$

Step 2 Give the difference the sign of the integer with the greater absolute value.

$$|-8| > |6|, \text{ so make the difference negative. } -8 + 6 = -2$$

Subtracting an integer is the same as adding the opposite of that integer. Change the number that is being subtracted to its opposite. Then add the integers. Once you know how to subtract integers, you can find the distance between two points.

Example 5: Finding Distance on a Number Line

The distance between two integers on a number line is the absolute value of their difference. Find the distance between -4 and -9 .

Step 1 Find the difference of the two numbers. It does not matter which order you subtract them in because you will be taking the absolute value of the difference.

$$|-4 - (-9)| = |-4 + 9| = |5|$$

Step 2 Take the absolute value of the difference. $|5| = 5$



Think about Math

Directions: Choose the best answer to each question.

- What is the distance between the numbers -1 and 5 ?
A. -4
B. -6
C. 6
D. 4
- What is the sum of $-7 + 3$?
A. -5
B. -2
C. -4
D. 0

21ST CENTURY SKILL

Environmental Literacy

In chemistry, a pH level indicates whether a solution is acidic, basic, or neutral. On a pH scale from 0 to 14, pure water has a pH of 7. Chlorine is added to swimming pools to destroy harmful organisms that may be in the water. For chlorine to be effective, a water pH of 7.3 is ideal. However, a pH level that is more than 0.3 away from ideal is considered unacceptable.

You can use absolute value to identify which pools in the table below have acceptable or unacceptable pH levels. For example, if a pool had a pH value of 7.8, you can find the distance from the ideal using absolute value and compare to 0.3.

$$|7.3 - 7.8| = |-0.5| = 0.5$$

$$0.5 > 0.3$$

The pH level is more than 0.3 away from the ideal. Therefore, the pool is unacceptable. Using the values in the table, determine which pools have acceptable pH levels and which do not.

pH Level	
Pool A	7.4
Pool B	7.7
Pool C	7.9
Pool D	7.1

Sidebar features promote higher-order thinking skills in real-world and academic contexts and appear throughout the program:

- 21st Century Skills: technology, interdisciplinary, learning and innovation, life and career, and information and media literacy skills needed for success

- Workplace Skills: skills needed for success in any workplace, ranging from reading workplace documents to making sound decisions

- Test-Taking Skills: specific tips for understanding test questions and taking any test effectively

- Calculator Skills: strategies for using a calculator to complete test questions

Think about assesses students' comprehension of instruction presented in each section of the lesson.

Unparalleled Instructor Support and Professional Development

Finally, a program that includes instructor support past simple answer keys and generic lesson plans. The Instructor Resource Guide contains features to support and extend student learning. Each lesson plan provides lesson background and pre-teaching opportunities, instruction aligned to the students' Core Subject Module, and additional practice for teachers to use with students. Each lesson plan is divided into three sections.

- **Before the Lesson** provides background for concepts taught in the lesson including clear objectives, background information and a vocabulary activity.

- **During the Lesson** provides step-by-step support and extension of the instruction in the student print Core Subject Module.

- **After the Lesson** provides additional activities for use with students including ELL Instruction and additional activities to engage and extend the lesson, allowing students to complete higher order thinking activities.

Determine the Main Idea

LESSON 1.1

Student pp. 12-19

BEFORE THE LESSON

Lesson Objectives

- Determine the main ideas and supporting details of a text
- Identify main ideas in different types of text

Key Concept

The main idea is the most important idea in a paragraph or passage. A main idea can be found in many different kinds of text.

Concept Background

Ask for a volunteer to tell you about an article, a story, that he or she has recently read. Ask the volunteer to use one or two sentences to describe the story. Then ask the volunteer to identify the main idea of the story. DOK 1

Develop Core Skills

Core Skill: Determine Main Idea

Read a short article with concept web on the board section of the Instructor Resource Guide. Use the graphic to explain the relationship between the main idea of the article and the details. The main idea is what the article is about. The details explain what the article is about. How does the detail relate to the main idea? Identify additional details from the board. DOK 2

Core Skill: Identify Main Idea

Have students look at a sample of a book. Employee handbook. Point out that it tells the topic or main idea that follow give more information about one section as a group. Then have students read a short informational text such as a print advertisement. Ask students to work together to find the main idea. How does the detail help you understand it? How does the detail help you understand it? How does the detail help you understand it? DOK 2

Pre-teach Key Terms and Vocabulary

Write the key terms and vocabulary words and their definitions on the board. Discuss each word's meaning with students. Then ask volunteers to write sentences using the words on the board. Read each sentence aloud, and discuss it with students. Revise the sentences, if necessary. DOK 1

Tier 2 informational text (p. 15) literary text (p. 15) main idea (p. 12) supporting details (p. 13)	Test Word identify (p. 12)
---	--------------------------------------

Language Skill: Punctuation

Commas

Write these sentences on the board without commas, and ask students to add commas if needed. Remind students of when it is appropriate to add a comma.

- We walked to the bank, but it was closed for a holiday.
- I need to buy bread and milk when I go out later. (no comma)
- Henry brought clothes, books, and his phone on his trip.

Think about Reading

1. c 2. b 3. c 4. a

ANSWER KEY

Main Ideas in Various Texts

Tell students that in their lives and careers, they will read many different types of texts. In the workplace, they may encounter memos, signs, handbooks, and procedure documents. In their lives and in class, they will also read fictional pieces, as well as other types of texts. Finding the main idea in these texts will help students understand what they are reading.

Core Skill: Identify Main Ideas in Various Texts

Have students review the passage beginning "With Varying Degrees of Success" on page 15. Tell students that the first two sentences may both seem like possible choices for the topic sentence at first glance. Ask students to think about how the passage would change if the first sentence were the topic sentence. (Answers will vary. Sample answer: The passage would be about a more general subject.) DOK 2

Think about Reading

Review with students the answers on page 266 of the student module.

ANSWER KEY

Evidence-based Reading Support: Vocabulary

Context Clues

Tell students that context clues are words and phrases in a text that will help them define an unknown word. To find context clues, students should look closely at the words and sentences surrounding the word for meaning. Write this sentence from *The Log of a Cowboy* on page 16 on the board: *The indispensable slicker, a greatcoat of oiled canvas, was ever at hand, securely tied to our cattle strings.* Have students tell what words give a clue to the meaning of *indispensable*. (ever at hand; securely tied) Ask students to find another unknown word in the reading. Work with students to determine the meaning of the word, looking for context clues. DOK 2

Lesson 1.1

Think about Reading

ANSWER KEY

- Literary and informational text can contain topic sentences.
- Literary texts can be imaginary or about a real event or person.
- Workplace text often use headings so readers can identify what the text is about.

Workplace Skill: Communicating the Main Idea of a Memo

Tell students that looking at information at the start of a workplace document is one key to finding the main idea of the text. Display another memo or an e-mail. Point out the various features of a memo such as the "To" and "From" lines that indicate who has written the memo and who the audience is. Tell students that the "subject" line and "Re" field will be most helpful to students as they identify the main idea. *Subject* tells the topic of a memo. *Re* stands for "Regarding" and also tells what the memo is about. Ask students to use these sections of the document to find the main ideas of the text. Have students explain how the information helped them determine the main idea. DOK 2

AFTER THE LESSON

Read through with students the answers to the vocabulary and skill reviews and the skill and writing practice items located on page 266 of the student module.

Engage and Extend

ELL Instruction: Write the Main Idea

Pair English language learners with fluent speakers. Have each pair choose a short literary passage and work together to write the main idea of one paragraph. Then ask pairs to discuss how finding the main idea in a literary selection is similar to and different from finding the main idea in an informational text. DOK 2

Extension Activity: Classify Main Ideas in Various Texts

Explain that the main idea in a text typically relates to the type of text it is. Provide students with a variety of short informational and literary texts. Have students choose more than one of each type of text and determine the main idea of each. Then have students create a two-column chart with the labels *Informational Text* and *Literary Text*. Ask students to fill in the main ideas they found in each type of document. Then have them find any commonalities among the main ideas in each column. DOK 2

Determine the Main Idea

The purpose of these activities is to emphasize, and practice on, conceptual understanding and reasoning. The goal is for students to develop a set of questioning skills and analytical tools that enable them to approach problems through reasoning more effectively in problem-solving situations, as opposed to simply recalling rules and procedures.

- **Why the Skill Matters** helps students make a connection between the skills in the activity and their own lives.
- **Discussion Questions** provide a starter for student discussion as they synthesize what they have observed and learned.
- **Summary Questions** help students synthesize the concepts they have learned and make academic and real-world connections beyond the activity.

SKILL BUILDER ACTIVITY

INSTRUCTOR PLAN

Connecting Main Ideas across Texts

In this activity, students analyze and synthesize the way in which main ideas and details regarding the same topic are presented across various sources.

BEFORE THE ACTIVITY

Objectives

- Identify and summarize main points (DOK 2)
- Determine effect of author's purpose on text elements (DOK 3)
- Examine and explain alternative perspectives across sources (DOK 4)

What You Will Need

- Connecting Main Ideas Student Handout (p. 4)
- Graphic Organizer - "Main Idea and Details"
- Graphic Organizer - "Cause and Effect"
- Computers/tablets with internet access (content should be appropriate for multiple print and digital sources)
- Authorized news sources (e.g., newspaper article, an advertisement)

DURING THE ACTIVITY

Build Background: Understand the Texts

Distribute the *Connecting Main Ideas* student handout to students. Have students make connections across different texts. Stand that different texts important ideas in common. This commonality, they can even if the texts have different purposes, a reader can make connections across texts. For example, a newspaper article about the price of gas in a magazine from an oil company, a science book about the effects of fossil fuels. Although the information for different purposes, ideas from each of these texts can help students gain a better understanding of the topic.

Establish Relevance: Read Why the Skill Matters

Explain to students that across texts, their comprehension as they gain more information. Connecting across texts helps them to see multiple perspectives on the same topic.

Determine the Main Idea

SKILL BUILDER ACTIVITY

STUDENT HANDOUT

Connecting Main Ideas across Texts

In this activity, you will work with others to analyze news stories covering the same topic.

Why the Skill Matters

Information is all around us, and it comes in many forms. Information about a topic can come from newspapers, online news articles, blogs, videos, and social media. Each of these different sources presents information in different ways for different reasons. When you read multiple texts on the same topic, you learn new details regarding that topic based on what details are included and how they are presented. Making connections across texts helps you understand the topic, as well as the different points of view people have.

Consider the following articles that might be written about the same topic—the New York City subway system.

Purpose: To inform	Purpose: To explain	Purpose: To persuade	Purpose: To entertain
A brochure from the transit authority about new subway fares	A newspaper article about a recent increase in subway fares	A blog about the need to decrease fares for seniors	A story about a musician who performs at subway stations

Each of these texts share the same topic, and some may have similar main ideas. Based on the different purposes, however, each text may describe things such as sights and sounds, even smells. Because of this, it is important to always consider the source of information as you read any informational text.

Activity Directions

- With a partner, choose a topic about a current news story.
- Find at least two articles about the story from two different sources. Sources may include advertisements, blogs, brochures, cartoons, Internet news sites, magazines, newspapers, reference materials, textbooks, or others.
- As you read, use the tree diagram to identify the main idea(s) and details from the article.
- With a partner, answer the discussion questions to the right. Use the Venn diagram to identify the similarities and differences between the two articles.

Tip

Keep this in mind—you will not always see related texts side by side. The next time you read, think of other texts you've read or videos you've viewed about the same topic.

Discussion Questions

- What is the main purpose of each text? Does it inform, explain, persuade, or entertain?
- What are the main idea(s) from each of the texts you read?
- What details does the author use to support these ideas?
- What ideas do the texts have in common?
- How are each of the texts different? Why do you think there are differences?

Summary Questions

- How does reading multiple texts on the same topic add to your understanding of the topic?
- How can knowing the purpose of the text help you understand the types of details that are included or excluded by the author?

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4 Lesson 1.1

Determine the Main Idea

Adaptable Resources Meet Your Needs



Print Student Resources

Core Subject Modules



Core Subject Modules provide core instruction for Reading & Writing, Math, Social Studies, and Science.

- Each chapter focuses on an overarching topic, and each lesson covers a subtopic.
- Lessons can be followed in order, or studied according to personalized learning plans based on course pretests that are designed to identify specific skills that need special focus.
- Lessons instruct students in the core skills necessary to succeed on any high school equivalency test.

Test-Specific Exercise Books



Exercise Books are test specific supplements to the Core Subject Modules.

- Lessons extend student learning and provide targeted test-taking practice.
- Lessons mirror the structure of the Core Subject Module.
- Passages and practice questions are modeled after the passages and specific item types in each exam.

We understand that no Adult Education settings are the same. That's why *Common Core Achieve* was built to provide flexibility to best meet your needs.

Common Core Achieve adapts to YOUR...

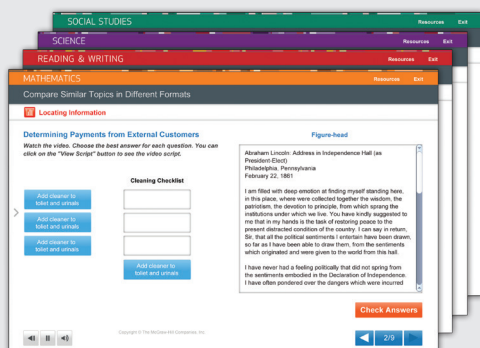
Instructional setting: All print, all digital, or blended learning offerings allow you to create a program that perfectly meets your student, teacher, and infrastructure needs. Components are distinct, yet interrelated, so they can be used together or in isolation to meet your needs.

Test: Whether your students are preparing for 2014 GED®, TASC™, or HiSET™, you can have confidence that your materials focus on core skills, strategies, and content, yet provide the test-specific practice that's so critical to success on test day.

Budget: *Common Core Achieve* is the only program on the market that adapts to any high school equivalency exam. If your state is undecided or changes exam direction in later years, you won't have to purchase all new materials.

Digital Student Resources

Common Core Achieve Online



Common Core Achieve Online provides test-specific core content instruction built upon the CCSS and College & Career Readiness Standards.

- Provides the same chapter and lesson structure as seen in the print Core Subject Module.
- Core instruction and test-specific assessment is integrated into one learning program.
- Lessons can be followed in order, or studied according to personalized learning plans based on course pretests designed to identify specific skills that need special focus.
- Interactive formative assessments throughout each lesson reinforce key concepts and skills.

LearnSmart Achieve Adaptive Test Prep



LearnSmart Achieve Adaptive Test Prep provides test adaptive test preparation for the 2014 GED® Test, TASC™, and HiSET™.

- Provides real-time data on student strengths and weaknesses, helping streamline the study process.
- Through ongoing diagnostic questions, personalized learning plans are continually adjusted until mastery is achieved.
- Interactive practice assesses what a student needs to focus on, provides support in areas of weakness, and coaches the student to mastery.
- Adaptive instruction provides remedial practice and assessment until each skill is mastered.
- Content and item types match specific test formats.

Instructor Resources

The Instructor Resource Guide contains lesson plans for each lesson in the print Core Subject Module. The lesson plans provide before, during, and after lesson support including background, guidance, and activities tied directly to the content on the student pages. Every lesson plan includes evidence-based reading instruction and provides strategies for instructors to increase student depth of knowledge. Each activity places an increased emphasis on conceptual understanding and reasoning using questioning and higher-order thinking skills.

The Online Teacher Lesson Plan is for use with Common Core Achieve Online, when the program is being used in a classroom setting. Each lesson plan provides support, guidance, and extension of the lesson's features and activities. Additional resources provided include a Teacher Planning Guide, graphic organizers, mathematical formulas, and a calculator reference sheet.

Test Ready, Future Prepared

The *Common Core Achieve* program teaches students the conceptual, procedural, and problem-solving skills they need to succeed on their high school equivalency test. This program also teaches important skills related to test taking, 21st Century Skills, and Workplace Skills. These skills appear in the print Core Subject Module and are supplemented by additional teaching support in the Instructor Resource Guide.

Test-Taking Skills

- Eliminate Unnecessary Information
- Evaluate the Answer
- Gather Information
- Understand the Question
- Use Prior Knowledge

21st Century Skills

- Business Literacy
- Civic Literacy
- Communication and Collaboration
- Critical Thinking and Problem Solving
- Environmental Literacy
- Financial, Economic, Business, and Entrepreneurial Literacy
- Financial Literacy
- Flexibility and Adaptability
- Global Awareness
- Health Literacy
- Media Literacy
- Social and Cross-Cultural Skills

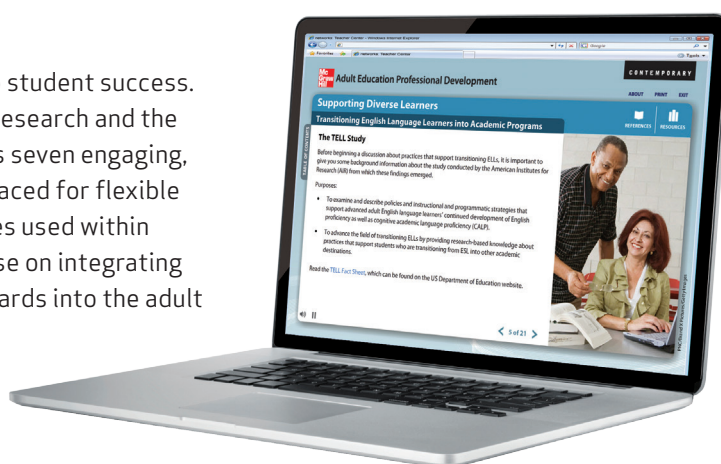
Workplace Skills

- Describe a Procedure
- Find Information in Workplace Graphics
- Interpret Business Letters
- Interpret Professional Documents
- Make Decisions Based on Workplace Graphics
- Plan and Organize
- Understand Business Fundamentals
- Understand Data in Different formats
- Use Data Effectively
- Use Reasoning

Adult Education Online Professional Development Series

Developing successful classroom instructors is critical to student success. Created in partnership with the American Institutes for Research and the National College Transitions Network, this series includes seven engaging, research-based courses. These online modules are self-paced for flexible delivery, and incorporate the best practices and strategies used within Common Core Basics. The Series also includes a full course on integrating the Common Core and College & Career Readiness Standards into the adult education classroom.

Visit commoncoreachieve.com to learn more.



Instruction Focused on Webb's Depth of Knowledge

Webb's Depth of Knowledge is specifically geared to the requirements necessary for students to succeed in post-secondary experiences. These four progressive levels of understanding are the higher-order thinking expectations that are integral to the Common Core and College & Career Readiness standards.

Common Core Achieve integrates Webb's Depth of Knowledge Levels 2 and 3 directly into instruction through Core Skills in the Core Subject Module and Extension Activities in the Instructor Resource Guide.

Depth of Knowledge Level (DOK)	Title of Level
1	Recall and Reproduction
2	Skills and Concepts
3	Short-Term Strategic Thinking
4	Extended Thinking

Level 2 Skills and Concepts

Students engaged in Level 2 activities are asked to mentally recall and process information before producing a response. At this level, students might be required to interpret information from a graph or table. They are expected to apply skills and concepts to their work.

Examples:

- Organize
- Explain
- Estimate
- Classify
- Compare and contrast
- Select procedures
- Solve multiple-step problems
- Order data

Core Skill: Determine Main Ideas

Have students explain how they decided what the article they chose for the Core Skill activity was about. Ask them to describe any point at which they disagreed with their partner or were unsure about the topic or main idea. Have students explain how they resolved this problem. DOK 2

Level 3 Short-Term Strategic Thinking

Students engaged in Level 3 activities are expected to use higher-order, strategic-thinking processes, such as analysis and evaluation, then apply these skills to real-world problems, and explain reasoning behind responses.

Examples:

- Conjecture
- Analyze
- Develop arguments
- Draw conclusions
- Plan
- Solve non-routine problems
- Support with evidence

Graphing an Equation

Write the equation $6x - 3y = 3$ on the board, and show the graph of $y = 2x$. Explain the scenario: A student was asked to graph $6x - 3y = 3$ and the result is shown (graph of $y = 2x$). Have students analyze the equation and graph to explain the error. (Answer: The equation in slope-intercept form is $y = 2x + 1$.) DOK 3

Extension Activity: Explore Relationships

Ask students to discuss with their classmates linear relationships they see in the real world. Each classmate should collect data for their relationship and represent it in a table. From the table, the student should graph the data and write the equation of the line in all three forms. DOK 3

Grade Equivalent 9-12

Test Success with a Strong Foundation for College and Career Readiness

Your test preparation program can't just be about preparing students for test day, it also has to prepare them to think beyond the test to what comes next. That's what makes Common Core Achieve so unique.

It provides students with:

- Strong foundational skills that will allow them to take the next steps in their learning journey
- Core instruction founded in Evidence-Based Reading and Webb's Depth of Knowledge, teaching them to not only be successful test-takers, but better thinkers and learners
- Contextualized lessons to keep them engaged and instruction relevant

It strives to not just help students pass a test, but to build the foundational skills needed to achieve their ultimate goals of college & career readiness, and eventually workplace success.

*“Over a lifetime, a person with a high school equivalency diploma will earn **\$300,000** more than a high-school dropout. A college graduate will earn over **\$1 Million** more than a high-school dropout.*



Prepare for 21st Century Technology

PowerUP! Getting Started with Computers and Keyboarding provides students with the applied computer basics and keyboarding skills needed for computer-based test-taking, college classes, and the 21st Century workplace. PowerUP! can be used on its own, or paired with *Common Core Basics* or *Common Core Achieve* to create a complete solution for 2014 exam preparation.

Includes instruction on:

- Basic computer navigation skills, e.g., powering a computer, locating the Start menu, using a mouse
- How to create documents in word applications, spreadsheets, and presentation programs
- Using e-mail and the Internet
- Keyboarding essentials
- Computer-based test-taking, including new item types used in for 2014 exams





COMMON CORE ACHIEVE

Mastering Essential Test Readiness Skills
for High School Equivalency Exams

**Mc
Graw
Hill**
Education

READING & WRITING

MATHEMATICS

Common Core Achieve, Mathematics provides instruction and practice in Core Skills such as performing operations, applying number sense concepts, and representing real world problems. Instruction is also provided in Core Practices, such as modeling with mathematics, which focus on the processes of applying mathematical content knowledge. It prepares students for working and learning in the 21st Century by integrating instruction in critical thinking, media literacy, and life skills with core mathematical concepts.

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To the Student

Congratulations! If you are using this book, it means that you are taking a key step toward achieving an important new goal for yourself. You are preparing to take your high school equivalency test in order to earn your high school diploma, one of the most important steps in the pathway toward career, educational, and lifelong well-being and success.

Common Core Achieve: Mastering Essential Test Readiness Skills is designed to help you learn or strengthen the skills you will need when you take your high school equivalency test. The program includes four core student modules—*Reading & Writing*, *Mathematics*, *Science*, and *Social Studies*. Each of these modules provides subject-level pretests and posttests, in-depth instruction and practice of the core skills and practices required for high school equivalency tests, and a number of additional helpful features to help you master all the skills you need for success on test day and beyond.

How to Use This Book

Before beginning the lessons in each module, take the **Pretest**. This will give you a preview of the types of questions you will be answering on the high school equivalency test. More important, it will help you identify which skill areas you need to concentrate on most. Use the evaluation chart at the end of the Pretest to pinpoint the types of questions you have answered incorrectly and to determine which skills you need to work on. The evaluation chart will also help you identify where to go within the module for instruction and practice. You may decide to concentrate on specific areas of study or to work through the entire module. It is highly recommended that you work through the whole module to build a strong foundation in the core areas in which you will be tested.

Common Core Achieve: Mastering Essential Test Readiness Skills includes a number of features designed to familiarize you with high school equivalency tests and to prepare you for test taking. At the start of each chapter, the **Chapter Opener** provides an overview of the chapter content and a goal-setting activity. The lessons that follow include the following features to help guide and enhance your learning:

- **Lesson Objectives** state what you will be able to accomplish after completing the lesson.
- **Key Terms and Vocabulary**, which are critical for understanding lesson content, are listed at the start of every lesson.
- The **Key Concept** summarizes the content that is the focus of the lesson.
- **Core Skills** are emphasized with direct instruction and practice in the context of the lesson. Each of the Core Skills aligns to the Common Core State Standards.
- Special features within the lessons include **21st Century Skills**, **Technology Skills**, **Workplace Skills**, **Language Skills**, and **Test-taking Skills** to help you activate high-level thinking skills by using real-world application of these skills.
- **Think about Reading** activities check your understanding of the content throughout the lesson.
- **Write to Learn** activities provide you with a purpose for practicing your writing skills. (This feature is included in the *Reading & Writing* and *Social Studies* modules.)
- The end-of-lesson **Vocabulary Review** checks your understanding of important lesson vocabulary, and the **Skill Review** checks your understanding of the content and skills presented in the lesson.

- **Skill Practice** and **Writing Practice** exercises appear at the end of every lesson to help you apply your learning of content and skill fundamentals. (These features are included in the *Reading & Writing* and *Social Studies* modules.)

In addition to the above lesson-level features, each *Common Core Achieve* module also includes these following features to help you check your understanding as you prepare for the test.

- The end-of-chapter **Review** and **Writer's Workshop** test your understanding of the chapter content and provide an opportunity to strengthen your writing skills. (These features are included in the *Reading & Writing* and *Social Studies* modules.)
- **Check Your Understanding** charts allow you to check your knowledge of the skills you have practiced and to reference where you can go to review skills that you should revisit.
- The **Answer Key** explains the answers for the questions in the book.
- After you have worked through the book, take the **Posttest** to see how well you have learned the skills presented in this book.

Good luck with your studies, and remember: you are here because you have chosen to achieve important and exciting new goals for yourself. Every time you begin working within the materials, remember that the skills you develop in *Common Core Achieve: Mastering Essential Test Readiness Skills* are not just important for passing the high school equivalency test; they are keys to lifelong success.



LESSON 1.1 Determine the Main Idea

LESSON OBJECTIVES

- Determine the main ideas and supporting details of a text
- Identify main ideas in different types of texts

CORE SKILLS

- Determine Main Ideas
- Identify Main Ideas in Various Texts

Key Terms

main idea

most important idea in a paragraph or passage

supporting details

facts, opinions, examples, or other details that help explain the main idea

topic sentence

sentence stating the main idea of a paragraph or passage

Vocabulary

identify

find, pinpoint

informational text

passage meant to explain, describe, instruct, or persuade

literary text

passage based on imagination or reality that tells a story

Key Concept

The main idea is the most important idea in a paragraph or passage. A main idea can be found in many different kinds of text.

Have you ever been asked to tell what a book or a movie was about? To do this, you had to figure out what the main idea, or the most important idea, in the work was. To find the main idea of any text, ask yourself the following question: What is the most important thing the writer is saying?

Main Ideas

Almost everything you read has a **main idea**, or the most important idea of the passage. It doesn't matter if you are reading a novel, a newspaper article, a textbook, a webpage, or a company's policy manual: the writer is trying to communicate one or more main ideas. A sentence that states the main idea of a paragraph or passage is known as a **topic sentence**.

Identify the Main Idea in Paragraphs

Understanding the structure of a paragraph will help you **identify**, or find, the main idea. A paragraph usually consists of a topic sentence and several other sentences that explain or give details about the topic. Often the topic sentence is the first sentence in a paragraph. However, the topic sentence may appear in the middle or at the end of a paragraph. Sometimes the topic sentence is not directly stated but suggested. All the other sentences within the paragraph focus on, or relate to, the topic sentence.

Suppose you were reading a paragraph on the topic of missing children. Within the paragraph the author would focus on a single issue concerning the topic, such as the fact that the largest reported group of missing children is runaways. The following sentences are examples of other topic sentences, each of which could be expanded into a paragraph.

- A large number of children are kidnapped by relatives or friends rather than strangers.
- Stricter laws should be passed to punish people who abduct children.
- Fingerprinting and videotaping are two ways to help identify missing children.

- Grace Hechinger’s book, *How to a Raise Street-Smart Child*, offers advice to families about facing the problems of child abduction.

Notice how each sentence makes a clear, definite statement about the topic of missing children. Authors often directly state the main idea when they are presenting information.

Determine the Main Idea

When you are reading a newspaper, you immediately notice the headlines:

- Police Crack Down on Drug Ring**
- Blizzard Paralyzes City**
- Funding for Day-Care Centers Slashed**
- Baseball Players Threaten to Strike**
- Lottery Winner Takes All: A Cool Million**

Headlines attract your attention. This is because they serve a very important purpose: They alert you to the content of the news story that follows. A headline tells you, in brief, what a story is mainly about. You expect newspaper articles to explain the headlines in more detail. The following example demonstrates this relationship between a headline and a news story.

Directions: Read the story, and write down the story’s topic.

Woman Lifts Car Off Son

CALIFORNIA—Cynthia Burgess, a five-foot-three, 110-pound woman, lifted a Toyota weighing nearly a ton off her son, who was trapped under the car when the emergency brake was accidentally released. She described her show of strength as “no big deal.”

If you wrote down that the story is about a woman who lifts a car off her son, you understood that the headline is the topic of the story.

Identify Details

Now look at how a topic sentence can be developed into a paragraph:

Grace Hechinger’s book, *How to Raise a Street-Smart Child*, offers advice to families about facing the problems of child abduction.

The author urges parents to discuss the subject of missing children openly. By honestly telling children about kidnappers, parents can teach their children how to avoid dangerous situations and to feel more secure. The author also suggests that parents establish rules to ensure their children’s safety. Parents who want to protect their children from kidnappers will find this book invaluable.

As you can see, all the sentences in the paragraph relate to the main idea expressed in the boldfaced topic sentence. They explain the author’s purpose and highlight what makes the book worth reading. In other words, they give details, such as facts, opinions, examples, and explanations, which help you understand the main idea. These are known as **supporting details**. Recognizing the main idea helps you organize your reading. Once you understand the major point of a paragraph, you can better understand how the remaining sentences are linked to the main idea.

WRITE TO LEARN

Write a one-paragraph newspaper article to go with one of the headlines listed near the top of this page. In your paragraph, include supporting details to help the reader understand the main idea expressed in the headline. Make sure that everything you write is related to the main idea.

CORE SKILL

Determine Main Ideas

To find the main idea and the topic sentence of a paragraph, follow this procedure:

1. Read the entire paragraph.
2. Ask yourself, “What is the author writing about?” This is the topic.
3. Ask yourself, “What is the author saying about the topic?” This is the main idea.
4. Look for a sentence that generally states the main idea. This is the topic sentence.

Find an article in a print or online magazine that interests you. With a partner, find the main idea of the entire article using the procedure above. Then look for the main idea in some of the paragraphs in the article.

LANGUAGE SKILL

Punctuation: Commas

Knowing how commas are used will help you understand the texts you read and help you write texts others can understand easily.

Use a comma

- to separate items in a series.
- after an introductory element.
- to separate text that provides additional details.
- to separate independent ideas.

However, unless you can state the reason for using a comma, don't put one in.

Read the sentences below, and place commas where necessary.

1. Although the meeting is in Philadelphia a teleconference is planned as well.
2. Jacob knew the consequences but he decided to speak up anyway.
3. Ms. Ortega an immigrant from Chile came to our class yesterday.
4. Our university's three largest schools are Architecture Business and Media.

As you read through the rest of the lesson, notice where commas are placed and ask yourself the reason for their placement.

Identify Unstated Main Ideas

Sometimes a main idea is not stated directly. When reading a passage that does not have a clear topic sentence, ask yourself: *What is the most important thing the writer is saying?* The answer is the main idea.

Read the following passage, and write a sentence stating its main idea.

The pharaoh and other members of the royal family were at the top of Egyptian society, followed by the upper class of priests and nobles. Priests took care of the temples and celebrated religious ceremonies, while nobles oversaw the government. The rest of the people were divided into educated professionals, such as scribes and doctors, and a broad working class. At the bottom of Egyptian society were the tenant farmers, servants, and slaves.

The main idea of this passage is that Ancient Egyptian society had a clear class structure. This idea is not stated directly, but each sentence supports it.



Think about Reading

Directions: Read the sentences in the first column. For each sentence, draw a line to a. b. or c. to explain what kind of supporting detail the sentence provides.

- | | |
|---|---|
| 1. The author urges parents to discuss the subject of missing children openly. | a. It gives the author's opinion of Hechinger's book. |
| 2. By honestly telling children about kidnappers, parents can teach their children how to avoid dangerous situations and to feel more secure. | b. It gives the reason why Hechinger offers a particular piece of advice. |
| 3. The author also suggests that parents establish rules to ensure their children's safety. | c. It gives an example of the advice Hechinger offers in the book. |
| 4. Parents who want to protect their children from kidnappers will find this book invaluable. | |

Main Ideas in Various Texts

You encounter several different kinds of text every day. Signs and notices are everywhere—at school, at work, and on the street. You may read books and newspapers, e-books and websites, e-mails and text messages. No matter what kind of text it is—a novel, a blog, or a manual—it is helpful to identify and understand its main ideas.

Different Types of Texts

In general, texts are literary or informational.

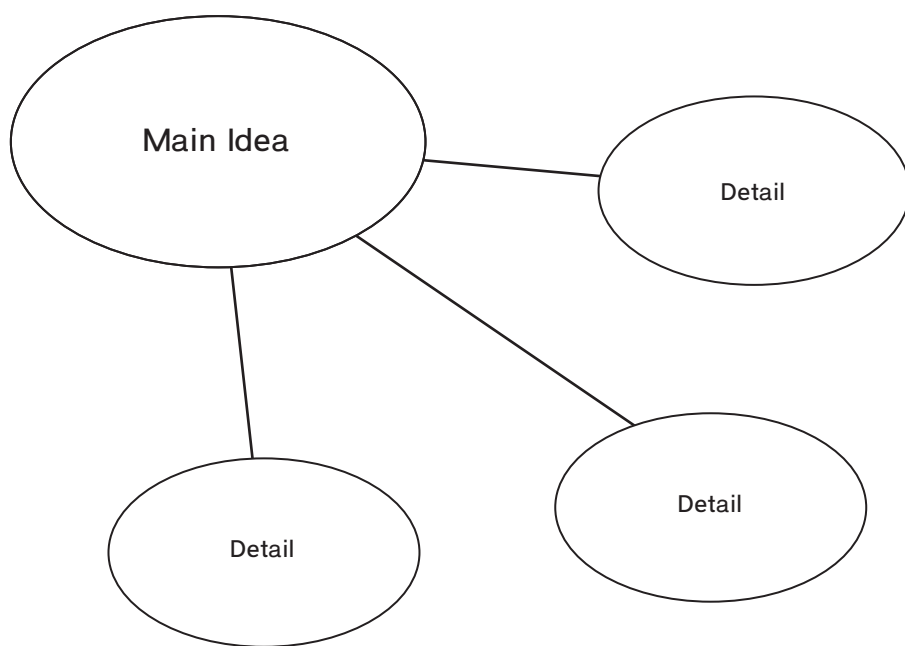
Literary texts tell a story. One type of literary text is fiction. Fiction focuses on characters and events that the author has imagined. Examples of fiction are novels and short stories. Literary texts can also be nonfiction. Nonfiction texts are about real people, places, and events. Examples of nonfiction literary texts are biographies, autobiographies, and memoirs. Just as in other texts, paragraphs and passages in literary texts focus on a main idea. They may also identify that main idea in one topic sentence.

Informational texts explain, describe, instruct, or try to persuade. There is a wide range of informational texts from a news report to a rental agreement. They are based on factual information, which often consists of details that support a main idea.

As you read the paragraph below, use a concept web like the one shown below to identify the main idea in the center circle and the details in the outer circles. You can find a blank concept map in the Graphic Organizer section at the back of the book.

With varying degrees of success, many women around the world today struggle for equal rights. Historically, the following three factors have initiated the greatest number of improvements for women: violent revolution, world war, and the rigors of pioneering in an undeveloped land. In all three cases, the essential element that improved the status of women was a shortage of men, which required women to perform many of the tasks that had been reserved for men. As a result, women have achieved greater equality with men during periods of social adversity [challenges].

Concept Web



CORE SKILL

Identify Main Ideas in Various Texts

The topic sentence is not always the first sentence in a paragraph. Often in informational texts, key facts are presented first, leading to an ending that makes a point using the facts.

Read the paragraph about women's equality on this page. Ask yourself: *Which sentence do the facts in the paragraph support?* The answer is the topic sentence.

Decide which sentence is the topic sentence, and exchange and discuss your answers with a partner.

Directions: Read the following passage from the novel *The Log of a Cowboy* by Andy Adams. Underline the main idea.



(1) For the trip, each man was expected to furnish his own accoutrements [equipment]. (2) In saddles, we had the ordinary Texas make . . . (3) Our bridles were in keeping with the saddles, the reins as long as plough lines, while the bit was frequently ornamental and costly. (4) The indispensable slicker, a greatcoat of oiled canvas, was ever at hand, securely tied to our cantle strings. (5) Spurs were a matter of taste. (6) If a rider carried a quirt [short riding whip], he usually dispensed with spurs, though, when used, those with large, dull rowels [part of a spur: a turning wheel with sharp points] were the make commonly chosen. (7) In the matter of leggings, not over half our outfit had any, as a trail herd always kept in the open, and except for night herding, they were too warm in summer. (8) Our craft never used a cattle whip, but if emergency required, the loose end of a rope served instead and was more humane.



Think about Reading

Directions: Answer the following questions about the excerpt from *The Log of a Cowboy*.

1. Which sentence states the main idea?
2. How does the rest of the passage support the main idea?
3. List three details that support the main idea.

Directions: Read the following bulletin board memo. Use the headings to help determine the main ideas.

MEMO

To: All employees

From: Maintenance

Date: April 5, 2014

Subject: Office Recycling

Kantaka Engineering Office Recycling Program

All employees should recycle following our company's established procedures. Separate the paper recyclables from nonpaper recyclables. Large green containers are for paper recyclables. Tall blue containers are for nonpaper recyclables. The containers are located in the copy/supply room. Every Friday, maintenance will collect all recyclables and bring them to the recycling center. The following items are recyclable:

Mixed Paper. White paper, envelopes, newsprint, colored paper, file folders, lined paper, computer paper, magazines, and shredded paper can be placed in the green containers.

Cardboard. Cardboard should be flattened, labeled, and placed next to a regular trash can, for pickup by maintenance.

Bottles and Cans. Please clean all bottles and cans and place them in the blue containers.

E-Waste. Old/outdated electronics such as computers, monitors, and printers contain heavy metals, that, if disposed of improperly, can be toxic to the environment. Call the Information Technology Department for disposal.



Think about Reading

Directions: Next to each statement, circle T if the statement is true or F if it is false.

1. T F Literary texts do not contain topic sentences.
2. T F Literary texts include both fiction and nonfiction texts.
3. T F Workplace texts may use headings to emphasize main ideas.

Summary

A passage or a paragraph often centers around one main idea. The main idea provides the overall focus of the passage. Often, a topic sentence states in general terms what the passage is about. Every other sentence in the passage includes supporting details that relate to the topic sentence and the main idea.

WORKPLACE SKILL

Communicating the Main Idea of a Memo

In the workplace, memos and e-mails are used to communicate important information to employees. They may be about procedures, meetings, changes in the organization, or other information that needs to be communicated. Read the memo on this page. Note that the section at the top of a memo tells the date, the subject, and the name of the sender. The subject line and headings within the memo can help you determine the main ideas. Ask yourself:

- What subject is given in the subject line?
- What is the title of the memo?
- What topics are mentioned in the headings?
- What details are included under the headings?

In your notebook, write an e-mail message identifying the main ideas in the memo to a coworker.

Vocabulary Review

Directions: Complete the sentences using the following key terms and vocabulary words.

identify	informational text	literary text
main idea	supporting details	topic sentence

1. The workers at the museum couldn't wait to _____ the fossil.
2. Maya Angelou's memoir is a good example of a(n) _____ .
3. Nyah's teacher asked her to make sure each paragraph in her essay had a(n) _____ expressed in a(n) _____ .
4. The speaker's story was so memorable because of the hilarious _____ that brought the topic to life.
5. A workplace document is generally a(n) _____ .

Skill Review

Directions: Read the passage below. Then choose the best answer to each question.

(1) The people had stopped moving out of church. (2) Whispers passed along, and a boding uneasiness took possession of every countenance. (3) Children were anxiously questioned, and young teachers. (4) They all said they had not noticed whether Tom and Becky were on board the ferryboat on the homeward trip; it was dark; no one thought of inquiring if anyone was missing. (5) One young man finally blurted out his fear that they were still in the cave! (6) Mrs. Thatcher swooned away. (7) Aunt Polly fell to crying and wringing her hands.

—Mark Twain, *The Adventures of Tom Sawyer*

1. What is the main idea of the passage?
 - A. People are worried about the church.
 - B. People are worried because the children are being questioned.
 - C. People are worried because Tom and Becky are missing.
 - D. People are worried about the way Mrs. Thatcher and Aunt Polly are behaving.
2. Which words in sentences 2 and 3 indicate that people are worried?
 - A. “whispers” and “young”
 - B. “passed along” and “questioned”
 - C. “took possession” and “teachers”
 - D. “boding uneasiness” and “anxiously”
3. The events “people passing whispers,” “Mrs. Thatcher swooning,” and “Aunt Polly crying” indicate that
 - A. people are concerned.
 - B. no one asked about Tom and Becky.
 - C. it had become dark outside.
 - D. Tom and Becky are on the ferryboat.
4. Which of the following statements best describes how the reader would know that the main idea of the passage is unstated?
 - A. There is a topic sentence at the beginning of the passage.
 - B. There a topic sentence in the middle of the passage.
 - C. There is a topic sentence at the end of the passage.
 - D. There is no topic sentence in the passage.

Skill Practice

Directions: Read the passage below. Then choose the best answer to each question.

5 July, 1775.

I should have been more particular, but I thought you knew everything that passed here. The present state of the inhabitants of Boston is that of the most abject slaves, under the most cruel and despotic of tyrants. Among many instances I could mention, let me relate one. Upon the 17th of June, printed handbills were posted up at the corners of the streets, and upon houses, forbidding any inhabitants to go upon their houses, or upon any eminence [high place], on pain of death; the inhabitants dared not to look out of their houses, nor to be heard or seen to ask a question.

Our prisoners were brought over to the Long Wharf, and there lay all night, without any care of their wounds, or any resting-place but the pavements, until the next day, when they exchanged it for the jail, since which we hear they are civilly treated. Their living cannot be good, as they can have no fresh provisions; their beef, we hear, is all gone, and their wounded men die very fast, so that they have a report that the bullets were poisoned. Fish they cannot have, they have rendered it so difficult to procure; and the admiral is such a villain as to oblige every fishing schooner to pay a dollar every time it goes out.

The money that has been paid for passes is incredible. Some have given ten, twenty, thirty, and forty dollars, to get out with a small proportion of their things.

It is reported and believed that they have taken up a number of persons and committed them to jail, we know not for what in particular. Master Lovell is confined in the dungeon; a son of Mr. Edes is in jail, and one Wiburt, a ship-carpenter, is now upon trial for his life. God alone knows to what length these wretches will go, and will, I hope, restrain their malice.

—Abigail Adams, letter to her husband, John Adams

1. Which sentence best states the topic of the passage?
 - A. Adams thought her husband knew the conditions in Boston.
 - B. The inhabitants of Boston are slaves.
 - C. People in Boston are suffering.
 - D. People are leaving Boston.
2. Which sentence states the main idea of the 2nd paragraph?
 - A. Prisoners have to pay for their food.
 - B. Prisoners live in poor conditions.
 - C. Prisoners have been poisoned.
 - D. Prisoners are kept outside.
3. Which of the following events does the author use to support the idea that Bostonians are being treated unfairly?
 - A. Handbills were posted.
 - B. Prisoners were brought to the Long Wharf.
 - C. Fish was difficult to procure.
 - D. People were jailed for no reason.
4. Which definition best matches the use of the word **committed** in the final paragraph of the passage?
 - A. placed
 - B. dedicated
 - C. promised
 - D. recorded

Writing Practice

Directions: Find a news article in a print or an online newspaper on a specific current event. Write a topic sentence that gives the main idea of the article. Then, in two or three sentences, explain the key supporting details. Make sure all the key details in your summary support the main idea.

BEFORE THE LESSON

Lesson Objectives

- Determine the main ideas and supporting details of a text
- Identify main ideas in different types of text

Key Concept

The main idea is the most important idea in a paragraph or passage. A main idea can be found in many different kinds of text.

Concept Background Ask for a volunteer to tell you about an article, a story, a movie, or a television show that he or she has recently read or watched. Tell the volunteer to use one or two sentences to tell what the piece was about. After the volunteer is finished, point out that the one or two sentence description was the main idea of the piece. DOK 1

Develop Core Skills

Core Skill: Determine Main Ideas

Read a short article with students. Draw or project a concept web on the board. (See the Graphic Organizer section of the Instructor Resource Guide for a blackline master.) Use the graphic organizer to help students see the relationship between main ideas and details. Write the main idea of the article in the center circle and one detail in one of the outer circles. Ask students: *Which one explains what the article is about?* Point out to students that the main idea is what the article is about. Then ask: *How does the detail relate to the main idea?* (It gives information about the main idea.) Ask students to identify additional details from the article, and write them on the board. DOK 2

Core Skill: Identify Main Ideas in Various Texts

Have students look at a section from an employee handbook. Employee handbooks can be found using online research. Point out that in most handbooks, the heading tells the topic or main idea of a section, and the details that follow give more information about it. Find the main idea of one section as a group.

Then have students read a paragraph from an informational text such as a print or online encyclopedia. Work together to find the main idea of the paragraph. Ask students: *How does knowing the main idea of a passage help you understand it?* (Possible answer: *It helps me know which idea is most important.*) DOK 2

Pre-teach Key Terms and Vocabulary

Write the key terms and vocabulary words and their definitions on the board. Discuss each word's meaning with students. Then ask volunteers to write sentences using the words on the board. Read each sentence aloud, and discuss it with students. Revise the sentences, if necessary. DOK 1

Tier 2

informational text (p.15)
literary text (p. 15)
main idea (p. 12)
supporting details (p. 13)
topic sentence (p. 12)

Test Word

identify (p. 12)

DURING THE LESSON

PAGE 12

Main Ideas

Ask students why they might want to know a main idea of a text. List the reasons on the board. Ask students to think about how identifying supporting details can help them understand the main idea. Explain that looking for a topic sentence or thinking about what all the details have in common can help readers identify main ideas. Have students form small groups of three or four. Choose a magazine article for each small group to study, and have each group:

- present the main idea
- tell whether the main idea is stated or implied DOK 2

PAGE 13

WRITE TO LEARN

After students have written their articles, have them exchange papers with a partner covering up the headline. Each partner should then match the article with the appropriate headline. Have partners discuss how the supporting details helped them understand the main idea expressed in the headline. DOK 2

Core Skill: Determine Main Ideas

Have students explain how they decided what the article they chose for the Core Skill activity was about. Ask them to describe any point at which they disagreed with their partner or were unsure about the topic or main idea. Have students explain how they resolved this problem. DOK 2

Language Skill: Punctuation

Commas Write these sentences on the board without commas, and ask students to add commas if needed. Remind students of when it is appropriate to add a comma.

1. *We walked to the bank, but it was closed for a holiday.*
2. *I need to buy bread and milk when I go out later. (no comma)*
3. *Henry brought clothes, books, and his phone on his trip.* DOK 2



Think about Reading

ANSWER KEY

1. c
2. b
3. c
4. a

Main Ideas in Various Texts

Tell students that in their lives and careers, they will read many different types of texts. In the workplace, they may encounter memos, signs, handbooks, and procedure documents. In their lives and in class, they will also read fictional pieces, as well as other types of texts. Finding the main idea in these texts will help students understand what they are reading.

Core Skill: Identify Main Ideas in Various Texts

Have students review the passage beginning “With Varying Degrees of Success” on page 15. Tell students that the first two sentences may both seem like possible choices for the topic sentence at first glance. Ask students to think about how the passage would change if the first sentence were the topic sentence. (*Answers will vary. Sample answer: The passage would be about a more general subject.*) DOK 2



Think about Reading

ANSWER KEY

Review with students the answers on page 266 of the student module.

Evidence-based Reading Support: Vocabulary

Context Clues Tell students that context clues are words and phrases in a text that will help them define an unknown word. To find context clues, students should look closely at the words and sentences surrounding the word for meaning. Write this sentence from *The Log of a Cowboy* on page 16 on the board: *The indispensable slicker, a greatcoat of oiled canvas, was ever at hand, securely tied to our cattle strings.* Have students tell what words give a clue to the meaning of *indispensable*. (*ever at hand; securely tied*) Ask students to find another unknown word in the reading. Work with students to determine the meaning of the word, looking for context clues. DOK 2



Think about Reading

ANSWER KEY

1. **F** Literary and informational text can contain topic sentences.
2. **T** Literary texts can be imaginary or about a real event or person.
3. **T** Workplace text often use headings so readers can identify what the text is about.

Workplace Skill: Communicating the Main Idea of a Memo

Tell students that looking at information at the start of a workplace document is one key to finding the main idea of the text. Display another memo or an e-mail. Point out the various features of a memo such as the “To” and “From” lines that indicate who has written the memo and who the audience is. Tell students that the “subject” line and “Re” field will be most helpful to students as they identify the main idea. *Subject* tells the topic of a memo. *Re*: stands for “Regarding” and also tells what the memo is about. Ask students to use these sections of the document to find the main ideas of the text. Have students explain how the information helped them determine the main idea. DOK 2

AFTER THE LESSON

Read through with students the answers to the vocabulary and skill reviews and the skill and writing practice items located on page 266 of the student module.

Engage and Extend

ELL Instruction: Write the Main Idea

Pair English language learners with fluent speakers. Have each pair choose a short literary passage and work together to write the main idea of one paragraph. Then ask pairs to discuss how finding the main idea in a literary selection is similar to and different from finding the main idea in an informational text. DOK 2

Extension Activity: Classify Main Ideas in Various Texts

Explain that the main idea in a text typically relates to the type of text it is. Provide students with a variety of short informational and literary texts. Have students choose more than one of each type of text and determine the main idea of each. Then have students create a two-column chart with the labels *Informational Text* and *Literary Text*. Ask students to fill in the main ideas they found in each type of document. Then have them find any commonalities among the main ideas in each column. DOK 2



Connecting Main Ideas across Texts

In this activity, students analyze and synthesize the way in which main ideas and details regarding the same topic are presented across various sources.

BEFORE THE ACTIVITY

Objectives

- Identify and summarize main points (DOK 2)
- Determine effect of author's purpose on text elements (DOK 3)
- Examine and explain alternative perspectives across sources (DOK 4)

What You Will Need

- *Connecting Main Ideas across Texts* Student Handout (p. 4)
- Graphic Organizer - Tree diagram (p. 129)
- Graphic Organizer - Venn Diagram (p. 131)
- Computers/tablets with Internet access or printouts of multiple print and/or video articles on the same topic (content should be from varied sources such as an authorized news source, a blog, an open editorial article, an advertisement, etc.)

DURING THE ACTIVITY

Build Background: Understand the Skill

Distribute the *Connecting Main Ideas across Texts* student handout to students. Explain to students that making connections across texts helps readers understand that different texts sharing the same topic can have important ideas in common. When readers recognize this commonality, they can better understand the topic even if the texts have different purposes. For example, a reader can make connections when reading a newspaper article about the price of gas, an advertisement in a magazine from an oil company, and a chapter in a science book about the geological process that creates fossil fuels. Although each text provides different information for different purposes, connecting important ideas from each of these texts can help the student gain a better understanding of petroleum.

Establish Relevance: Why the Skill Matters

Read *Why the Skill Matters* on the student handout. Explain to students that when they make connections across texts, their comprehension broadens and deepens as they gain more information about a subject or an idea. Connecting across texts also provides readers with multiple perspectives on the same subject. Learning these

perspectives helps student see how writers can see things in different ways, impacting how information is presented. Finally, readers who connect across texts learn to make other connections while reading, such as relating to their own experiences or to world events. Making these connections promotes higher-level thinking by enabling them to create links between and among ideas.

Model the Skill

Ask students to list what resources they like to use for learning about the news or learning new information. As students share, ask them to explain why they like to use each particular resource (e.g., they feel the source is reliable, they tend to agree with the points of view expressed, they find the content entertaining; etc.)

Read a short article or blog post on a current topic of interest to students. Some possible topics are sports, popular music, historical events, technology, or fashion. As you read, model for students how to gather main idea and details for the topic using the tree diagram. Refer students to the procedure for determining the main idea outlined in the Core Skills activity on page 13 of the core student module.

After reading the text, review the main idea and supporting details that were gathered. Ask students to identify the source of the text and its purpose—was it to explain, inform, persuade, or entertain? Lead students in a discussion about how they feel the purpose of the text impacted the details the writer chose to include about the topic.

Activity Directions Organize students into pairs. Each pair should have multiple articles on the same topic (at least two, either preselected or gathered by students using online sources). Explain to students that they will each read a different text/article about a similar topic and gather main ideas and details as they read. After students have read their own articles, they will share what they read with their partner.

Discussion Questions After each pair has finished reading, ask them to use the Venn diagram and the discussion questions on the student handout to gather the similarities and differences they found across the different texts they read.

Summary Questions As a group, have students share some of the similarities and differences they found among the texts they read. Use the summary questions on the student handout to lead a discussion in which students examine why such similarities and differences exist, including what role the author's perspective and purpose plays in how information is presented within texts.



Connecting Main Ideas across Texts

In this activity, you will work with others to analyze news stories covering the same topic.

Why the Skill Matters

Information is all around us, and it comes in many forms. Information about a topic can come from newspapers, online news articles, blogs, videos, and social media. Each of these different sources presents information in different ways for different reasons. When you read multiple texts on the same topic, you learn new details regarding that topic based on what details are included and how they are presented. Making connections across texts helps you understand the topic, as well as the different points of view people have.

Consider the following articles that might be written about the same topic—the New York City subway system.

Purpose: To inform	Purpose: To explain	Purpose: To persuade	Purpose: To entertain
A brochure from the transit authority about new subway fares	A newspaper article about a recent increase in subway fares	A blog about the need to decrease fares for seniors	A story about a musician who performs at subway stations

Each of these texts share the same topic, and some may have similar main ideas. Based on the different purposes, however, each text may describe things such as sights and sounds, even smells. Because of this, it is important to always consider the source of information as you read any informational text.

Activity Directions

1. With a partner, choose a topic about a current news story.
2. Find at least two articles about the story from two different sources. Sources may include advertisements, blogs, brochures, cartoons, Internet news sites, magazines, newspapers, reference materials, textbooks, or others.
3. As you read, use the tree diagram to identify the main idea(s) and details from the article.
4. With a partner, answer the discussion questions to the right. Use the Venn diagram to identify the similarities and differences between the two articles.

Tip

Keep this in mind—you will not always see related texts side by side. The next time you read, think of other texts you've read or videos you've viewed about the same topic.

Discussion Questions

- What is the main purpose of each text? Does it inform, explain, persuade, or entertain?
- What are the main idea(s) from each of the texts you read?
- What details does the author use to support these ideas?
- What ideas do the texts have in common?
- How are each of the texts different? Why do you think there are differences?

Summary Questions

- How does reading multiple texts on the same topic add to your understanding of the topic?
- How can knowing the purpose of the text help you understand the types of details that are included or excluded by the author?



COMMON CORE ACHIEVE

Mastering Essential Test Readiness Skills
for High School Equivalency Exams

**Mc
Graw
Hill**
Education

MATHEMATICS

READING & WRITING

Common Core Achieve, Reading & Writing provides instruction and practice in Core Skills such as drawing evidence from text, analyzing structure, and evaluating content in different media, with an emphasis on informational text. It prepares students for working and learning in the 21st Century by integrating instruction in critical thinking, media literacy, and life skills with core reading concepts.

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To the Student

Congratulations! If you are using this book, it means that you are taking a key step toward achieving an important new goal for yourself. You are preparing to take your high school equivalency test, an important step in the pathway toward career, educational, and lifelong well-being and success.


Common Core Achieve: Mastering Essential Test Readiness Skills is designed to help you learn or strengthen the skills you will need when you take your high school equivalency test. The program includes four core student modules – *Reading & Writing*, *Mathematics*, *Science*, and *Social Studies*. Each of these modules provides subject-level pre- and posttests, in-depth instruction and practice of the core skills and practices required for high school equivalency tests, and a number of additional helpful features to help you master all the skills you need for success on test day and beyond.

How to Use This Book

Before beginning the lessons in each module, take the **Pretest**. This will give you a preview of the types of questions you will be answering on the high school equivalency test. More important, it will help you identify which skill areas you need to concentrate on most. Use the evaluation chart at the end of the Pretest to pinpoint the types of questions you have answered incorrectly and to determine which skills you need to work on. The evaluation chart will also help you identify where to go within the module for additional instruction and practice. You may decide to concentrate on specific areas of study or to work through the entire module. It is highly recommended that you do work through the whole module to build a strong foundation in the core areas in which you will be tested.

Common Core Achieve: Mastering Essential Test Readiness Skills includes a number of features designed to familiarize you with high school equivalency tests and to prepare you for test taking. At the start of each chapter, the **Chapter Opener** provides an overview of the chapter content and a goal-setting activity. The lessons that follow include the following to help guide and enhance your learning.

- **Lesson Objectives** state what you will be able to accomplish after completing the lesson.
- **Key Terms and Vocabulary** critical for understanding lesson content is listed at the start of every lesson. All boldfaced words in the text can be found in the Glossary.
- The **Key Concept** summarizes the content that is the focus of the lesson.
- **Core Skills** are emphasized with direct instruction and practice in the context of the lesson. Each of the Core Skills aligns to the Common Core State Standards.
- **Core Practices** build important reasoning skills in the Math, Science, and Social Studies modules. Core practices align to key skills specified in the Common Core State Standards and other national standards.
- Special features within each lesson include **21st Century Skills**, **Technology Connections**, **Workplace Skills**, **Language Skills**, and **Test-Taking Skills** to help you activate high-level thinking skills by using real-word application of these skills.
- The **Calculator Skills** feature within the *Science* and *Mathematics* modules will help you learn important tips to simplify your work with mathematical concepts or numerical data.
- **Think about Math** questions check your understanding of the content throughout the lesson.
- End-of-lesson **Vocabulary Review** checks your understanding of important lesson vocabulary, while the **Skill Review** checks your understanding of the content and skills presented in the lesson.
- **Skill Practice** exercises appear at the end of every lesson to help you apply your learning of content and skill fundamentals.



In addition to the above lesson-level features, each *Common Core Achieve* module also includes the features to help you check your understanding as you prepare for the test.

- The end-of-chapter **Review** tests your understanding of the chapter content.
- **Check Your Understanding** charts allow you to check your knowledge of the skills you have practiced, and references where you can go to review skills that you should revisit.
- The **Answer Key** explains the answers for the questions in the book.
- After you have worked through the book, take the **Posttest** to see how well you have learned the skills presented in this book.

Good luck with your studies, and remember: you are here because you have chosen to achieve important and exciting new goals for yourself. Every time you begin working within the materials, keep in mind that the skills you develop in *Common Core Achieve: Mastering Essential Test Readiness Skills* are not just important for passing the high school equivalency test; they are keys to lifelong success.



LESSON 1.1 Order Rational Numbers

LESSON OBJECTIVES

- Identify rational numbers
- Order fractions and decimals on a number line
- Calculate absolute value

CORE SKILLS & PRACTICES

- Use Math Tools Appropriately
- Apply Number Sense

Key Terms

absolute value

the distance a number is from zero

integers

the set of whole numbers and their opposites

rational number

the set of numbers that can be expressed as the division of two integers

Vocabulary

denominator

the bottom number of a fraction that represents the total number of parts contained in the whole of a fraction

numerator

the top number in a fraction that represents the part of the whole the fraction is describing

order

to place in the proper sequence

Key Concept

Rational numbers include whole numbers, fractions, decimals, and their opposites. A number line is a useful math tool for comparing and ordering rational numbers.

Rational Numbers

You are surrounded by rational numbers. Take a ride on a subway, for example. A number identifies the subway line that you need. Other numbers tell you the cost of the fare, the time your train arrives at the station, and how many stops you will pass before reaching your destination. The numbers you use every day are examples of rational numbers.

Types of Numbers

When we count, we use the numbers 1, 2, 3, 4, 5... These are called natural numbers. If there are no objects to count, the number 0 is included. The set of natural numbers and 0 are the whole numbers.

Whole Numbers



In some instances, we need more than whole numbers to describe or measure a quantity. Think about temperature. Negative numbers describe temperatures below zero. **Integers** are the whole numbers and their opposites.

Integers



We often use numbers that fall between integers, like yard of fabric, a 26.2 mile-long race, or a -22.5°F temperature. Most of the numbers you encounter can be expressed as fractions or terminating decimals (decimals that have a finite number of figures). These form a larger set of numbers, called the **rational numbers**, or all numbers that can be expressed as the division of two integers, $\frac{a}{b}$, where $b \neq 0$. The rational numbers include the natural numbers, whole numbers, integers, fractions, and terminating or repeating (continuing a pattern forever) decimals. When writing repeating decimals, a bar is written over the number or numbers that repeat. For example, the number $0.416666\dots$, where 6 repeats forever, would be written as $0.41\overline{6}$.

Example 1: Examples of Numbers

Natural Numbers	1	2	30	127
Whole Numbers	0	7	64	591
Integers	-27	-4	0	28
Fractions	$\frac{1}{2}$	$\frac{4}{9}$	$7\frac{3}{8}$	$\frac{12}{7}$
Terminating Decimals	-0.5	3.2	27.704	
Repeating Decimal	$-2.\overline{3}$	$0.\overline{12}$	$7.4\overline{63}$	$12.71\overline{4}$

Unlike rational numbers, **irrational numbers** cannot be expressed as the ratio of two integers. They are non-terminating decimals that do not repeat. They include the square roots of many whole numbers, such as $\sqrt{2} = 1.41421\dots$. Another example is $\pi = 3.14159\dots$. Another example is the number pi, the ratio of the circumference of a circle by its diameter. Pi is represented by the symbol π , which is $3.14159\dots$. When calculating using pi, most people use the estimation 3.14.

Fractions and Decimals

Whole numbers are not always as common as rational numbers in daily life. A kitchen is an example of a place where whole-number measurements are rare. For example, a recipe may call for $\frac{3}{4}$ cup of sugar.

Fractions

Fractions represent equal parts of a whole. The top number, or **numerator**, identifies the number of parts of the whole you are describing. The bottom number, or **denominator**, identifies the total number of parts contained in the whole. Together, whole numbers and fractions form mixed numbers like $3\frac{1}{5}$.

$$\begin{array}{r} 5 \\ \hline 8 \end{array}$$

← numerator—parts of the whole you have

← denominator—total number of parts in the whole

WORKPLACE SKILL

Check, Examine, and Record

Calculations using rational numbers are done in the workplace each day. For example, many jobs involve handling money. You may be asked to purchase items for your work or verify the cost of a customer's purchase.

It is important to know how to calculate correctly in situations that involve money.

As a bank teller, Alisha counts and records the total dollar amount of the coins in her drawer at the end of each day. Today she counted 110 quarters. What dollar amount will Alisha record?

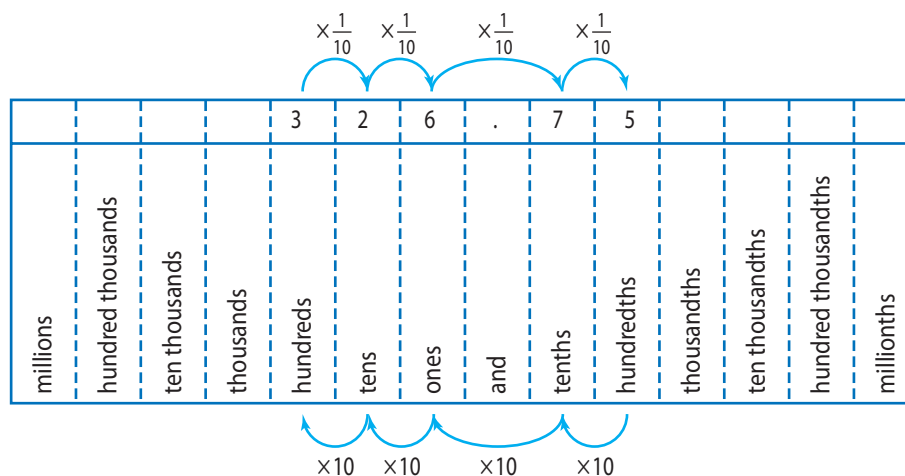
CALCULATOR SKILLS

Many calculators are able to convert numbers between fractions and decimals. To convert a fraction to a decimal using the TI-30XS MultiView™, press the **2nd** key to access the second function, then the **f↔d** key, for which the second function allows you to “toggle” the number shown on the display back and forth from a fraction to a decimal.

Decimals

Terminating and repeating decimals are types of rational numbers. You rely on ten digits (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) to write every number in our number system. Each digit in a number has a specific place value, or value based on its position in the number.

In a place-value chart like the one shown, a decimal point separates whole numbers from parts of a whole, or decimals. Whole numbers are to the left of the decimal point, and decimals are to the right. As you move to the right, each place value is one-tenth the value. The opposite is true as you move to the left.



Since decimals represent fractional values, we read them as tenths, hundredths, thousandths, and so on. When reading decimals aloud, the word *and* represents the decimal point and only the last decimal place is named.

For example, read 326.75 as “three hundred, twenty-six and seventy-five hundredths.” As a fraction, this would be written $326 \frac{75}{100}$ or $326 \frac{3}{4}$.



Think about Math

Directions: Answer the following questions.

- Which number has a 3 in the tens place?
 - 317.426
 - 623.109
 - 8,234.67
 - 1,970.32
- Which of the following categories apply to the number 7? Select all that apply.
 - Whole number
 - Integer
 - Rational number
 - Irrational number

Working With Fractions and Decimals

Fractions and decimals are common rational numbers you see and use each day. At a post office, for example, guidelines show the dimensions of letters, postcards, and boxes in fractions. Price charts show the cost of stamps and delivery options in decimals.

Compare and Order Fractions

To compare two fractions you first want to take note if they have the same denominators or numerators.

Example 1: Same Denominators

Compare $\frac{6}{8}$ and $\frac{4}{8}$.

Step 1 Observe that both fractions have the same denominator. To compare them, read the numerators.

Step 2 The fraction with the greater numerator is the greater fraction. You can see this by comparing two fraction bars. Each bar is split into the same number of sections, but one has more filled in, and is therefore the greater fraction.

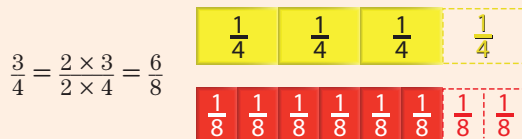


When fractions have different denominators and numerators, you can rewrite or rename one or more fractions in a set before you compare them. Once all of the fractions you are comparing share the same denominator, you can compare numerators.

Example 2: Different Numerators and Denominators

Compare $\frac{3}{4}$ and $\frac{5}{8}$. The fractions do not share the same denominator.

Step 1 Rewrite both fractions so that they have the same denominator by multiplying each fraction's numerator and denominator by the same number. Since $8 = 2 \times 4$, multiply $\frac{3}{4}$ by $\frac{2}{2}$ to get a fraction in eighths. As you can see in the fraction bars, it does not change the value of the fraction.



Step 2 Compare the fractions by comparing their numerators.

$$\frac{6}{8} > \frac{5}{8}, \text{ so } \frac{3}{4} > \frac{5}{8}$$

CORE SKILL

Apply Number Sense

When you are given a set of numbers to compare, it is usually easiest to make sure they are of the same kind, either fractions or decimals. Since not all numbers can be written as fractions, decimals are an easier way to compare numbers.

For example, suppose a factory manager wants to know which of three products uses the most feet of plastic wrapping. Three employees report the average length of wrapping they use. The manager records the information in a data table.

Product A	Product B	Product C
5.25 feet	4.8 feet	$5\frac{3}{8}$ feet

Two of the values in the data table are decimals, and one is a fraction. To convert a fraction into a decimal, divide the numerator by the denominator.

$$5\frac{3}{8} = \frac{43}{8}$$

$$43 \div 8 = 5.4$$

$$5\frac{3}{8} = 5.4$$

Order the three numbers by comparing each digit from left to right.

CORE PRACTICE

Use Math Tools Appropriately

To use math tools appropriately, first think about the problem you are trying to solve and which math tools can aid you in finding the answer. One such tool is a number line. A number line shows numbers from least to greatest. By plotting all the numbers on the number line, you can determine the order of the numbers from least to greatest by reading the numbers from left to right.

To compare and order decimals, it is helpful to use a number line marked off by tenths. This divides the space between each integer into 10 equal sections. To plot a number like 6.25, find the marks for 6.2 and 6.3 and plot the number halfway between.

Use the number line below to plot the decimals 6.75, 6.25, 6.4, and 7.1, and order them from least to greatest.



Compare and Order Decimals

To compare and **order** two decimals, you need to make sure you compare digits with the same place value. Suppose you want to compare 1.21 and 1.213.

Example 3: Compare Decimals

Step 1 To give both decimals the same number of digits before you compare them, add a zero to the end of 1.21. Adding a zero to the end of a decimal does not change its value.

$$1.210 \qquad 1.213$$

Step 2 Compare the digits in the ones place, or whole number position.

1 = 1. The ones digits have the same value.

$$\underline{1}.210 \qquad \underline{1}.213$$

Step 3 Compare the digits in the tenths place.

2 tenths = 2 tenths. The tenths digits have the same value.

$$1.\underline{2}10 \qquad 1.\underline{2}13$$

Step 4 Compare the digits in the hundredths place.

1 hundredth = 1 hundredth. The hundredths digits have the same value.

$$1.2\underline{1}0 \qquad 1.2\underline{1}3$$

Step 5 Compare the digits in the thousandths place.

0 thousandth < 3 thousandths. Therefore 1.210 is less than 1.213.

$$1.21\underline{0} \qquad 1.21\underline{3}$$

$$1.21 \quad < \quad 1.213$$



Think about Math

Directions: Compare each number to 4.65. Check the box that each number corresponds to.

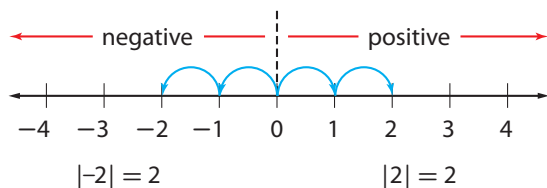
- | | | |
|-------------------|---|--|
| 1. $4\frac{3}{4}$ | <input type="checkbox"/> Less than 4.65 | <input type="checkbox"/> Greater than 4.65 |
| 2. 4.37 | <input type="checkbox"/> Less than 4.65 | <input type="checkbox"/> Greater than 4.65 |
| 3. 4.72 | <input type="checkbox"/> Less than 4.65 | <input type="checkbox"/> Greater than 4.65 |
| 4. $4\frac{1}{5}$ | <input type="checkbox"/> Less than 4.65 | <input type="checkbox"/> Greater than 4.65 |

Absolute Value

Positive and negative numbers express opposite amounts. Every integer has an opposite. For example, the opposite of 3 is -3 .

On a number line, opposite numbers are always the same distance from zero. The distance from zero is called the absolute value of the number. The symbol for **absolute value** is $| \quad |$. Because absolute value is the distance to 0, it is always a positive amount.

The absolute value of 2 (written $|2|$) is 2, and the absolute value of -2 (written $|-2|$) is also 2 because both numbers are a distance of 2 units from 0. Because 0 is zero distance from itself, the absolute value of 0 is 0.



Adding and Subtracting Integers Using Absolute Value

When adding two integers, look at the signs of the integers. If the integers have like signs, find the sum of the integers' absolute values. Then give the sum the same sign as both integers. For example, $-6 + -12 = -18$. If the integers have unlike signs, subtract the integers' absolute value as shown in.

Example 4: Unlike Signs

Add $-8 + 6$.

Step 1 Subtract the integers' absolute values.

$$|-8| - |6| = 8 - 6 = 2$$

Step 2 Give the difference the sign of the integer with the greater absolute value.

$$|-8| > |6|, \text{ so make the difference negative. } -8 + 6 = -2$$

Subtracting an integer is the same as adding the opposite of that integer. Change the number that is being subtracted to its opposite. Then add the integers. Once you know how to subtract integers, you can find the distance between two points.

Example 5: Finding Distance on a Number Line

The distance between two integers on a number line is the absolute value of their difference. Find the distance between -4 and -9 .

Step 1 Find the difference of the two numbers. It does not matter which order you subtract them in because you will be taking the absolute value of the difference.

$$|-4 - (-9)| = |-4 + 9| = |5|$$

Step 2 Take the absolute value of the difference. $|5| = 5$



Think about Math

Directions: Choose the best answer to each question.

- What is the distance between the numbers -1 and 5 ?
A. -4
B. -6
C. 6
D. 4
- What is the sum of $-7 + 3$?
A. -5
B. -2
C. -4
D. 0

21ST CENTURY SKILL

Environmental Literacy

In chemistry, a pH level indicates whether a solution is acidic, basic, or neutral. On a pH scale from 0 to 14, pure water has a pH of 7. Chlorine is added to swimming pools to destroy harmful organisms that may be in the water. For chlorine to be effective, a water pH of 7.3 is ideal. However, a pH level that is more than 0.3 away from ideal is considered unacceptable.

You can use absolute value to identify which pools in the table below have acceptable or unacceptable pH levels. For example, if a pool had a pH value of 7.8, you can find the distance from the ideal using absolute value and compare to 0.3.

$$|7.3 - 7.8| = |-0.5| = 0.5$$

$$0.5 > 0.3$$

The pH level is more than 0.3 away from the ideal. Therefore, the pool is unacceptable. Using the values in the table, determine which pools have acceptable pH levels and which do not.

pH Level	
Pool A	7.4
Pool B	7.7
Pool C	7.9
Pool D	7.1

Vocabulary Review

Directions: Write the missing term in the blank.

absolute value
order

denominator
numerator

integers
rational number

1. Rational numbers can be placed in _____ from least to greatest.
2. In the fraction $\frac{3}{4}$, the number 3 is the _____.
3. A(n) _____ is any number that can be expressed as a ratio of two numbers.
4. The _____ is the total number of parts in a whole.
5. The _____ of -4 is 4.
6. The set of natural numbers, their opposites, and the number zero form the set of _____.

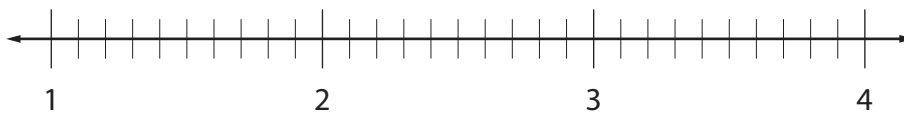
Skill Review

Directions: Read each problem and complete the task.

1. A lab technician measured the temperature of four different substances and recorded the temperatures in a data table. Now she wants to compare them.

Substance	X	Y	Z	W
Temperature	3.3°	3.15°	3.9°	3.55°

Order the temperatures on the number line. Then choose the appropriate ordering from least to greatest from the choices below.



- A. 3.3° , 3.15° , 3.9° , 3.55°
- B. 3.15° , 3.55° , 3.3° , 3.9°
- C. 3.3° , 3.55° , 3.9° , 3.15°
- D. 3.15° , 3.3° , 3.55° , 3.9°

2. The factory manager asks employees to use a new kind of transparent wrapping for their three top-selling items. The lengths recorded in the data table indicate how much wrapping each item requires. Compare the values and order them from least to greatest.

Item A	Item B	Item C
3.65 feet	4.1 feet	$3\frac{11}{16}$ feet

3. Explain the difference between rational and irrational numbers. Give examples of both in your explanation.
4. Determine which number has the greatest distance from the number 3?
- 6
 - 2
 - 7
 - 11

5. A foot contains 12 inches. 5 inches is what fraction of a foot?

- $\frac{5}{12}$
- $\frac{1}{5}$
- $\frac{1}{12}$
- $\frac{5}{1}$

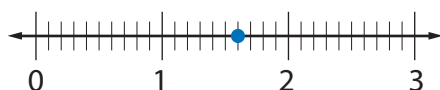
6. A wooden crate weighing $2\frac{5}{16}$ pounds contains grapefruit weighing $24\frac{1}{2}$ pounds. What is the combined weight of the crate and the grapefruit?

- $26\frac{6}{18}$ pounds
- 27 pounds
- $26\frac{13}{16}$ pounds
- $26\frac{3}{8}$ pounds

Skill Practice

Directions: Read each problem and complete the task.

1. Determine which rational number is represented on the number line shown.



- 0.5
 - 0.6
 - 1.5
 - 1.6
2. Which rational numbers are within 1 unit of the rational number represented on the number line?
- 1.5 and -1.5
 - 2.5 and 0.5
 - 2.6 and 0.6
 - 1.6 and -1.6
3. Use a number line to compare the fractions $\frac{9}{5}$ and $\frac{5}{2}$.

4. Which of the following numbers have a distance of 3 from the number 8? Select all that apply.

- 5
- 2
- 5
- 11

5. Explain why absolute value is always positive or zero.

6. Find the sum of $3\frac{1}{3} + 2\frac{3}{4} + 5\frac{5}{6}$.

- $10\frac{9}{13}$
- $11\frac{11}{12}$
- $11\frac{8}{13}$
- $10\frac{11}{12}$

BEFORE THE LESSON

Lesson Objectives

- Identify rational numbers
- Order fractions and decimals on a number line
- Calculate absolute value

Key Concept

Rational numbers include whole numbers, fractions, decimals, and their opposites. A number line is a useful math tool for comparing and ordering rational numbers.

Concept Background Point out to students that they are surrounded by rational numbers in their daily lives. Offer examples, such as marked prices in a department store or measurements found in a recipe. The numbers are rarely whole numbers. Instead, they are in decimal or fraction form. Discuss the importance of comparing rational numbers (as either decimals or fractions) when comparing prices at places such as the grocery store or gas station.

Develop Core Skills

Core Practice: Use Math Tools Appropriately

Explain to students that mathematicians use a variety of tools in their work, including number lines. Provide an example of a number line containing positive and negative integers. Ask students to locate specific points on the line. Encourage students to extend and label the line.

Core Skill: Apply Number Sense

Write the term *number sense* on the board. Invite students to suggest definitions for the term. Guide the discussion to help students understand that number sense is the ability to recognize numbers and their values. It is also the ability to use numbers creatively, such as in counting, measuring, calculating, or estimating quantities. DOK 1

Preteach Vocabulary

Write the key terms and academic vocabulary words and definitions on the board. Discuss each word's meaning with students. Use each word in a sentence and write the sentences on the board. Read each sentence aloud and discuss it with students.

Tier 3

absolute value (p. 16)
integers (p. 12)
rational number (p. 13)
denominator (p. 13)
numerator (p. 13)

Test Word

order (p. 16)

DURING THE LESSON

PAGE 12

Rational Numbers

Read and discuss the text as a class. Draw two circles on the board and label them Rational and Irrational Numbers. Invite students to write specific examples of rational and irrational numbers in the circles.

Evidence-Based Reading Support: Alphabetics

Analyze Words Write the words *rational* and *irrational* on the board. Underline the prefix *ir* in *irrational*. Explain that the prefix is an altered form of the Latin prefix *in-*, meaning “not, opposite of, or without.” Ask a volunteer to use the meaning of the prefix to define the term *irrational*.

PAGE 13

Fractions and Decimals

Ask volunteers to use examples of fractions to explain the terms *numerator*, *denominator*, and *mixed number*.

Workplace Skill: Check, Examine and Record

Help students understand that calculations involving money are important in the workplace. Invite student volunteers to demonstrate the problem or share the correct answer. (\$27.50)

PAGE 14

Decimals

Write different decimal numbers on the board with the decimal point in different places compared to the digits. Example include 41.798, 7,023.56, 3.2, etc. Help students understand that the decimal point separates the whole from the fractional part of a whole. DOK 1

Afterward, have students name these numbers being careful to note the place value of each digit.

Calculator Skills

Review with students how to convert fractions to decimals. Allow students practice converting several fractions to decimals using their calculators.



Think about Math

ANSWER KEY

1. C
2. A, B, C

Working With Fractions and Decimals

Invite volunteers to share examples of fraction and decimal amounts are used in the workplace. For example, in a post office, postage stamps for different weights and destinations are recorded as decimals; package dimensions are often recorded in customary measurements.

Compare and Order Fractions

Invite volunteers to define the terms *compare* and *order*. Write a series of numbers on the board, such as 12, 24, 5, and 19. Ask students to compare and order the numbers from least to greatest. Next, read the examples as a class. After reading each example, invite volunteers to explain the text's main points in their own words and use the visuals to support their explanations. DOK 1

Core Skill: Apply Number Sense

Ask students to think about why a factory manager would want to know which product uses the most plastic wrapping. Explain that as more wrapping is used, the cost to the company increases. Then read the text as a class. Give students time to find the solution to the problem. ($4.8 \text{ feet} < 5.25 \text{ feet} < 5.4 \text{ feet}$)

Compare and Order Decimals

Write a series of decimals on the board, such as 6.2, 6, 6.9, and 6.1. Ask students to compare and order the decimals from least to greatest. Next, read the text as a class, pausing frequently to check students' understanding as they compare the decimals from left to right. DOK 1

Core Skill: Use Math Tools Appropriately

Remind the students to compare decimals by comparing the value of each corresponding digits from left-to-right. Then read the text as a class. Give students time to find the solution to the problem. (*Students should arrange values on the number line to plot the following statement: $6.25 < 6.4 < 6.75 < 7$.*)



Think about Math

ANSWER KEY

1. Greater than 4.65
2. Less than 4.65
3. Greater than 4.65
4. Less than 4.65

Absolute Value

Remind students that all whole numbers have opposites. Draw a number line on the board and write the numbers 5, -2, and 3.5 on the line. Next, ask volunteers to write the opposite of each number on the number line.

Adding and Subtracting Integers Using Absolute Value

As a class, discuss the text in relation to the number line. Guide student understanding by asking questions such as *How can you use a number line to model the addition of integers with like signs? How can you use a number line to model the addition of integers with unlike signs? How are addition and subtraction of integers related? How can you use a number line to model the subtraction of integers?*

Finding Distance on a Number Line

Read the text as a class and ask a volunteer to explain how to use a number line to find absolute value. Invite students to extend the number line and use it to model distances between other pairs of integers. DOK 1



Think about Math

ANSWER KEY

1. D
2. C

21st Century Skill: Environmental Literacy

Draw two circles on the board. Label the circles *Acceptable pH* and *Unacceptable pH*. Direct students' attention to the data table of pH levels. Invite volunteers to record the pH levels in the circles. (*Acceptable: Pools A and D; Unacceptable: Pools B and C*) DOK 2

AFTER THE LESSON

Read with students the answers to the vocabulary and skill reviews and the skill practice items located on pages 18–19 of the student lesson.

Engage and Extend

ELL Instruction: Use Vocabulary to Interpret Visuals

Have students return to the section "Absolute Value and the Number Line." Draw and extend the number line on the board. Invite volunteers to label the number line and use it to explain the absolute value of numbers on the line in their own words. Ask students to use the terms *absolute value*, *distance*, *positive*, and *negative* in their explanations.

Extension Activity: Explore Relationships

Challenge students to work in pairs or independently to learn how scientists use acoustic data to map the sea-floor. Ask students to create and label a visual and to explain the relationship between sonar, or sound navigation ranging, and absolute value. DOK 3



Calculating with Irrational Numbers

In this activity, students analyze how calculations are impacted by rounding, evaluating how common notations of pi affect precision.

BEFORE THE ACTIVITY

Objectives

- Compare and explain relationships among data
- Cite evidence and develop logical arguments
- Draw conclusions

What You Will Need

- *Skill Builder Activity* Student Handout (p. 4)
- 1 calculator per student, preferably with a pi key

DURING THE ACTIVITY

Build Background: Understand the Skill

The following skills may require review before starting.

- Place value, rounding to the ten-thousandths place
- Order of operations

Distribute the *Calculating with Irrational Numbers* student handout to students. Ask students to identify examples of calculations they perform regularly. For each, have students explain why they feel it is or is not important to get exact answers when calculating. Explain that for certain calculations, we tend to round and not worry about exact answers. For some calculations, however, such as budgeting or adjusting recipes, we make certain our answers are exact. It is important to know when exact, accurate calculations are required, as well as how using rounded numbers affects the answer.

Establish Relevance: Why the Skill Matters

Read *Why the Skill Matters* on the student handout. Explain that depending on the context, precision when calculating can be extremely important. Discuss that, in careers such as engineering or construction, the safety of the products they build depends on precise measurements and calculations.

Model the Skill

Display the following: $\pi = 3.1415926535897\dots$, asking students to identify what kind of number pi is (irrational). Explain that since pi is an irrational number, we must round when performing calculations that involve pi, such as finding the area of a circle. Draw a circle on the board, identify the radius, and explain the formula for finding

the area of a circle. Model how to find area using two common rational numbers used for pi, 3.14 and $\frac{22}{7}$.

Activity Directions Have student pairs use a calculator to find the area of a circle with a radius of 3 ft., one student using 3.14 as pi, the other using $\frac{22}{7}$. Be certain they square just the radius (3), not the product of $\pi \times 3$. Have students check their answers with those on the handout.

Factor for Pi	Radius	Area of Circle	Difference
3.14	3 ft.	28.2600 ft ²	0.0257 ft ²
$\frac{22}{7}$		28.2857 ft ²	
3.14	5 ft.	78.5000 ft ²	0.0714 ft ²
$\frac{22}{7}$		78.5714 ft ²	
3.14	7 ft.	153.8600 ft ²	0.1400 ft ²
$\frac{22}{7}$		154.0000 ft ²	
3.14	9 ft.	254.3400 ft ²	0.2314 ft ²
$\frac{22}{7}$		254.5714 ft ²	
3.14	11 ft.	379.9400 ft ²	0.3457 ft ²
$\frac{22}{7}$		380.2857 ft ²	

Discussion Questions

As students answer the discussion questions, they should note that as the radius increases, the difference between the two calculations using different numbers for pi also increases. This is because $\frac{22}{7}$ (a repeating, rational number) is approximately 0.0029 larger than 3.14 (a terminating, rational number). As these numbers are multiplied by larger numbers, the differences between the resulting calculations increase. If students have a pi key on their calculator, they should note that since $\frac{22}{7}$ is closer to pi than 3.14, the resulting calculations using $\frac{22}{7}$ will always be closer to the areas calculated using the pi key as well.

Summary Questions Ask students to estimate the smallest whole-number radius for which the difference in area between using 3.14 and $\frac{22}{7}$ for pi would be at least 1 ft². Then have students calculate the answer. (Answer: 19 ft radius; area when using 3.14 is 1,133.5400 ft²; area when using $\frac{22}{7}$ is 1,134.5714 ft²) Finally, ask students to discuss why they think it is or is not possible to arrive at a 100% accurate calculation when using an irrational number in calculating. Students should conclude that the lower the place value used when rounding, the more accurate the resulting calculation; however, it technically cannot be exact.



Calculating with Irrational Numbers

In this activity, you will work with a partner to analyze how precision is impacted when calculating with irrational numbers.

Why the Skill Matters

The importance of being precise in calculations often depends on the situation. For example, when completing your federal tax forms, you are allowed to round amounts 50 cents or above up to the nearest dollar and amounts less than 50 cents down to the nearest dollar. When you calculate using rounded numbers, the answers you reach will probably not be precise. In most cases, calculating with rounded numbers results in answers that are greater than or less than the answer you would reach using the actual numbers.

However, when a situation requires more precision—such as finding the length of a board needed to install a shelf—if your measurements aren't precise, your calculations won't be precise either, and the board for your shelf won't fit.

Consider calculating the area of a circle, where the irrational number pi (π) is used within the formula. Since pi is an irrational number, we must round it in order to calculate. Two common rounded rational numbers used to calculate with pi are 3.14 and $\frac{22}{7}$.

Activity Directions

1. Use a calculator to complete the chart to the right. Have one person calculate the area for each circle using 3.14 as pi, and have the other person calculate the area using $\frac{22}{7}$ as pi.
2. For each calculation, round your answer to the nearest *ten thousandth*. Rewrite all hundredths numbers as equivalent ten-thousandths numbers.
3. Once you have found the area for each circle using both $\frac{22}{7}$ and 3.14, find the difference between the two area calculations and write that number in the "Difference" column.

Discussion Questions

- What pattern occurs within the "Difference" column of the chart as the circle radius increases? Why do you think this occurs?
- If your calculator has a pi key, calculate the area of each circle in the chart again using the pi key. Compare your answers to the area calculations reached with 3.14 and $\frac{22}{7}$. What conclusions can you draw based on this comparison?

Summary Questions

- What do you think the smallest whole number radius is for which the difference in area between using 3.14 and $\frac{22}{7}$ for pi would be at least 1 ft^2 ? Explain your reasoning. Then, test your prediction.
- Is it possible to ever have a fully accurate answer when calculating with irrational numbers? With repeating decimals? With terminating decimals? Explain your reasoning.

Factor for π	Radius	Area of Circle	Difference
3.14	3 ft.	28.2600 ft^2	0.0257 ft^2
$\frac{22}{7}$		28.2857 ft^2	
3.14	5 ft.	_____ ft^2	_____ ft^2
$\frac{22}{7}$		_____ ft^2	
3.14	7 ft.	_____ ft^2	_____ ft^2
$\frac{22}{7}$		_____ ft^2	
3.14	9 ft.	_____ ft^2	_____ ft^2
$\frac{22}{7}$		_____ ft^2	
3.14	11 ft.	_____ ft^2	_____ ft^2
$\frac{22}{7}$		_____ ft^2	

Tip

Some calculators may not separate out calculations that involve multiple steps and multiple operations. One way to ensure this does not happen is to first square the radius ($3 \times 3...$, $5 \times 5...$, etc.), then multiply by the factor you are using for pi.



COMMON CORE ACHIEVE

Mastering Essential Test Readiness Skills
for High School Equivalency Exams

SCIENCE

Common Core Achieve, Science provides instruction and practice in core skills such as expressing scientific information, identifying hypotheses, and applying scientific processes through the study of life, physical, and Earth and space science. It prepares students for working and learning in the 21st Century by integrating instruction in critical thinking, media literacy, and life skills with core science concepts.

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To the Student

Congratulations! If you are using this book, it means that you are taking a key step toward achieving an important new goal for yourself. You are preparing to take your high school equivalency test, an important step in the pathway toward career, educational, and lifelong well-being and success.

Common Core Achieve: Mastering Essential Test Readiness Skills is designed to help you learn or strengthen the skills you will need when you take your high school equivalency test. The program includes four core student modules – *Reading & Writing*, *Mathematics*, *Science*, and *Social Studies*.


Each of these modules provides subject-level pre- and posttests, in-depth instruction and practice of the core skills required for high school equivalency tests, and a number of additional helpful features to help you master all the skills you need for success on test day and beyond.

How to Use This Book

Before beginning the lessons in each module, take the **Pretest**. This will give you a preview of the types of questions you will be answering on the high school equivalency test. More importantly, it will help you identify which skill areas you need to concentrate on most. Use the evaluation chart at the end of the Pretest to pinpoint the types of questions you have answered incorrectly and to determine which skills you need to work on. The evaluation chart will also help you identify where to go within the module for additional instruction and practice. You may decide to concentrate on specific areas of study or to work through the entire module. It is highly recommended that you work through the whole module to build a strong foundation in the core areas in which you will be tested.

Common Core Achieve: Mastering Essential Test Readiness Skills includes a number of features designed to familiarize you with high school equivalency tests and to prepare you for test taking. At the start of each chapter, the **Chapter Opener** provides an overview of the chapter content and a goal-setting activity. The lessons include the following components to help guide and enhance your learning.

- **Lesson Objectives** state what you will be able to accomplish after completing the lesson.
- **Key Terms and Vocabulary** critical for understanding lesson content is listed at the start of every lesson. All boldfaced words in the text can be found in the Glossary.
- The **Key Concept** summarizes the content that is the focus of the lesson.
- **Core Skills** are emphasized with direct instruction and practice in the context of the lesson. Each of the Core Skills aligns to the Common Core State Standards.
- **Core Practices** build important reasoning skills. Core Practices align to key skills specified in the Common Core State Standards and other national standards.
- Special features within each lesson include **21st Century Skills**, **Technology Connections**, **Workplace Skills**, and **Test-Taking Skills** to help you activate high-level thinking skills by using real-world application of these skills.
- The **Calculator Skills** feature will help you practice using a calculator with mathematical concepts or numerical data.
- **Think about Science** questions check your understanding of the content throughout the lesson.
- The end-of-lesson **Vocabulary Review** checks your understanding of important lesson vocabulary, while the **Skill Review** checks your understanding of the content and skills presented in the lesson.
- **Skill Practice** exercises appear at the end of every lesson to help you apply your learning of content and skill fundamentals.



In addition to the above lesson-level features, this module also includes these features to help you check your understanding as you prepare for the test.

- The end-of-chapter **Review** tests your understanding of the chapter content.
- **Check Your Understanding** charts allow you to check your knowledge of the skills you have practiced, and references where you can go to review skills that you should revisit.
- The **Answer Key** provides the answers for the questions in the book.
- **Application of Science Practices** helps you demonstrate scientific reasoning and synthesize information.
- After you have worked through the book, take the **Posttest** to see how well you have learned the skills presented in this book.

Good luck with your studies, and remember: you are here because you have chosen to achieve important and exciting new goals for yourself. Every time you begin working within the material, keep in mind that the skills you develop in *Common Core Achieve: Mastering Essential Test Readiness Skills* are not just important for passing the high school equivalency test, they are the keys to lifelong success.



LESSON 1.1 Skeletal, Muscular, and Nervous Systems

LESSON OBJECTIVES

- Identify the components and functions of the skeletal, muscular, and nervous systems
- Describe how each system works with other body systems to perform different functions

CORE SKILLS & PRACTICES

- Integrate Content Presented in Different Ways
- Determine Central Ideas

Key Terms

cartilage

strong but flexible material found in some parts of the body

joint

point of connection between bones

neuron

cell that transmits or receives signals within the nervous system

tendon

strong, fibrous connective tissue that joins muscle to bone

Vocabulary

integrate

bring parts together to make a whole

muscle

tissue that can contract

Key Concept

The skeletal, muscular, and nervous systems work together to allow your body to react to the sights, sounds, tastes, odors, and physical contact that you encounter daily.

The Skeletal System

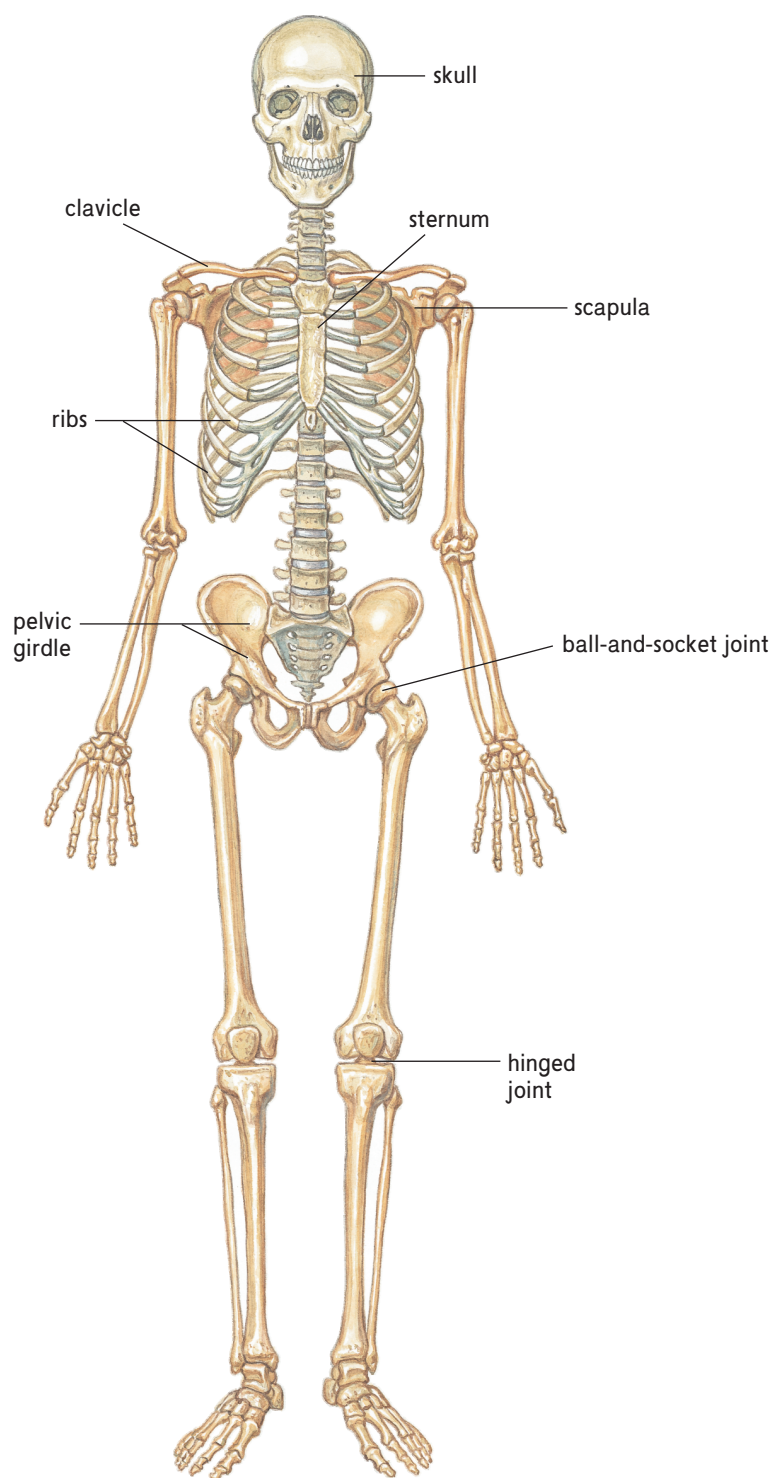
Marathon runners travel more than 26 miles from start to finish. Running that far challenges the body both physically and mentally. Those who finish can take pride in achieving such a difficult goal. Running a marathon requires muscle strength and endurance. It also requires a sturdy skeletal system to support those muscles.

The skeletal system is a framework of bones that provides structure to your body and protects your internal organs. The skeleton also serves as a reservoir for the storage of minerals, produces blood cells, and allows movement of the body. A typical human skeleton is made up of 206 bones. The skull contains bones that surround and protect the brain, while bones of the spine support the skull and allow movement in the back. The ribs protect important internal organs. Bones in the hand allow for many tasks, and bones in the feet support the body when walking or running.

Each bone is composed of living, growing tissue. If a bone breaks, one type of bone cell breaks down the damaged tissue while another type of bone cell begins to rebuild the bone. Calcium and vitamin D are nutrients that help build strong bones. You may think of bones as hard, solid objects. Although the outside of a bone is hard, the inside is filled with soft tissue called marrow. Bone marrow produces new blood cells.

Two types of bone marrow, red and yellow, run through the center of many long bones, such as those in the legs and arms. Red bone marrow produces red blood cells, which transport oxygen throughout the body. It also produces certain types of white blood cells, which help to fight disease. Yellow bone marrow is made up mostly of fat cells that are a source of stored energy.

U.S. Air Force photo by Tech. Sgt. Tracy L. DeMarco



Bones come in different shapes and sizes, and it is based on its function. For example, short, slender bones in your fingers allow your fingers to move and grasp things. Bones are classified as:

- long bones are found in the legs and arms
- short bones are found in fingers and toes
- flat bones are found in the skull and pelvis
- irregular bones are found in the backbone and ears

TECHNOLOGY SKILLS

Use Internet Resources

The most common kinds of bone injuries are broken bones, which heal in time with proper treatment and care. Using reliable Internet resources, research other kinds of bone injuries and common types of bone disease. What are the risk factors for developing bone disease? What causes bone injuries and disease? What can you do to help keep your bones healthy and strong as you get older? Write a paragraph to summarize your findings.

Joints

Joints are places where two or more bones meet. Tough strands of connective tissue called ligaments connect bones at most joints. Bones at joints are covered in flexible **cartilage**, which is a tough, elastic connective tissue. Cartilage covers bones to prevent them from rubbing against each other.

ball-and-socket joint



hinged joint



fixed joint



The amount of bone movement at a joint varies. For example, joints in the skull are not movable, while joints in the shoulder allow a wide range of motion. Joints are classified by the type of movement they allow and the shapes of their parts.

- Ball-and-socket joints, found in the shoulders and hips, allow for movement in almost all directions.
- Hinge joints, found in elbows and knees, allow for movement in one direction.
- Gliding joints, found in wrists and ankles, allow limited movement in many directions.
- Pivot joints, found between vertebrae in the spine, mainly allow rotating movement from side to side.
- Fixed joints, found in the skull, hold the bones of the skull together and do not allow for any movement.



Think about Science

Directions: Answer the following questions.

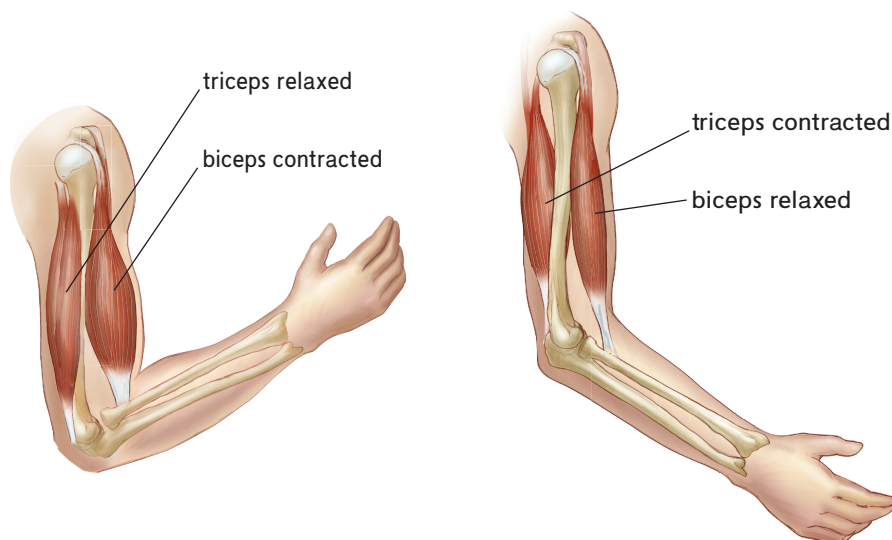
1. As people grow older, which component of the skeletal system can wear down and cause bones to rub together at the knee joint?
 - A. marrow
 - B. ligament
 - C. cartilage
 - D. calcium
2. Which of these protects the lungs from injury during a fall?
 - A. ribs
 - B. skull
 - C. cartilage
 - D. marrow

The Muscular System

The skeletal and muscular systems are interrelated. The muscular system uses muscles to move the bones of the skeletal system. **Muscles** are tissues that contract. Contraction occurs when muscle fibers shorten and pull together. Many muscles attach to bones, allowing you to walk, run, throw, dance, or do any other type of activity. Other muscles allow your heart to beat or move food through your body.

Voluntary Muscles

Skeletal muscles, or the muscles that are used to control bone movement, are all voluntary muscles you can consciously control. These muscles are connected to bones by tendons, which are bands of strong, fibrous connective tissue. Because a muscle can only contract, every joint is controlled by opposing muscles. This allows back-and-forth movement to occur. As shown in the image, you contract your biceps muscle to bend your arm. When your biceps muscle contracts, your triceps muscle relaxes and becomes stretched. You contract your triceps muscle to straighten your arm. When your triceps muscle contracts, your biceps muscle relaxes and becomes stretched.



Involuntary Muscles

Muscles in the lungs, intestines, bladder, blood vessels, and heart are all involuntary muscles. You have limited control over involuntary muscles. In other words, these muscles function without you consciously controlling them. Some involuntary muscles move materials into, through, or out of the body, such as the smooth muscles in the blood vessels, lungs, or intestines. The involuntary muscle in the heart is called cardiac muscle. Cardiac muscle causes the heart to beat, which pumps blood throughout the body.



Think about Science

Directions: Fill in the blank.

1. The _____ muscle is used to bend your elbow.
2. The joint in your thumb is an example of a _____ joint.

CORE PRACTICE

Integrate Content Presented in Different Ways

In this section, information about the skeletal and muscular systems was presented using both text and diagrams.

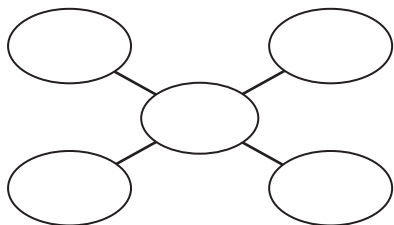
When you **integrate**, or bring together, content that is presented in different ways, you are likely to improve your understanding of a concept. For example, look at the information about voluntary muscles on this page. The text gives you details about what voluntary muscles are and how they can cause movement. The diagram uses pictures and text to further explain these concepts. What are some other ways that the concept of skeletal muscle movement could be presented?

CORE SKILL

Determine Central Ideas

Most informational text you read is organized into paragraphs containing central ideas that summarize the material. Paragraphs also contain supporting statements that provide details about the central ideas. To understand the material in informational text, you must be able to recognize central ideas. You must also be able to evaluate supporting statements to determine if the central ideas are valid.

Read each of the paragraphs on this page again. Can you determine one or two central ideas in each paragraph? What are the key words or statements in these paragraphs that support the central ideas? Use a graphic organizer such as the one below to organize each central idea and its supporting statements. This can help you understand the most important ideas in any text.

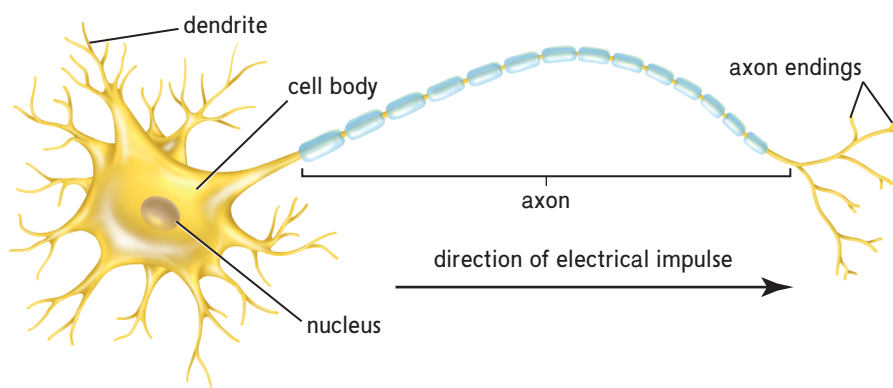


The Nervous System

When you want to move, what causes your muscles to contract? Muscles move in response to electrical and chemical signals that travel through the nervous system. The nervous system includes the brain, spinal cord, and a network of specialized nerve cells called **neurons**. When you decide to move your arm or leg, your brain sends a nerve impulse down the spinal cord. The impulse reaches the muscles involved, causing muscle contraction and movement.

Neurons

A neuron consists of three main parts: dendrites that receive messages from other neurons, a cell body that contains the nucleus, and an axon that allows an electrical signal to travel to other neurons and muscles. Axons are surrounded by a myelin sheath that insulates the axon and improves the speed at which impulses are conducted. At the gap between neurons, called a synapse, the electrical message is changed to a chemical message that is picked up by the next nerve cell.



The Spinal Cord

The spinal cord consists of nerve fibers that send impulses to and from the brain to the rest of the body. The spinal cord sends many messages from the brain to allow the body to function. At times, however, the spinal cord functions as a body defense system by immediately acting on an emergency nerve-cell message without involving the brain. For example, when you touch a hot stove, a sensory neuron sends a message to your spinal cord that the stove is hot. The spinal cord immediately sends a message to the motor neurons in your arm and hand that causes you to pull your hand away from the stove. This reflex response is used to prevent injury when it would take too long for the message to travel to the brain, down the spinal cord, and then out to the affected area.

The Brain

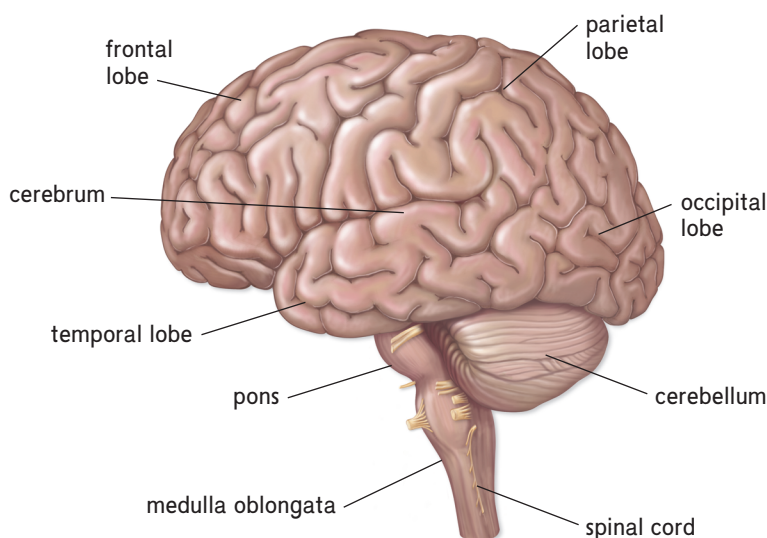
The brain is a complex organ that contains 90 percent of the neurons in the body. The brain controls all actions except reflex responses. Different portions of the brain control different body functions.

There are three main structures at the base of the brain. The cerebellum controls coordination, posture, and balance. The medulla oblongata governs involuntary body functions like breathing and digestion. The pons helps control the rate of breathing and relays signals between the cerebellum and the cerebrum.

The cerebrum is the large structure at the top of the brain. It controls motor coordination and interpretation of sensory information from inside and outside the body. The cerebrum is divided into two halves called hemispheres. Each hemisphere contains four lobes that perform specific functions:

- The frontal lobe regulates voluntary movements and is involved with decision making and problem solving.
- The temporal lobe regulates memory, emotions, hearing, and language.
- The parietal lobe processes sensory signals from the body.
- The occipital lobe is involved with sight and visual memory.

The Human Brain



Think about Science

Directions: Fill in the blank with the correct answer.

1. When I pet a cat, the area of the brain that senses softness is the _____.
2. The _____ keeps me from falling down when I trip on the sidewalk.
3. Signals to the _____ cause me to pull my hand away when I touch a sharp object.
4. The area of the brain that is helping me to answer these questions is the _____.

21ST CENTURY SKILL

Health Literacy

A car or motorcycle accident can damage parts of the nervous system. When the nervous system is damaged, certain parts of the body can become paralyzed, or immobile. Think about how the brain and spinal cord receive sensory messages and then relay responses throughout the body. Prepare a presentation that explains how damage to the brain or spinal cord can cause paralysis. Suggest safety measures that could be taken to prevent nervous system damage due to accidents.

Vocabulary Review

Directions: Write the missing term in the blank.

cartilage	muscle	neuron
joint	tendon	integrate

1. One function of _____ is to prevent contact between bones.
2. Two bones are held together at a _____.
3. A _____ is tissue that can shorten and lengthen.
4. A _____ connects tissues in two different body systems.
5. A concept can become clearer when you _____ the central ideas in a text with experience from your own life.
6. A _____ is a specialized cell in the nervous system that conducts signals throughout the body.

Skill Review

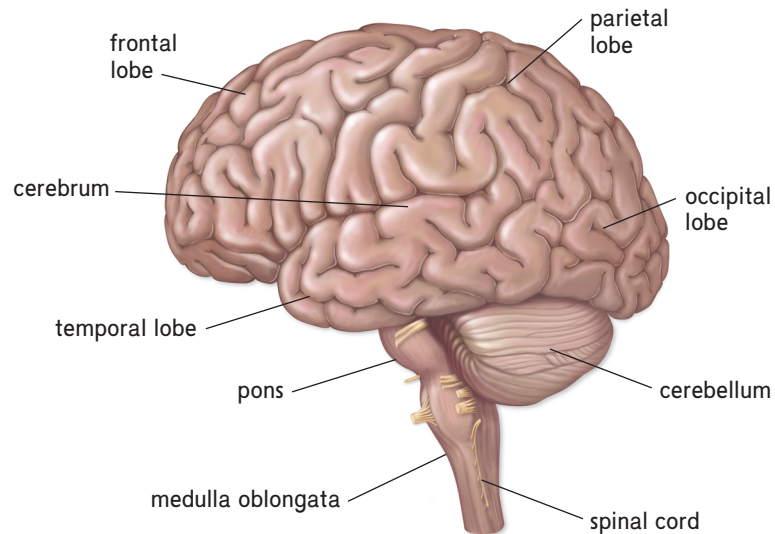
Directions: Answer the following questions.

1. Which of these is a major function of the bone marrow?
A. intercellular communication
B. movement of materials
C. avoidance of pain
D. production of blood cells
2. Which of these best describes the pathway a nerve impulse takes through the body when you touch a hot stove with your hand?
A. “hot” message—arm—spinal cord—arm
B. “hot” message—brain—arm—spinal cord
C. “hot” message—arm—brain—arm
D. “hot” message—brain—spinal cord—arm
3. Which structure in the nervous system is most like a joint in the skeletal system?
A. axon
B. synapse
C. nucleus
D. cell body
4. Which of these activities would be most likely to activate the cerebellum instead of another portion of the brain?
A. reading a book
B. singing a song
C. dancing to music
D. listening to a lecture
5. During a softball game, a batter attempts to hit the ball that has been pitched toward her. Explain how the muscles, bones, and tendons of the batter’s arms interact as the bat makes contact with the ball and the batter drives the ball into left field.
6. A reflex response occurs in the nervous system under certain circumstances. Explain how the reflex response improves survival in humans.

Skill Practice

Directions: Use the diagram to answer questions 1 and 2.

The Human Brain



1. A man sustains an injury to his brain during a motorcycle accident that causes him to become temporarily blinded and unable to stand or walk without falling. Which area or areas of the brain shown in the diagram were most likely damaged?
 - A. medulla oblongata
 - B. medulla oblongata and frontal lobe
 - C. cerebellum and temporal lobe
 - D. cerebellum and occipital lobe
2. A concussion causes swelling in the frontal lobe. Which two symptoms might be a predicted result of this injury?
 - A. short-term memory loss and loss of coordination
 - B. increased rate of breathing and uncontrolled crying
 - C. poor decision making and inability to move arms or legs
 - D. temporary hearing loss and numbness in legs and arms

Directions: Answer the following questions.

3. When you swallow, which type of muscle moves food from your throat all the way down into your stomach?
 - A. skeletal muscle
 - B. cardiac muscle
 - C. smooth muscle
 - D. voluntary muscle
4. Which of these has a function that is most similar to the function of a tendon?
 - A. ligament
 - B. joint
 - C. cartilage
 - D. marrow
5. Why does the cardiac muscle need to be involuntary muscle instead of voluntary muscle?
6. The axon of a neuron is covered with a myelin sheath. How does a myelin sheath improve communication within the nervous system?
7. Compare the movements performed by the knees to the movements performed by the ankles. Considering their functions, why would these two structures have different types of joints?

BEFORE THE LESSON

Lesson Objectives

After completing the lesson, students will be able to:

- Identify the components and functions of the skeletal, muscular, and nervous systems
- Describe how each system works with other body systems to perform different functions

Key Concept

The skeletal, muscular, and nervous systems work together to allow your body to react to the sights, sounds, tastes, odors, and physical contact that you encounter daily.

Concept Background Explain to students that, like a machine, there are many parts to our bodies. Some of these parts work closely together and are called systems. The systems also work together to perform different functions. Point out that understanding body systems and how they interact can help a person make healthy lifestyle choices.

Develop Core Skills

Core Practice: Integrate Content Presented in Different Ways

Ask students to describe a process, such as what happens when someone breaks a bone or pulls a muscle, in a short paragraph. The process may contain rudimentary steps. Then have them draw a diagram of the same process and label it. Have students think about why each presentation might be beneficial. DOK 2

Core Skill: Determine Central Ideas

Write the term *system* on the board. Invite students to suggest definitions for the term. Guide the discussion and students' responses to help them understand that a system is a set of related parts that come together to form a more complex whole. Ask them to brainstorm different systems they know about. Explain that these examples support the central idea of the discussion. DOK 1

Pre-Teach Key Terms and Vocabulary

Write the academic key terms and vocabulary words on the board. Have students look up the meaning of each term. Then have them identify one location in the body that is associated with each Tier 2 and Tier 3 term. Finally, check their understanding of the Test Word by describing how integrating the understanding of each of these terms helps them better understand systems of the human body.

Tier 2
muscle (p. 17)

Tier 3
joint (p. 16)
cartilage (p. 16)
tendon (p. 17)
neuron (p.18)

Test Words
integrate (p. 17)

DURING THE LESSON

PAGE 14

The Skeletal System

Have students research the importance of calcium in bone health. Ask students to predict what would happen if there were no calcium in their bones. Demonstrate by placing a clean leg bone from a chicken in a glass container of vinegar for several days. The vinegar will dissolve the calcium, leaving soft, flexible bone tissue. Have students develop a logical argument about how a lack of calcium can negatively affect a person's body. Ask them to provide examples of how the person's daily activities might be affected.



Think about Science

ANSWER KEY

1. C

2. A

The Muscular System

Have students describe what happens when a muscle is not functioning correctly. Responses might include *fatigue, pain, inability to move, and, in the case of the heart, even death*. Ask students to identify ways to build muscle strength and endurance. Then ask students to reach a hand over one shoulder and the other behind their backs while trying to interlock their hands. Some students may not be able to do it. Ask students to evaluate why flexibility might also be an important aspect of muscle health, using what they have learned to support their reasoning. Have students design their own exercise routine that involves strength, endurance, and flexibility of muscles.



Think about Science

ANSWER KEY

1. biceps
2. hinge

Evidence-Based Reading Support: Comprehension

Make Connections Students have learned how the skeletal and muscular systems interact. Some people say they think more clearly after exercising. Have students hypothesize and research why one might say that. Citing one or two credible sources, students should predict another interaction among body systems.

Core Practice: Integrate Content Presented in Different Ways

Students have learned that information presented in different ways can be integrated to improve a person's understanding of a concept. They have seen examples of text, diagrams, and physical presentation that show the interaction of the skeletal and muscular systems. They have also discussed other resources that could enhance their learning. Ask students to evaluate which method is most effective for their understanding. Then ask them to explain which different methods could be integrated most effectively for their personal understanding. DOK 2 *(Possible answer: You could use videos, diagrams, and physical models together to enhance your understanding of how bones and muscles work together.)*

The Nervous System

Review with students the definition of an analogy. Include examples, if necessary. Have students work in small groups to develop an analogy for the transmission of messages via neurons. For example, they might compare a network of neurons to power lines. The cell bodies are like the utility poles, the axons are like the wires, and electrical signals travel along them. The electrical signal

can be changed into a chemical signal for an adjacent neuron, much like electrical power can be converted to other kinds of energy, such as light. Students may also want to explain where the analogy breaks down.

Core Skill: Determine Central Ideas

Students used a graphic organizer to display the central idea and supporting statements for paragraphs in the text. For each supporting statement, evaluate whether that statement validates the central idea. Ask students to provide examples of sentences that relate to the topic but that would not validate the central idea. DOK 2 *(Possible answer: Graphic organizer would include Neuron in central oval with the following in smaller attached ovals: Dendrites receive messages, Cell body contains the nucleus, Axon transports electrical signal, Synapse is empty space between neurons.)*



Think about Science

ANSWER KEY

1. parietal lobe
2. cerebellum
3. spinal cord
4. frontal lobe

AFTER THE LESSON

With students, read through the answers to the vocabulary and skill reviews and the skill-practice items located on pages 20–21 of the student lesson.

Engage and Extend

ELL Instruction: Visualize

Have students work in small groups to label parts of the skeletal, muscular, and nervous systems on a diagram of the human body. Ask them to draw arrows between systems to show relationships and interactions. DOK 2

Extension Activity: Flow Chart

Challenge students to work in pairs or independently to complete a flow chart that shows the interaction among the skeletal, muscular, and nervous systems for a simple activity such as kicking a soccer ball. Each part of the flow chart should show an interaction among these systems. DOK 3



Graphing and Comparing the Effects of Distraction

In this activity, students assess the effects of distraction on the brain's processing of sensory information for short-term memory.

BEFORE THE ACTIVITY

Objectives

Students will be able to

- Graph data
- Compare data from different sources
- Draw conclusions

What You Will Need:

- *Graphing and Comparing the Effects of Distraction* Student Handout (p. 4)
- Stopwatch or a watch with a second hand
- Graph paper
- Sheets with random combinations of seven numbers and letters in large print (as you would see on vehicle license plates)
- Distraction sources (try to choose at least two auditory and one visual)
- Sound playback device with the recordings of the following (alternatively, you can assign an individual to perform the distraction as needed): music, repetitive sound such as tapping, lecture or conversation, call out of random numbers and letters.
- Flashing lights that can shine on the number/letter sheets, bright or patterned paper, mixed fonts

DURING THE ACTIVITY

Build Background: Understand the Skill

Distribute the *Graphing and Comparing the Effects of Distraction* student handout to students. Ask students to recall that sensory information is received and processed by the brain. Explain that the brain's response to information is dependent upon processing, which can be affected by competing stimuli.

Students may need to review the following skills:

- Drawing a graph

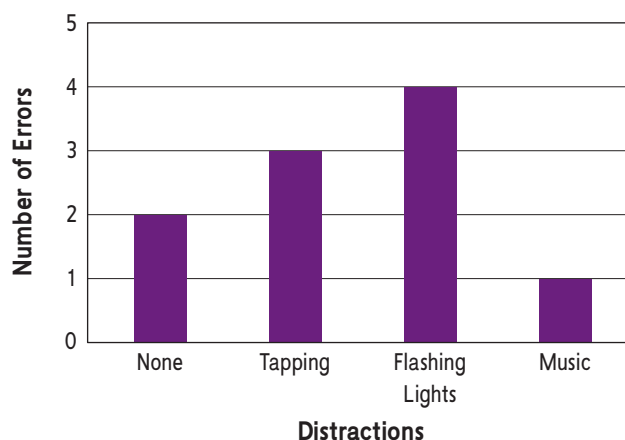
Establish Relevance: Why the Skill Matters

Read *Why the Skill Matters* on the student handout. Explain to students that some types of activities or sensory inputs can interfere with brain function. Discuss the types of activities where it might be important to limit distractions, such as while driving or operating heavy machinery.

Model the Skill

Demonstrate the basic experimental process for students with an unrelated sample sheet. Show students how to score the results, stressing that there are seven potential errors for each trial. Draw a sample graph on the board so that students can see how the graph should be constructed.

Sample Graph—Data not Indicative of Results



Activity Directions Choose the visual and auditory distraction sources you are going to use. Prepare one number/letter sheet per distraction and one for a control. Display each sheet for ten seconds in succession with a pause for the students to write the combination and to set up the next distraction. Remind students to write the combinations in the order they see them on the paper. After students have recorded the number and letter combinations from memory, show the number/letter sheets and have students mark their errors. Collect class data for the number of errors made with each distraction, and calculate the average number of errors for each distraction.

Discussion Questions Lead students through a discussion of experimental error and bias and how it is mitigated by the experimental design. Help students to realize that the effect of a particular type of distraction may be dependent upon the type of activity in which the brain is engaged. Explain that the brain can adapt to distractions; however, the way it adapts may not always be optimal for the task.

Summary Questions Ask students what other things could serve as distractions in particular situations. The brain processes all sensory information, including that which many people do not categorize as sensory, such as hunger, emotional distress, lowered/raised body temperature, and pain. In addition, the brain makes a variety of responses to the information it receives. As an example, ask students how distraction might impact a person performing a familiar task versus a newly learned task, or a memory of a movie scene compared to the written description of the same scene.



Graphing and Comparing the Effects of Distraction

In this activity, you will perform memory exercises under different conditions and compare the results.

Why the Skill Matters

The brain works continuously to process information and direct the appropriate bodily responses. The majority of the information received by the brain is of no consequence to the person and is filtered out. However, when you concentrate on a piece of information, that information undergoes additional processing in the brain. During the learning process, information must be transferred from short-term to long-term memory. However, the brain can really only concentrate on a single task at a time, and the transfer of information to long term-memory is inhibited by distractions. Distractions are everywhere, but splitting one's attention between multiple visual, motor, or cognitive tasks negatively impacts the processing and response pathways in the brain.

Activity Directions

1. Look at a combination of seven numbers and letters for 10 seconds and try to remember it.
2. After 10 seconds, write the combination from memory.
3. Repeat steps 1 and 2 while the instructor provides a distraction.
4. Review the number/letter combinations. Determine the number of errors you made writing the combinations from memory.
5. Make a graph that represents your data.

Discussion Question

- Why was a new letter/number combination used for each distraction?
- Were there types of distractions that had a larger impact on the ability to quickly memorize the combination? How would you explain the finding?
- Was everyone affected the same way by the same distractions? What conclusion can you draw from this observation?

Summary Questions

- What situations can you envision in which brain processing might be affected by distraction?
- How could an experiment be designed to test a different component of brain processing and response?

Tip

According to the National Highway Transportation Safety Administration, engaging in manual tasks that require visual input, such as manipulating a cell phone, increases the likelihood of having a vehicle crash by three times.



COMMON CORE ACHIEVE

Mastering Essential Test Readiness Skills
for High School Equivalency Exams

**Mc
Graw
Hill**
Education

SOCIAL STUDIES

SOCIAL STUDIES

Common Core Achieve, Social Studies provides instruction and practice in core skills such as synthesizing ideas from multiple sources, analyzing events and ideas, and using maps, graphs, and charts through the study of US history and civics, global connections, economics, and geography. It prepares students for working and learning in the 21st Century by integrating instruction in critical thinking, media literacy, and life skills with core social studies concepts.

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To the Student

Congratulations! If you are using this book, it means that you are taking a key step toward achieving an important new goal for yourself. You are preparing to take your high school equivalency test in order to earn your high school diploma, one of the most important steps in the pathway toward career, educational, and lifelong well-being and success.

Common Core Achieve: Mastering Essential Test Readiness Skills is designed to help you learn or strengthen the skills you will need when you take your high school equivalency test. The program includes four core student modules—*Reading & Writing*, *Mathematics*, *Science*, and *Social Studies*. Each of these modules provides subject-level pre- and posttests, in-depth instruction and practice of the core skills and practices required for high school equivalency tests, and a number of additional helpful features to help you master all the skills you need for success on test day and beyond.

How to Use This Book

Before beginning the lessons in each module, take the **Pretest**. This will give you a preview of the types of questions you will be answering on the high school equivalency test. More important, it will help you identify which skill areas you need to concentrate on most. Use the Check Your Understanding chart at the end of the Pretest to pinpoint the types of questions you have answered incorrectly and to determine which skills you need to work on. The evaluation chart will also help you identify where to go within the module for additional instruction and practice. You may decide to concentrate on specific areas of study or to work through the entire module. It is highly recommended that you do work through the whole module to build a strong foundation in the core areas in which you will be tested.

Common Core Achieve: Mastering Essential Test Readiness Skills includes a number of features designed to familiarize you with high school equivalency tests and to prepare you for test taking. At the start of each chapter, the **Chapter Opener** provides an overview of the chapter content and a goal-setting activity. The lessons that follow include the following to help guide and enhance your learning.

- **Lesson Objectives** state what you will be able to accomplish after completing the lesson.
- **Key Terms and Vocabulary** critical for understanding lesson content is listed at the start of every lesson. All boldfaced words in the text can be found in the Glossary.
- The **Key Concept** summarizes the content that is the focus of the lesson.
- **Core Skills** are emphasized with direct instruction and practice in the context of the lesson. Each of the Core Skills aligns to the Common Core State Standards.
- Special features within each lesson include **21st Century Skills**, **Write About Social Studies**, **Workplace Skills**, and **Test-Taking Skills** to help you activate high-level thinking skills by using real-word application of these skills.
- **Think about Social Studies** questions check your understanding of the content throughout the lesson.
- **Write to Learn** activities provide you with a purpose for practicing your writing skills. (Included in the *Reading & Writing* and *Social Studies* modules.)
- End-of-lesson **Vocabulary Review** checks your understanding of important lesson vocabulary, while the **Skill Review** checks your understanding of the content and skills presented in the lesson.
- **Skill Practice** and **Writing Practice** exercises appear at the end of every lesson to help you apply your learning of content and skill fundamentals. (Included in the *Reading & Writing* and *Social Studies* modules.)



In addition to the above lesson-level features, each Common Core Achieve module also includes the features to help you check your understanding as you prepare for the test.

- The end-of-chapter **Review** and **Write about Social Studies activity** test your understanding of the chapter content and provide an opportunity to strengthen your writing skills. (Included in the *Reading & Writing* and *Social Studies* modules.)
- **Check Your Understanding** charts allow you to check your knowledge of the skills you have practiced, and references where you can go to review skills that you should revisit.
- The **Answer Key** explains the answers for the questions in the book.
- After you have worked through the book, take the **Posttest** to see how well you have learned the skills presented in this book.

Good luck with your studies, and remember: you are here because you have chosen to achieve important and exciting new goals for yourself. Every time you begin working within the materials, keep in mind that the skills you develop in *Common Core Achieve: Mastering Essential Test Readiness Skills* are not just important for passing the high school equivalency test; they are keys to lifelong success.



LESSON 1.1 Types of Modern and Historical Governments

LESSON OBJECTIVES

- Identify and compare types of modern and historical governments
- Explain how types of government are related
- Identify historical documents that influenced American constitutional democracy and explain the relationships between these documents

CORE SKILLS & PRACTICES

- Compare Ideas
- Analyze Ideas

Key Terms

autocracy

a government in which a single person holds all power

dictatorship

a government in which one person has absolute authority over citizens' lives

oligarchy

a type of government in which only a few people rule

limited government

the principle that a ruler or government is not all-powerful

Vocabulary

analyze

to break information into parts

amendment

changes or additions to a constitution

Key Concept

Governments within a state, country, or region are responsible for establishing order, providing security, and directing public affairs.

Have you ever been in a club or organization? You usually meet regularly, and your group has leaders who run the meetings. The leaders decide, often with input from group members, what the group will do. Local and national governments accomplish many of the same tasks, but they operate on a larger scale.

Types of Government

Throughout history, people have developed different forms of government. The three main types of government are autocracy, oligarchy, and democracy.

Autocracy

In an **autocracy**, a single person holds all power. This is probably the oldest type of government. Autocrats either inherit their role or use force to get and keep it. A monarchy is a government in which a king or queen serves as head of state. Monarchs in Europe from the 1400s to the 1700s and the czars in Russia were autocrats, also known as absolute autocrats. They inherited their positions and sometimes used force to keep them. Modern autocratic monarchies are rare. The king of Saudi Arabia is a modern absolute monarch. Most monarchies today are constitutional monarchies. Great Britain is one example. The British monarch is mostly the ceremonial head of the British government and has little power. Governmental decision-making is in the hands of the British Parliament, which is a body of government elected by the people. Japan, Sweden, and Spain also have constitutional monarchies.

Dictatorship

A **dictatorship** is a government ruled by one person or a small group of people seize and exercise absolute power. A dictator controls the government and has absolute authority over citizens' lives. Adolf Hitler in Germany, Joseph Stalin in the Soviet Union, and Benito Mussolini in Italy were all twentieth-century dictators. Kim Jong-un, the leader of North Korea, is one of the few remaining dictators.

Oligarchy

An **oligarchy** is similar to an autocracy. The difference is that in an oligarchy, a small group of people, not just one person, rules with absolute power. Before and during World War II, Japan was ruled by an oligarchy of army officers and businessmen. Sometimes the group in power will hold elections. However, the only candidates up for election support the oligarchy, and voters must vote for them. This is the form of oligarchy in the People's Republic of China. The only political party is the Communist Party, and few dare to oppose it.

England was an oligarchy in the eighteenth century. The real majority of power was in the hands of a few members of Parliament, and voting was limited to people with a certain income. Some of the ancient Greek city-states and the seafaring Republic of Venice were oligarchies. Greek city-states were ruled by a few leading families, and the Republic of Venice was ruled by elite merchants.

Democracy

Abraham Lincoln said that democracy is “government of the people, by the people, and for the people.” In a **democracy**, the people decide the laws and services they want.

There are two different forms of democracy. One is direct democracy, in which individual citizens vote on issues of government in a meeting of all citizens. This was the form of democracy in ancient Athens, where all male citizens could help govern. Many towns within the New England region of the United States continue to make local decisions through town meetings, which is a form of direct democracy. Few places today are small enough to be governed efficiently by direct democracy. Instead, the people practice representative democracy. They elect representatives who govern in their place. The voters give their representatives the power to make and enforce laws.

The United States is a representative democracy. Senators, representatives, and the president are all elected by the people. These leaders are expected to do what the majority of the people want. The United States is also a constitutional democracy. In this kind of democracy, the powers of the government are described in a document called a constitution.

Countries differ in how the chief executive, or head of government, is chosen. Canadians vote for representatives who become members of their parliament, or the legislature. The leader of the political party with the most seats in parliament becomes the prime minister. This means the nation's chief executive answers to representatives rather than directly to the people. This contrasts with a presidential democracy, in which the president, or chief executive, is constitutionally independent of the legislature. The United States has a presidential democracy.



Think about Social Studies

Directions: Fill in the blank.

1. In a _____ form of government, citizens choose a group of people to govern on their behalf.
2. Most modern _____ are constitutional, not autocratic.
3. Canada has a _____ democracy as their government.

CORE SKILL

Compare Ideas

Read about the three forms of government presented here: autocracy, oligarchy, and democracy. Choose one form of government and write a paragraph explaining its strengths and weaknesses. Describe a situation in which this form of government would be superior to any of the others.

CORE PRACTICE

Analyze Ideas

When you **analyze** something, you read it carefully to understand the ideas in the text. Read the passages from the Declaration of Independence and the Virginia Declaration of Rights. Make a list of the similarities in both documents. Think about why the authors decided to include these particular rights and freedoms. What kinds of things were important to the authors during their time? What do you think they were trying to prevent from happening by including these rights in their documents?

Documents That Influenced American Democracy

Several historical documents helped determine the type of government established in the United States. These include the Declaration of Independence, the Virginia Declaration of Rights, and the Magna Carta.

The Declaration of Independence

In the spring of 1776, some colonial legislatures were telling their representatives to the Second Continental Congress to work toward independence. Congress named a committee to prepare a document to declare American independence. The document would explain why the American colonists were rejecting British rule and establishing their own national government. Thomas Jefferson wrote the document, and on June 28, the Declaration of Independence was presented to Congress. They adopted, or approved, it on July 4, 1776.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are Life, Liberty and the pursuit of Happiness. —That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, —That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness.

The Virginia Declaration of Rights

The Virginia Declaration of Rights was written by George Mason and adopted in June 1776. This statement of the rights of the people of Virginia set the plan for the government of Virginia.

These are the first two sections of the Virginia Declaration of Rights:

Section 1. That all men are by nature equally free and independent and have certain inherent rights, of which, when they enter into a state of society, they cannot, by any compact, deprive or divest their posterity; namely, the enjoyment of life and liberty, with the means of acquiring and possessing property, and pursuing and obtaining happiness and safety.

Section 2. That all power is vested in, and consequently derived from, the people; that magistrates are their trustees and servants and at all times amenable to them.

Both the Virginia Declaration of Rights and the Declaration of Independence state that all people have certain freedoms and rights, including the right to govern themselves.

The Magna Carta

Limited government is the idea that government is not all-powerful. People have certain rights that government cannot take away. This idea was first set down in the Magna Carta in England in 1215. This document was a first step toward limiting the power of the English monarch and establishing certain rights, many of which are included in the US Constitution.

The following is a paraphrase of part of the Magna Carta:

Item 20. A freeman shall not be punished for a minor crime except to the degree of the crime. For a serious offense, he shall be punished according to the seriousness of that crime.

Item 39. No freeman shall be imprisoned or have his rights taken away except by the lawful judgment of his peers, or equals, and by the law of the land.

The US Constitution

The Declaration of Independence described why colonists were unhappy with British rule and why they were establishing an independent nation. The US Constitution, however, established the structure of the government of this new nation, the United States. The US Constitution was written in 1787. It has three parts: the Preamble, the articles, and the amendments.

The Preamble

The Preamble introduces the Constitution and describes the general purpose for establishing the government. It also declares that the power of the government comes from the people.

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish the Constitution for the United States of America.

The Articles

The next section of the Constitution contains seven articles that describe the structure of the government, define the government's powers and responsibilities, and explain the relationship between national government and the states.

The Amendments

Not everyone was happy with the Constitution. Some people did not want a strong central government. Others, like Thomas Jefferson, wanted a bill of rights to ensure that the rights of citizens were protected. In 1789, James Madison presented Congress with a list of suggested amendments, or changes. These ten amendments added to the Constitution in 1791 became known as the Bill of Rights. The following is from two of the amendments.

Amendment 5: "No person shall be ... deprived of life, liberty, or property without due process of law."

Amendment 6: "In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the state and district wherein the crime shall have been committed."

Both the Magna Carta and the Bill of Rights emphasize the right to justice and due process of law.



Think about Social Studies

Directions: In a notebook, write the Preamble to the Constitution in your own words. Use a dictionary to help you identify synonyms as you work.

WRITE TO LEARN

Find a list of the Bill of Rights online. Choose one of the rights that is important to you and write a paragraph explaining why.

Vocabulary Review

Directions: Complete the sentences using the following key terms and vocabulary words.

amendment
dictatorship

oligarchy
autocracy

limited government
analyze

1. If you _____ the Magna Carta and Virginia Declaration of Rights, you understand their influence on US democracy.
2. A harsh _____ was set up to govern a country after the army generals threw the president out of power.
3. When a change is made to the Constitution, it is called a(n) _____.
4. If a country is controlled by an elite group or a few rich families, it would be considered a(n) _____.
5. In a(n) _____, a single person holds all the power.
6. The idea of _____ was first documented in the Magna Carta.

Skill Review

Directions: Choose the best answer to each question.

1. How is a constitutional monarchy like a democracy?
 - A. Individual citizens vote on issues of government.
 - B. Representative leaders hold all the power.
 - C. A single person holds all the power as head of state.
 - D. The people vote for their representative leaders.
2. The United States primarily uses which type of government?
 - A. direct democracy
 - B. representative democracy
 - C. autocracy
 - D. oligarchy
3. The Declaration of Independence and the Virginia Declaration of Rights both say that the power of government rests with which group of people?
 - A. people being governed
 - B. elected representatives
 - C. magistrates and trustees
 - D. national government
4. How does the Constitution distribute power?
 - A. It gives power to officials elected by the people.
 - B. It puts power directly in the hands of the people.
 - C. It gives the most power to the president.
 - D. It gives the most power to a monarch and the nobility.

Skill Practice

Directions: Read the two passages. Then answer the questions that follow.

The English Bill of Rights

The 1600s were a time of conflict between the English king, the English people, and Parliament (the legislature). The conflict ended in 1689 when new monarchs, William III and Mary, accepted the English Bill of Rights. This document helped create a constitutional monarchy. The English Bill of Rights stated that the monarch served at the will of Parliament. The Bill of Rights strengthened the rights of common people. For example, people could no longer be taxed simply because the king wanted money. Laws could not be changed without Parliament's approval. Members of Parliament were to be freely elected. The Bill of Rights guaranteed a just and fair government that answered to the people.

The U.S. Bill of Rights

To protect the rights of Americans, Congress and the states approved the Bill of Rights in 1789. Among the rights protected are the following:

Amendment 1: People have the right to practice any religion they choose.

Amendment 4: People and their homes cannot be searched without probable cause.

Amendment 8: Persons arrested cannot be punished in cruel or unusual ways.

Amendment 9: The rights of the people are not limited to the rights listed in the Constitution.

1. Think about why the English Bill of Rights was written. What do you think the authors of the US Bill of Rights were trying to prevent?
 - A. The Bill of Rights was written to prevent the legislature from becoming too powerful.
 - B. The Bill of Rights was written to protect American citizens from a strong central government that would take away people's rights.
 - C. The Bill of Rights was written to prevent the king of England from claiming more power over the rights of American colonists.
 - D. The Bill of Rights was written to prevent the nobility from seizing too much power from average citizens.
2. Look at Amendment 9 of the US Bill of Rights. Why would the authors feel the need to include this amendment?
 - A. The authors wanted to make sure that American citizens have the right to assemble peacefully in public places since they didn't have that right under British rule.
 - B. The authors wanted to make sure that American citizens had the right to vote whether they were male or female.
 - C. The authors wanted to make sure that the rights of American citizens aren't blocked by acts of Congress.
 - D. The authors wanted to make sure that the rights of American citizens were not limited only to those listed in the Bill of Rights.

Writing Practice

Directions: If you were to add a new amendment to the Constitution, which amendment would you add and why? Write a paragraph describing this.

BEFORE THE LESSON

Lesson Objectives

After completing the lesson, students will be able to

- Identify and compare types of modern and historical governments
- Explain how types of government are related
- Identify historical documents that influenced American constitutional democracy and explain the relationships between these documents

Key Concept

Governments within a state, country, or region are responsible for establishing order, providing security, and directing public affairs.

Concept Background Explain to students that, throughout history, different countries and regions have had different forms of government. Sometimes one person ruled and had all the power. Other times the people elected government officials and expected them to rule by the will of the people. Ask students to identify the kind of government that the United States has. Write everything they know about its form of government. DOK 1

Develop Core Skills

Core Skill: Compare Ideas

Bring in two articles about a recent event, a movie, or a person, and distribute them to students. Have students read both articles and write a sentence comparing them. Ask: *How are the articles similar to each other? Where do the authors agree? Where do they disagree?* Tell students that comparing ideas between two different authors is an important element in analyzing the idea. DOK 2

Core Skill: Analyze Ideas

Tell students that to analyze is to study something closely and carefully to learn the nature of it and to understand the relationship of its parts. Have students read the preamble to the Constitution. Guide the students in analyzing its ideas by breaking it into parts. Write the ideas on the board. DOK 2

Pre-Teach Vocabulary

Word Origin

Tell students that knowing the origin of a word helps us understand the word. Have students look up the origin of each vocabulary word. Have volunteers read the origin of each word to the class. Discuss how the origins relate to the definition of the word in its current form. DOK 1

Tier 2

democracy (p. 17)

Tier 3

amendment (p. 19)

autocracy (p. 16)

dictatorship (p. 16)

oligarchy (p. 17)

Test Words

analyze (p. 17)

DURING THE LESSON

PAGE 16

Types of Government

Ask students to explain what the word *government* means to them, and write their answers on the board. Then ask whether every state or nation in the world has the same kind of government. Explain that there is more than one type of government in the world and that these governments developed from earlier governments in history. In an oligarchy, leading families or a few wealthy people make all the decisions, but in a constitutional monarchy an elected legislature has the power. Explain that although there are only a few monarchies today, this was the dominant form of government from ancient times until the early 20th century. Point out that dictatorships arose mainly during the 20th century. Military leaders gained political power by seizing control of their governments. The government of the United States (and many other countries) is a democracy, where people vote for leaders to represent them and to speak for them. DOK 1

PAGE 17

Oligarchy

Explain that members of an oligarchy do not gain power based on ancestry as in a monarchy. In an oligarchy, a small group gathers power through military strength, economic power, or other means.

Democracy

A democracy is different from an oligarchy in that the power of the government is not in the hands of a small group of people. In the United States, checks and balances ensure that one branch of government (the executive, the legislative, or the judicial) does not gain too much power. For example, the president (executive branch) can veto a law passed by Congress (legislative branch), and Congress can override a president's veto if two-thirds of Congress votes for it. Have students list reasons why it is important for checks and balances in our democracy. DOK 2

Core Skills: Compare Ideas

Explain that the current government of Great Britain is a constitutional monarchy and that the current government of Saudi Arabia is an absolute monarchy. Have students compare the two types of government by making a list of how they are similar and how they are different. Ask students to infer how the monarchs in each country might think differently about ruling its citizens. DOK 2



Think about Social Studies

ANSWER KEY

1. monarchies
2. parliamentary
3. representative

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Documents That Influenced American Democracy

Ask students to tell what they know about primary sources. Explain that primary sources are firsthand accounts of an event or the earliest known records of an event. They include letters, autobiographies, speeches, and official records. The Declaration of Independence, the Virginia Declaration of Rights, the Magna Carta, and the US Constitution are primary sources. Discuss with students what they think they can learn by studying these documents. DOK 1

The Declaration of Independence/The Virginia Declaration of Rights

Ask students to compare the two document excerpts. Ask them to name the similarities they see. Write them on the board. Ask students to identify why the documents are so similar and to explain why these ideas were so important to people at this time in history. DOK 2

Core Practice: Analyze Ideas

Have students divide into four groups. Each group will be responsible for one type of government—autocracy, dictatorship, oligarchy, or democracy. Have students make a chart showing the advantages and disadvantages of that type of government and then share their findings with the rest of the class. DOK 2

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WRITE TO LEARN

Tell students that writing that explains something clearly is called expository writing. This type of writing should give details and information that the reader needs in order to understand the topic. Tell students: *Never assume that the reader has prior knowledge of what you are writing about. Be sure to use words that will be clear to the reader.*



Think about Social Studies

ANSWER KEY

Students' work will vary, but should demonstrate an understanding of the terms and language in the Preamble.

AFTER THE LESSON

Read with students the answers to the vocabulary and skill reviews and the skill and writing practice items located on page 304 of the student book.

Engage and Extend

ELL Instruction: Defining Difficult Terms

The Constitution can be difficult for many students because of the complex sentence structure and vocabulary. Provide students with a copy of the Preamble to the Constitution. Read the Preamble aloud as a class. Ask students to highlight terms they find confusing and then to use a dictionary to define these terms. As a group, review the difficult terms to ensure that all students understand the meaning of the Preamble. Ask students to explain which purpose of the Constitution is most important to them personally and to explain why. DOK 1

Extension Activity: Analyze Types of Governments

Have students research online the government of one of the following countries: China, France, Iran, Mexico, Nigeria, or a country of their own choosing. Have each student answer the following questions about their selected country: (1) Is its government democratic or authoritarian? (2) What characteristics make it democratic or authoritarian? Ask students to share their findings with the class. DOK 3

Analyze Documents that Influenced the Constitution

In this activity, students read historical documents that influenced the US Constitution, compare those documents to the Constitution, and analyze why the Founders chose to include certain ideas from those documents in the Constitution.

BEFORE THE ACTIVITY

Objectives

Students will be able to

- Organize information to show relationships between texts
- Analyze similarities and differences between texts
- Connect ideas from more than one source

What You Will Need

- *Analyze Historical Documents that Influenced the Constitution* Student Handout (p. 4)
- Computers/tablets with Internet access
- Two-Column Chart (p. 360)

DURING THE ACTIVITY

Build Background: Understand the Skill

Explain to students that analyzing ideas helps readers better understand what they are reading. Analyzing goes beyond just summarizing what was read; it involves breaking what was read into parts. Each of those parts is then examined separately to be sure that it is fully understood. After each part has been examined, the meaning of the entire document becomes clearer. Each of the parts can then be compared to the parts of other documents, which makes similarities and differences easier to identify. For example, when comparing two encyclopedia articles, one about monarchies and one about democracies, analyzing the articles makes it easier to understand the differences between these two forms of government.

Establish Relevance: Why the Skill Matters

Read *Why the Skill Matters* on the student handout. Explain to students that analyzing involves higher-level thinking than just summarizing. It improves the reader's ability to comprehend what was read, and it can help the reader use what was read to make better decisions. For example, when comparing two health insurance policies, it is important to break the policies into parts, because the two policies might not be organized in exactly the same way. By breaking the policies into parts, it is easier to identify the similarities and the differences between the two policies. If this analysis isn't done, important differences could be missed. This might lead to a wrong decision, which could have financial consequences in the future.

Activity Steps

1. Organize students into small groups. Assign each group one of the following documents: the Magna Carta, the Virginia Declaration of Rights, or the Declaration of Independence. Tell the groups to locate the text of their document online, as well as the text of the US Constitution. If students have difficulty locating the text of these documents, point out that all the documents are available on the website of the US National Archives.
2. After each group has located its document, tell the groups to compare their documents to the US Constitution. Explain that they should read each section of their document, determine the main idea of each section, and then look for similar content in the U.S. Constitution. Tell them to use the Two-Column Chart on page 360 to organize the similarities and differences they find.
3. After each group has finished comparing its document with the Constitution, ask each group to use the discussion questions on the student handout to explore the similarities and differences between the two documents and to think about why the Founders included certain sections or ideas from the assigned document in the Constitution.
4. Bring all the groups back together, and have students from each group share the similarities and differences they found with the entire class.
5. Use the discussion questions on the student handout to lead a discussion in which students examine how the Magna Carta, the Virginia Declaration of Rights, and the Declaration of Independence influenced the US Constitution. Then use the summary questions to help students explore how analyzing the different sections of these documents helped them make comparisons between the documents.



Analyze Documents that Influenced the Constitution

In this activity, you will work with others to analyze documents that influenced the US Constitution.

Why the Skill Matters

To be an informed citizen, you have to analyze what you read. This involves breaking the information you read into parts. By understanding the meaning of each part, you can better understand the whole. You can also more easily compare the ideas in one document with those in another.

For example, suppose you wanted to compare two health insurance policies. You might break the two policies into parts, such as:

- Inpatient hospital care
- Prescription coverage
- Emergency room care
- Deductibles and copayments

By breaking the two policies into these parts, you can more easily identify the similarities and differences between the policies.

Activity Directions

1. Working as a group, go online and locate the text of one of the following documents, as assigned by your instructor: the Magna Carta, the Virginia Declaration of Rights, or the Declaration of Independence. Then find the text of the US Constitution.
2. Compare your group's document to the US Constitution. Analyze each section of the two documents, and use the Two-Column Chart on page 360 to list the similarities and differences between the documents. Use the discussion questions below to explore the relationships between the two documents.
3. Using the information that you have listed in the Two-Column Chart, report to the class what you have found—which sections of the documents are similar and how the two documents are different.

Discussion Questions

- What ideas do the two documents have in common?
- How are the documents different? Why do you think there are differences?
- Why were particular ideas or sections from your group's document included in the Constitution?
- Do you think any additional sections or ideas from this document should have been included in the Constitution?
- What assumptions did the Founders make when they created the Constitution? What implications do those assumptions have for today's world?

Summary Questions

- How does analyzing the different sections of a document help you understand the document as a whole?
- How does analyzing the sections of a document help you compare that document to other documents?

Tip

All the documents needed for this activity are available on the website of the US National Archives.

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