Using Electricity

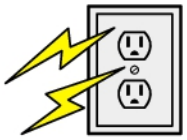
This physical science unit focuses on the basics of electricity, concentrating on electricity and electrical technologies used in everyday life. The unit lessons define electricity, identify its origins and interpret its usefulness in work and play. Real-world applications reinforce electrical appliance use, battery use, electrical safety and electrical conservation.

Lesson	Activities	Description
1	Leveled Book	*Plug It In!*
2	• Read and Answer	Lesson 1 Comprehension
3	Chapter 1 • Read and Answer	What Is Electricity? Comprehension Questions
4	Life Skills Application 1	Electricity Inventory
5	Chapter 2 • Read and Answer	Electricity Works for Us Comprehension Questions
6	Life Skills Application 2	Electricity and the Easy Life
7	Chapter 3 • Read and Answer	Electricity at Play Comprehension Questions
8	Life Skills Application 3	Working With Batteries
9	Chapter 4 • Read and Answer	Save Energy and Save Money Comprehension Questions
10	Life Skills Application 4	The Great Light Bulb Debate
11	Chapter 5 • Read and Answer	Electricity: Whose Idea Was That? Comprehension Questions
12	Life Skills Application 5	Just How Much Electricity Do We Use?
13	Chapter 6 • Read and Answer	Electrical Safety Comprehension Questions
14	Life Skills Application 6	Using Electricity Safely
15	Vocabulary Quiz Game	Electricity Is Everywhere
16	Edit It	Thoughts On Electricity
17	Real-World Writing	Lights Out
18	Topic Paragraph	Newsletter and Activity Report
19	Math Story Problems	Lights, Camera, Action
20	Measure It!	Sunshine Smoothie
21	Read This Chart	Electrical Appliances at Work and Play
22	Money	Buying Electronic Devices
23	Schedules and Times	Monthly Activity
24	Geometry	Where's the Remote Control?
25	Algebra	Relaxing With Electronic Entertainment
26	Related Content	Trading Cards
27	Related Content	Oral Report
28	Science Experiment	Battery Life
29	History Timeline	Electrical Inventions
30	Journal Writing	Monthly Topics

Standards Connection High School Content

Instructional Targets	
	Standards for Physical Science • Describe and investigate examples of energy and energy transfers in daily life (light bulb, car engine, sound in a radio, etc.). • Identify technologies in everyday life that meet human needs.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will describe the basic process of how electricity is produced, brought to and used in homes, recreational areas and the workplace. • Students will explore, identify and describe the variety of ways that energy impacts daily life.	• Students will identify and demonstrate the safe use of electricity. • Students will identify energy sources and describe their use in daily life.	• Students will identify common objects and tools that use electrical energy.



Understanding Electricity
This unit focuses on electricity and its importance to our lives. Students will acknowledge their use of electricity constantly throughout the day. In Lesson 1, students will learn about electrical appliances that use power from electrical outlets to work. The Leveled Book in this lesson illustrates characters using electricity in common occurrences. Discuss the everyday use of electricity as an essential part of our lives.

Electricity: How It Is Made and Used
In our Chapter Book, students will learn about how electricity is made. They will understand the flow of electricity from power plant to homes and buildings. Students will also acknowledge the common everyday use of electricity in our lives. They will identify ways in which electricity has made our lives easier and more entertaining. As you read about electricity, discuss alternative ways electricity can be produced using renewable resources.

Being Smart With Electricity
Further in the Chapter Book, students will learn about famous inventors of electrical appliances, how to conserve electricity and using electricity safely. As you read about electricity, discuss the history of electricity with students and identify ways in which electricity is used constantly in our society.

Electricity Is Everywhere!
The Life Skills lessons in this unit continue the exploration of electricity and its impact in daily life. Lessons introduce students to using electricity in a responsible manner. Knowing when to turn off electrical appliances and devices, using energy smart light bulbs, and identifying and inserting batteries into electronic devices safely are also skills students will practice. Electrical safety transition skills are addressed by making safety posters and discussing the safe use of electrical appliances.

The n2y Library has several books that may build understanding of electricity as a source of power in everyday life.

- *Simon Asks, "What is Electricity?"* (Level E and J/K) describes how electricity is harnessed through atoms.
- *Power Tools* (Level H/I) looks at various tools that run on electricity.
- *Thomas Edison* (Level H/I) presents the life of the famed inventor and his work with electricity.
- *Simon Tours a Power Plant* (Level E) describes how a power plant works.
- *Simon Gets Shocked* (Level E) presents the basic flow of electricity from plant to home.
- *Energy From the Wind* (Level E) identifies wind as a natural resource that produces power and electricity.
- *What Is Energy?* (Level H/I) explains energy as power and details various items that have energy.
- *It Was a Dark and Stormy Night* (Level D) illustrates what happens when the lights go out during a storm.

Instructional Targets

Reading Standards for Literature

- *Range and Level of Text Complexity:* Experience grade level and age-appropriate literature materials, including poems, biographies, chapter books, fiction and nonfiction works, that are adapted to student reading level.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Leveled Book: *Plug It In!*

Lesson 1 provides a simple book in three distinct reading levels. Early readers may engage in the same content when selecting the appropriate level based on individual abilities, needs or reading goals. This Leveled Book is presented in three leveled formats: Level D, Level B and Level aa (captioned). Read the highest level aloud to all students. Then select the level appropriate for each student for guided and independent reading.

The content of the Leveled Book, *Plug It In!* When they have finished the book, students should be able to describe various appliances that need electricity to work.

- Introduce the story by talking about appliances we use daily. Ask, "What are some appliances that you use every day to do a job for you?"
- On the first reading, do a picture walk. Note pictures of appliances, plugs, cords and outlets. Emphasize that all of the appliances need something to power them, or to make them do their job. Discuss how the appliances get their power. Ask, "What do all of the appliances need in order for them to work? Why do we need to plug these devices in?"
- Read the story aloud to model fluency. After reading the story, ask questions about the appliances the students use every day.
- As a group, reread the story with pauses for key words to encourage participation. Encourage choral reading of the repeated line. Provide students with supports for page turning and interaction while they are reading.
- During independent or paired reading, focus on individual student reading abilities with text or supported-text versions. It is likely that students may read different levels for different purposes each day when building reading skills.
- Support student reading using text to speech and the communication board.
- Follow up reading with discussion on what powers the appliances. Ask, "What gives the appliances power to work? Where does the power come from?"

Word-recognition cards for this lesson support high-frequency words within the unit reading materials.

List 1: *long, our, put, there, we, with*
List 2: *book, house, live, more, school, thing*
List 3: *need, off, keep, don't, ago, without*

Standards Connection

- Students with reading challenges may acquire more information from text when it is read aloud. The connection lesson explores alternative ways to "read" by using the text-to-speech version of this story and the PowerPoint® show.

Additional ideas for word study instruction are provided in the ULS Instructional Guides: Word Study. For some students, the "learning to read" process continues in the higher grades. Word wall activities are included in this guide.

Comprehension questions from Leveled Books are based on the highest level in the series. Read the highest level aloud to help students at all levels gain meaning.

Pre- and post-assessments are available through Monthly Checkpoints.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will independently read literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level.	• Students will read supported and shared literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level.	• Students will actively participate in supported reading of literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student ability level.

Resources and Materials	Additional Resources
Leveled Book: *Plug It In!* Communication board Standards Connection Lesson 1	Additional ideas for word study instruction are provided in the ULS Instructional Guides: Word Study.

Instructional Targets	
	Reading Standards for Literature • *Integration of Knowledge and Ideas:* Compare and contrast various ways to read, listen and view stories and drama. Identify personal preferences. Reading Standards for Speaking and Listening • *Comprehension and Collaboration:* Initiate and participate in grade and age-appropriate discussion on diverse topics to express an opinion, share ideas and information, and ask and respond to questions relevant to the topic.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will describe similarities and differences between reading a story and experiencing a multimedia version of that story. • Students will share information and opinions, ask and answer questions and make comments during a group discussion.	• Students will identify similarities and differences between features of reading a story and experiencing a multimedia version of that story. • Students will use picture supports to share information and opinions, ask and answer questions and make comments during group discussions.	• When presented with illustrations of a character or an event from one story, students will select a matching character or event from a similar story. • Students will participate in conversational exchanges using communication technology and picture supports.

Tell students to use the book features and pictures to discuss, locate and answer these questions.

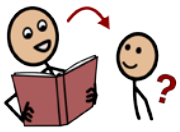
What is the **title** of this story?
From the title, what do you think this story will be about?

Who is the **author** of this story?

Who is the **illustrator** of this story?

Explore different ways to read, listen and view text. Lesson 1 provides the story in print format, in a text-to-speech version and as a PowerPoint® show. How do students prefer to acquire information from text? Exploring and discussing these options may lead to a lifetime extension of ways that students can gain information.

Read by myself.



Read to me.

Listen on the computer.

How are these ways of reading the same? Different?

long	**our**
put	**there**
we	**with**
book	**house**
live	**more**

school	**thing**
need	**off**
keep	**don’t**
ago	**without**

Instructional Targets
Reading Standards for Literature • *Key Ideas and Details:* Answer questions and use support from text to explain the main ideas, details and inferences of a story.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Read and Answer: *Plug It In!*

Comprehension activities extend beyond "checking" what students remember from reading. During instruction, students learn to refer to the book, using both illustrations and text to locate answers to questions. Students recognize types of responses appropriate to *who*, *what* and *where* formats. Question responses may also provide students with a foundation for story retell. Activities should be repeated throughout the unit to increase students' skills in multiple areas of comprehension.

After reading *Plug It In!,* use the following comprehension activity. Students may respond to questions both orally and in writing. Choose the most appropriate format on the basis of each student's skills and needs. Level 3 is text-only. Level 2 is symbol-supported. Level 1 is written in sentence strip format, allowing students to select from multiple choices or one errorless picture choice.

Build vocabulary knowledge of the identified words. Picture support cards are provided for reading recognition. Use the words in additional sentences for meaning. Make connections between vocabulary and each student's experiences.

plug radio microwave blender electricity

1. We use _____ for many things. (electricity)
2. Brent uses a _____ to make a milkshake. (blender)
3. The _____ uses electricity to play music. (radio)
4. Brent needs to _____ the TV. (plug in)
5. The _____ uses electricity to make popcorn. (microwave)

Standards Connection

- Use the format of this connection to build retelling and summarizing skills. Build communication skills by using the augmentative supports needed for each student.

Comprehension questions from Leveled Books are based on the highest level in the series. Read the highest level aloud to help students at all levels gain meaning.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will independently read questions about a story and write, speak or select an answer.	• Students will point to or select a picture from a choice of three in response to a question about a story.	• Students will respond to a question by choosing a single option or errorless picture.

Resources and Materials	Additional Resources
Comprehension questions Fill-in cards Standards Connection Lesson 2	

Instructional Targets	
	Reading Standards for Literature • *Key Ideas and Details:* Summarize the main theme of a text and support it by citing details and a sequence of events. Standards for Speaking and Listening • *Presentation of Knowledge and Ideas:* Present information in an organized manner appropriate to a task, an audience or a situation. Standards for Language • *Knowledge of Language:* Demonstrate conventions of language to communicate effectively when speaking or writing in varied contexts.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will summarize a story, including the main idea, events and key details. • Students will communicate on a topic specific to the purpose and audience. • Students will apply conventions of language to generate sentences specific to the purpose when speaking or writing.	• Students will use picture supports to retell key details and events from a story. • Students will communicate on a topic specific to the purpose and audience, using picture supports. • Students will use conventions of language to generate a simple sentence when speaking or writing.	• Students will retell key details and events from a story through an active participation response (e.g., voice output device, eye gaze choice board). • Students will communicate basic information on a topic or experience using communication technology and picture supports. • Students will use language to share an idea with others.

Story retell and summarization are means of building communication skills. Use the comprehension questions and the communication board to arrange sentences or pictures to support retelling. Retelling involves the reader's ability to recount information, usually organized around characters and setting. When summarizing, the reader condenses major ideas and some details to an abbreviated form. Use the pictures from these Leveled Books to develop communication skills through retelling and summarizing.

Main idea: What is the message in this story?

Arrange pictures or words to begin sentences.

	Who  or	**What** 	**Action** 
			
			
			

Use the book, comprehension questions and pictures to help you tell about this story.

Grade Band: High School
Unit Target: Physical Science
Unit Topic: Using Electricity

Unit 6

Lesson 3

Instructional Targets

Reading Standards for Literature

- *Range and Level of Text Complexity:* Experience grade level and age-appropriate literature materials, including poems, biographies, chapter books, fiction and nonfiction works, that are adapted to student reading level.
- *Key Ideas and Details:* Answer questions and use support from text to explain the main ideas, details and inferences of a story.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Chapter 1: What Is Electricity?

The title of the Chapter Book is *Electricity.* The first chapter, What is Electricity?, defines electricity and explains how power plants produce electricity and send it to our homes and businesses.

- Chapter books present a "reading to learn" experience. Therefore, students may read independently, in a shared reading experience or books may be read to them. Present students with one chapter at a time for reading and comprehension instruction.
- After each page is read, ask the discussion question that appears in italics at the bottom of the page. Focus on pictures to reinforce understanding. Repeated readings are encouraged.
- Suggested Reading Levels for this chapter include Levels J/K, presented in a text format, and F/G, presented in both text and symbol-supported formats.

Read and Answer

Comprehension activities extend beyond "checking" what students remember from reading. During instruction, students learn to refer to the book, using both illustrations and text to locate answers to questions. Students recognize types of responses appropriate to *who*, *what* and *where* formats. Question responses may also provide students with a foundation for story retell. Activities should be repeated throughout the unit to increase students' skills in multiple areas of comprehension.

- Select the level of comprehension questions appropriate for each student. Comprehension questions are also in three formats. Level 3 is text only. Level 2 is symbol-supported. Level 1 is written in sentence strip format, allowing students to select from multiple choices or one errorless picture choice.
- Build comprehension and vocabulary through discussions.

Standards Connection

- These standards connection lessons are designed to build summarizing skills and are applicable to all chapters. Using the first standards connection form, determine whether this book is a work of fiction or nonfiction. Select the additional standards connection lesson based on whether the chapter is a fictional format that has a story line or an informational text that includes facts and historical events.

The first two sets of comprehension questions are derived from the lower levels of text. An advanced level of mixed questions is provided in text-only format.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will independently read literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will independently read questions about a story and write, speak or select an answer.	• Students will read supported and shared literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will point to or select a picture from a choice of three in response to a question about a story.	• Students will actively participate in supported reading of literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student ability level. • Students will respond to a question by choosing a single option or errorless picture.

Resources and Materials	Additional Resources
Chapter 1: What Is Electricity? Communication board Comprehension questions (fill-in and multiple-choice) Advanced questions Fill-in cards Standards Connection Lessons 3, 5, 7, 9, 11, 13	

Lesson 3, Chapter 1: Answer Key

Fill-In

Coal wind water power Electricity

1. _____ gives us light. (Electricity)
2. Electricity gives us light, heat and _____. (power)
3. _____ comes from under the ground. (Coal)
4. Moving _____ can make electricity. (water)
5. Water and _____ make clean electricity. (wind)

Multiple-Choice

1. What is this chapter about? (house, electricity, water)
2. What can electricity give us? (light, book, apple)
3. What comes from under the ground? (wind, boots, coal)
4. What makes clean electricity? (wind, turkey, bucket)
5. What is important to know about this chapter?
   - Power plants are big.
   - Electricity is made with coal, water or wind.
   - Laura had no electricity.

Fill-In Advanced

Use the Chapter Book to help you fill in the blank.

1. _____ gives us light, heat and power. (Electricity)
2. Electricity is a kind of _____. (energy)
3. _____ plants make electricity. (Power)
4. Power plants get energy from natural _____. (resources)
5. A natural resource is something that is found in _____. (nature)

Multiple-Choice Advanced

These questions may have more than one correct answer.

6. What does electricity give us? (light, heat, power)
7. What can you burn to make electricity? (candy, coal, mud)
8. How does electricity get into our homes? (balloon, bowl, outlet)
9. What is a clean way to make electricity?
   - Using energy from water.
   - Using energy from wind.
   - Using energy from coal.
10. How does electricity get from a power plant to a house?
    - Electricity rides in a truck.
    - Electricity flows through wires.
    - Electricity flies in an airplane.

Standards Connection Lessons 3, 5, 7, 9, 11, 13

Instructional Targets	
	Reading Standards for Literature and Informational Text • *Integration of Knowledge and Ideas:* Compare and contrast different genres; identify personal preferences. • *Craft and Structure:* Use structures of a text (paragraphs, chapters, etc.) to locate information as it supports the purpose of a text.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will describe a series of events as these develop through chapters of a book or scenes of a play. • Students will experience different literature genres having various themes.	• Students will locate a chapter of a book or scene of a play. • Students will identify two stories or books of the same genre.	• Students will identify a picture representing an event from a chapter or scene. • Students will select a book or story of personal preference.

Tell students to use the book features and pictures to discuss, locate and answer these questions.

What is the title of this chapter?

Use the table of contents to find the first page of the chapter.

What do you think this chapter will be about?

This is a Chapter Book. What kind of Chapter Book is this?

Fiction Nonfiction

Fiction works tell a story that is made up in the writer's imagination. Fiction stories are not true.
Nonfiction works tell facts about a topic. Nonfiction stories are true.

What is the chapter topic?

Biography History Science Health

Compare this book to the Chapter Book from last month.

Standards Connection Lessons 3, 5, 7, 9, 11, 13

Instructional Targets	
	Reading Standards for Literature • *Key Ideas and Details:* Summarize the main theme of a text and support it by citing details and a sequence of events. Standards for Speaking and Listening • *Presentation of Knowledge and Ideas:* Present information in an organized manner appropriate to a task, an audience or a situation. Standards for Language • *Knowledge of Language:* Demonstrate conventions of language to communicate effectively when speaking or writing in varied contexts.

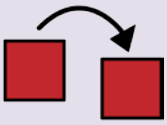
Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will summarize a story, including the main idea, events and key details. • Students will communicate on a topic specific to the purpose and audience. • Students will apply conventions of language to generate sentences specific to the purpose when speaking or writing.	• Students will use picture supports to retell key details and events from a story. • Students will communicate on a topic specific to the purpose and audience, using picture supports. • Students will use conventions of language to generate a simple sentence when speaking or writing.	• Students will retell key details and events from a story through an active participation response (e.g., voice output device, eye gaze choice board). • Students will communicate basic information on a topic or experience using communication technology and picture supports. • Students will use language to share an idea with others.

Story retell and summarization are means of building communication skills. This extended activity, based on book reading, is an excellent tool for developing expressive communication. Incorporate augmentative systems (low tech and high tech) to encourage self-generated sentences and modeling language expansion.

Main idea: What is the message in this story?

Key details:

Arrange pictures or words to tell the story.

	In the beginning…	
	Then…	
	At the end…	

Instructional Targets
Standards for Language • *Vocabulary Acquisition and Use:* Use words acquired through academic and domain-specific sources when speaking and writing. Daily Living • *Home Living:* Responsibly use sources of energy and technology involving heat, light and electricity.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan
Life Skills Application 1: Electricity Inventory Introduce this activity after students have read Chapter 1. Electricity is very important in modern life. We use it constantly and consistently, to the point where we forget we are using it. In this lesson, students will take an inventory of all electrical appliances and devices they encounter in homes and schools. • Discuss the constant presence of electricity in our lives. Ask students, "How do we use electricity every day?" • Present the Electrical Inventory activity for "At School." Go on a walk throughout the school and have students check off whether the listed items go in the electric or non-electric column. • Have students complete the "At Home" and the "In the Kitchen" inventory lists at home. • Review with students that not everyone has an electric stove or furnace. • Discuss items on the inventory list. Are there ways you might still be able to use an item that normally uses electricity, without electricity? For example, ask, "Is there any way to watch TV without electricity?" (No) "Is there any way to keep food cold without a refrigerator?" (Yes). • Discuss battery usage in providing electricity. Remind students that some devices and appliances rely on batteries and do not always need to be plugged in. These items still use electricity. • Discuss safety usage of each item with students. Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use unit topic words in conversation. • Students will demonstrate safety rules when using electrical appliances and tools	• Students will point to pictures of key vocabulary from unit topics as part of a discussion. • Students will use electrical appliances and tools with supported guidance.	• Students will make a selection to indicate a picture of key vocabulary within a unit topic. • Students will activate electrical appliances with switch assistance (e.g., switch-latch timer).

Resources and Materials	Additional Resources
Electrical Inventory: At School, At Home, In the Kitchen	

Instructional Targets

Reading Standards for Literature

- *Range and Level of Text Complexity:* Experience grade level and age-appropriate literature materials, including poems, biographies, chapter books, fiction and nonfiction works, that are adapted to student reading level.
- *Key Ideas and Details:* Answer questions and use support from text to explain the main ideas, details and inferences of a story.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Chapter 2: Electricity Works for Us

The title of the Chapter Book is *Electricity.* The second chapter, Electricity Works for Us, discusses the many electrical appliances we use daily to make working inside of our homes, at our jobs, in our schools and in our towns easier.

- Chapter books present a "reading to learn" experience. Therefore, students may read independently, in a shared reading experience or books may be read to them. Present students with one chapter at a time for reading and comprehension instruction.
- After each page is read, ask the discussion question that appears in italics at the bottom of the page. Focus on pictures to reinforce understanding. Repeated readings are encouraged.
- Suggested Reading Levels for this chapter include Levels J/K, presented in a text format, and F/G, presented in both text and symbol-supported formats.

Read and Answer

Comprehension activities extend beyond "checking" what students remember from reading. During instruction, students learn to refer to the book, using both illustrations and text to locate answers to questions. Students recognize types of responses appropriate to *who*, *what* and *where* formats. Question responses may also provide students with a foundation for story retell. Activities should be repeated throughout the unit to increase students' skills in multiple areas of comprehension.

- Select the level of comprehension questions appropriate to each student. Comprehension questions are also in three formats. Level 3 is text only. Level 2 is symbol-supported. Level 1 is written in sentence strip format, allowing students to select from multiple choices or one errorless picture choice.
- Build comprehension and vocabulary through discussions.

Standards Connection

- These standards connection lessons are designed to build summarizing skills and are applicable to all chapters. Using the first standards connection form, determine whether this book is a work of fiction or nonfiction. Select the additional standards connection lesson based on whether the chapter is a fictional format that has a story line or an informational text that includes facts and historical events.

The first two sets of comprehension questions are derived from the lower levels of text. An advanced level of mixed questions is provided in text-only format.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will independently read literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will independently read questions about a story and write, speak or select an answer.	• Students will read supported and shared literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will point to or select a picture from a choice of three in response to a question about a story.	• Students will actively participate in supported reading of literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student ability level. • Students will respond to a question by choosing a single option or errorless picture.

Resources and Materials	Additional Resources
Chapter 2: Electricity Works for Us Communication board Comprehension questions (fill-in and multiple-choice) Advanced questions Fill-in cards Standards Connection Lessons 3, 5, 7, 9, 11, 13	

Lesson 5, Chapter 2: Answer Key

Fill-In

light cold easier cook electricity

1. Electricity makes our lives _____. (**easier**)
2. A lamp uses electricity to _____ our houses. (**light**)
3. An oven uses electricity to _____ our food. (**cook**)
4. A refrigerator uses electricity to keep food _____. (**cold**)
5. A washing machine uses _____ to clean clothes. (**electricity**)

Multiple-Choice

1. What is this chapter about? (food, **electricity**, corn)
2. What uses electricity to light our houses at night? (refrigerator, dishwasher, **lamp**)
3. Why does an oven use electricity? (**to cook**, to freeze, to skip)
4. What does a refrigerator need electricity to do? (bake a cake, **keep food cold**, drive a car)
5. What is important to know about this chapter?
   - Mary Beth likes to read.
   - Laura had an easy life.
   - **We use electricity every day.**

Fill-In Advanced

Use the Chapter Book to help you fill in the blank.

1. Electricity has _____ how we do many things. (**changed**)
2. Our lives are _____ with electricity. (**easier**)
3. A lamp uses electricity to _____ up a room. (**light**)
4. A microwave plugs into an electrical _____. (**outlet**)
5. We use heat from electricity to _____ our food. (**cook**)

Multiple-Choice Advanced

These questions may have more than one correct answer.

6. What happens to food if the refrigerator does not get electricity? (**gets warm**, turns to ice, walks away)
7. What needs electricity to work? (dish rag, broom, **vacuum cleaner**)
8. What does a school use electricity for? (**lights**, **computers**, text books)
9. How does electricity make our schools work?
   - **Computers need electricity.**
   - Teachers eat lunch.
   - Students use workbooks.
10. Why is electricity important in our lives?
    - **Electricity lights our houses.**
    - Electricity makes the Earth round.
    - **Electricity keeps our food safe.**

Instructional Targets
Standards for Language • *Vocabulary Acquisition and Use:* Use words acquired through academic and domain-specific sources when speaking and writing. Personal Life • *Communication:* Effectively ask and respond to questions within community, daily living and vocational activities.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan
Life Skills Application 2: Electricity and the Easy Life Introduce this activity after students have read Chapter 2. Electricity has made much of what we do easier. Most people have appliances to do work for them. Many years ago, people did not have electricity. They did all of their chores and jobs without electricity. • Discuss chores people do at home and school. Ask students, "What chores are you responsible for doing at home?" Discuss what they don't like or don't mind about their chores. • Ask students, "How have chores gotten easier over the years?" Explain that people always have had dirty clothes and dishes. But electricity has made doing these chores much easier. • Explain how electricity has made life easier in two ways. First, we have less to do. Rather than making candles to burn when it gets dark, we can flip a switch. Second, electrical appliances now do certain jobs for us. • Have students complete the Easy Life Matching Activity by matching each of the electrical appliances to the description of the work they make easier. • Then have students complete the Easy Life Writing Activity. The Easy Life Writing Activity is presented in two templates. Choose the most appropriate template on the basis of each student's skills and needs. Students will choose their favorite electrical appliance and tell why.    Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use unit topic words in conversation. • Students will share information and opinions, ask and answer questions and make comments during a discussion or conversation	• Students will point to pictures of key vocabulary from unit topics as part of a discussion. • Students will share information, ask and answer questions and make comments using picture supports during a discussions or conversation	• Students will make a selection to indicate a picture of key vocabulary within a unit topic. • Students will participate in conversational exchanges using communication technology and picture supports.

Resources and Materials	Additional Resources
Easy Life Matching Activity Easy Life Writing Activity Template C: text only Template B: one symbol before sentence Fill-in picture/word cards	

Instructional Targets

Reading Standards for Literature

- *Range and Level of Text Complexity:* Experience grade level and age-appropriate literature materials, including poems, biographies, chapter books, fiction and nonfiction works, that are adapted to student reading level.
- *Key Ideas and Details:* Answer questions and use support from text to explain the main ideas, details and inferences of a story.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Chapter 3: Electricity at Play

The title of the Chapter Book is *Electricity.* The third chapter, Electricity at Play, describes the various electric devices we use for fun and entertainment.

- Chapter books present a "reading to learn" experience. Therefore, students may read independently, in a shared reading experience or books may be read to them. Present students with one chapter at a time for reading and comprehension instruction.
- After each page is read, ask the discussion question that appears in italics at the bottom of the page. Focus on pictures to reinforce understanding. Repeated readings are encouraged.
- Suggested Reading Levels for this chapter include Levels J/K, presented in a text format, and F/G, presented in both text and symbol-supported formats.

Read and Answer

Comprehension activities extend beyond "checking" what students remember from reading. During instruction, students learn to refer to the book, using both illustrations and text to locate answers to questions. Students recognize types of responses appropriate to *who*, *what* and *where* formats. Question responses may also provide students with a foundation for story retell. Activities should be repeated throughout the unit to increase students' skills in multiple areas of comprehension.

- Select the level of comprehension questions appropriate to each student. Comprehension questions are also in three formats. Level 3 is text only. Level 2 is symbol-supported. Level 1 is written in sentence strip format, allowing students to select from multiple choices or one errorless picture choice.
- Build comprehension and vocabulary through discussions.

Standards Connection

- These standards connection lessons are designed to build summarizing skills and are applicable to all chapters. Using the first standards connection form, determine whether this book is a work of fiction or nonfiction. Select the additional standards connection lesson based on whether the chapter is a fictional format that has a story line or an informational text that includes facts and historical events.

The first two sets of comprehension questions are derived from the lower levels of text. An advanced level of mixed questions is provided in text-only format.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will independently read literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will independently read questions about a story and write, speak or select an answer.	• Students will read supported and shared literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will point to or select a picture from a choice of three in response to a question about a story.	• Students will actively participate in supported reading of literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student ability level. • Students will respond to a question by choosing a single option or errorless picture.

Resources and Materials	Additional Resources
Chapter 3: Electricity at Play Communication board Comprehension questions (fill-in and multiple-choice) Advanced questions Fill-in cards Standards Connection Lessons 3, 5, 7, 9, 11, 13	

Lesson 7, Chapter 3: Answer Key

Fill-In

batteries music lamp play electricity

1. Electricity helps us _____ and have fun. (play)
2. Handheld games use _____ for power. (batteries)
3. A radio uses electricity to play _____. (music)
4. A TV must have _____ to work. (electricity)
5. We need a _____ to read a book at night. (lamp)

Multiple-Choice

1. What is this chapter about? (work, electricity, chores)
2. What do handheld games use for power? (batteries, hamster, wind)
3. What uses electricity to play music? (book, cards, radio)
4. What needs electricity to show movies? (lamp, TV, handheld games)
5. What is important to know about this chapter?
   - A battery stores electricity.
   - Electricity is made in a power plant.
   - Electricity makes playing fun.

Fill-In Advanced

Use the Chapter Book to help you fill in the blank.

1. Electricity helps us play and have ____. (fun)
2. Handheld games use _____ for electricity. (batteries)
3. A charger gets plugged into an _____. (outlet)
4. If it is _____ we need electricity to read. (dark)
5. We can _____ the radio into an outlet to listen to music. (plug)

Multiple-Choice Advanced

These questions may have more than one correct answer.

6. What does a battery use to refill itself with electricity? (charger, radio, scoreboard)
7. What can people do with a cell phone? (listen to music, play games, make cookies)
8. What uses electricity so we can watch movies? (brownies, balloons, TV)
9. How do we use electricity at a football game?
   - Electricity runs to an outlet.
   - Electricity lights the field.
   - Electricity powers the scoreboard.
10. Why does electricity make playing more fun?
    - Electricity lets us play with handheld games.
    - Electricity lets us watch our favorite shows on TV.
    - Electricity can be made from the wind.

Instructional Targets
Standards for Language • *Vocabulary Acquisition and Use:* Use words acquired through academic and domain-specific sources when speaking and writing. Daily Living • *Home Living:* Responsibly use sources of energy and technology involving heat, light and electricity.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Life Skills Application 3: Working With Batteries
 	
Introduce this activity after students have read Chapter 3. Batteries are a wonderful source of power and electricity. Batteries allow us to use electronic devices, especially devices we use for entertainment, when there are no outlets available.
 	
• Discuss how a battery works as a storage container for electricity. Ask students, "What devices do you have that run on batteries?"
• Present the Battery chart. This chart illustrates the most common batteries we use: AAA, AA, C, D, Lithium button cells and 9-Volt. Explain how different sizes of batteries are required for various devices.
• Provide a variety of batteries. Have students sort batteries according to size, and match them up to the chart.
• Explain that batteries contain dangerous chemicals. Discuss and review basic battery safety:
  o Never break a battery open.
  o Never use a battery if it is leaking.
  o Never put a battery in water.
  o Never put a battery in a fire.
  o Never change a battery in a device that is plugged in.
• Review how to change and insert batteries. Be sure to discuss how to identify what size of battery a device needs.
• Model how to identify which direction a battery is inserted into a device. Explain to students that the positive and negative signs on the battery must match up to the device.
• Use the Inserting a Battery poster to review the steps.
  o Turn device completely off.
  o Remove the battery cover from device.
  o Identify size of batteries needed.
  o Discard old batteries.
  o Insert batteries by matching up the positive and negative signs.
  o Replace the battery cover.
• Complete the Make it Work Activity by having students decide which battery fits correctly into the device.
• Provide a variety of devices that require batteries (camera, remote control, CD player, smoke detector, calculator, handheld game, push light, etc.). With batteries removed, students will identify the size of the battery needed and properly insert the battery into the device.
 	
  Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use unit topic words in conversation. • Students will demonstrate safety rules when using electrical appliances and tools.	• Students will point to pictures of key vocabulary from unit topics as part of a discussion. • Students will use electrical appliances and tools with supported guidance.	• Students will make a selection to indicate a picture of key vocabulary within a unit topic. • Students will activate electrical appliances with switch assistance (e.g., switch-latch timer).

Resources and Materials	Additional Resources
Battery chart Inserting a Battery Poster Make It Work activity	

Instructional Targets

Reading Standards for Literature

- *Range and Level of Text Complexity:* Experience grade level and age-appropriate literature materials, including poems, biographies, chapter books, fiction and nonfiction works, that are adapted to student reading level.
- *Key Ideas and Details:* Answer questions and use support from text to explain the main ideas, details and inferences of a story.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Chapter 4: Save Energy and Save Money

The title of the Chapter Book is *Electricity.* The fourth chapter, Save Energy and Save Money, explains how electricity is not free; electricity costs money. This chapter describes how electricity can be conserved and therefore, money can be saved.

- Chapter books present a "reading to learn" experience. Therefore, students may read independently, in a shared reading experience or books may be read to them. Present students with one chapter at a time for reading and comprehension instruction.
- After each page is read, ask the discussion question that appears in italics at the bottom of the page. Focus on pictures to reinforce understanding. Repeated readings are encouraged.
- Suggested Reading Levels for this chapter include Levels J/K, presented in a text format, and F/G, presented in both text and symbol-supported formats.

Read and Answer

Comprehension activities extend beyond "checking" what students remember from reading. During instruction, students learn to refer to the book, using both illustrations and text to locate answers to questions. Students recognize types of responses appropriate to *who*, *what* and *where* formats. Question responses may also provide students with a foundation for story retell. Activities should be repeated throughout the unit to increase students' skills in multiple areas of comprehension.

- Select the level of comprehension questions appropriate to each student. Comprehension questions are also in three formats. Level 3 is text only. Level 2 is symbol-supported. Level 1 is written in sentence strip format, allowing students to select from multiple choices or one errorless picture choice.
- Build comprehension and vocabulary through discussions.

Standards Connection

- These standards connection lessons are designed to build summarizing skills and are applicable to all chapters. Using the first standards connection form, determine whether this book is a work of fiction or nonfiction. Select the additional standards connection lesson based on whether the chapter is a fictional format that has a story line or an informational text that includes facts and historical events.

The first two sets of comprehension questions are derived from the lower levels of text. An advanced level of mixed questions is provided in text-only format.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will independently read literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will independently read questions about a story and write, speak or select an answer.	• Students will read supported and shared literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will point to or select a picture from a choice of three in response to a question about a story.	• Students will actively participate in supported reading of literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student ability level. • Students will respond to a question by choosing a single option or errorless picture.

Resources and Materials	Additional Resources
Chapter 4: Save Energy and Save Money Communication board Comprehension questions (fill-in and multiple-choice) Advanced questions Fill-in cards Standards Connection Lessons 3, 5, 7, 9, 11, 13	

Lesson 9, Chapter 4: Answer Key

Fill-In

electricity light windows save money

1. We can save money by saving _____. (**electricity**)
2. We pay _____ for electricity. (**money**)
3. Turn off the _____ when you leave a room. (**light**)
4. Close the _____ to save electricity. (**windows**)
5. Saving electricity will _____ money. (**save**)

Multiple-Choice

1. What is this chapter about?
   (**saving electricity**, saving schoolwork, saving toys)
2. What do we save when we save electricity?
   (dessert, books, **money**)
3. What should we turn off to save electricity? (paper, chair, **light**)
4. What should be closed to save electricity? (**window**, eyes, hands)
5. What is important to know about this chapter?
   - Take a shower every day.
   - **Saving electricity saves money.**
   - Keep the TV on all the time.

Fill-In Advanced

Use the Chapter Book to help you fill in the blank.

1. People pay a _____ to the electric company. (**bill**)
2. Saving electricity can save _____. (**money**)
3. Keep the door closed to keep out _____ air in the winter. (**cold**)
4. Do not keep the _____ open if the heat is on. (**door**, **windows**)
5. Electricity is used to _____ water for showers. (**heat**)

Multiple-Choice Advanced

These questions may have more than one correct answer.

6. What should you turn off when leaving a room? (cow, **lights**, TV)
7. What is needed to make hot water? (**electricity**, mud, shampoo)
8. What should be closed in the winter? (food, **doors**, **windows**)
9. How can we save water and electricity?
   - **Fill up the dishwasher.**
   - **Do not take long showers.**
   - **Wash full loads of clothes.**
10. Why is it important to save electricity?
    - The TV uses electricity.
    - Light bulbs use electricity.
    - **The electric bill will be lower.**

Lesson 10

Instructional Targets

Standards for Language

- *Vocabulary Acquisition and Use:* Use words acquired through academic and domain-specific sources when speaking and writing.

Personal Life

- *Problem Solving:* Apply problem-solving skills to issues related to daily living situations.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Life Skills Application 4: The Great Light Bulb Debate

Introduce this activity after students have read Chapter 4. This science experiment demonstrates how energy smart light bulbs and regular light bulbs differ in the amount of electricity they use. Students will identify a difference in the amount of electricity given off, and determine which light bulb is better for the environment. The amount of heat given off by the bulb will cause the oil to spread. The larger the spread, the more heat there is, and therefore, the greater the use of electricity.

Scientific inquiry "refers to the activities of students in which they develop knowledge and understanding of scientific ideas, as well as an understanding of how scientists study the natural world." (National Science Education Standards) This lesson follows the steps of a scientific inquiry process to engage students in developing a hypothesis, conducting an experiment and arriving at a conclusion.

In this science experiment, students will learn what happens when cold and warm air meet. Discuss the steps for the simplified scientific method that students will use. The text-to-speech feature can be used to read directions aloud to students.

1. Ask a question.
2. Make a guess.
3. Do an experiment.
4. Organize data.
5. Find the conclusion.

You will need (per group of students)	Directions
• 60 watt regular light bulb • 15 watt compact fluorescent light (CFL) or energy smart light bulb • desk lamp • 1 T cooking oil • dropper • 2 sheets of paper • ruler • two text books • timer	1. Place text books approximately 8 inches apart from each other. 2. Set a sheet of paper in-between books to form a bridge. 3. Place regular bulb into desk lamp. Set lamp so light is approximately 6 inches away from paper. 4. Using dropper, drop one drop of cooking oil onto paper. 5. Quickly measure the diameter with the ruler. Write down measurement. 6. Turn on lamp and watch for 5 minutes. 7. Once 5 minutes is up, measure diameter again. Subtract the initial diameter from the final diameter. This is how much the oil spread. 8. Repeat this process with the energy smart light bulb. Ask students which light bulb made the largest oil spot. Explain that the larger oil spot is from the bulb that wastes the most energy.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will use unit topic words in conversation. • Students will recognize and apply a problem solving process that results in a solution to a life situation.	• Students will point to pictures of key vocabulary from unit topics as part of a discussion. • Students will identify and select appropriate solutions to a life situation problem.	• Students will make a selection to indicate a picture of key vocabulary within a unit topic. • Students will select an option within a daily living situation or scenario.

Resources and Materials	Additional Resources
Science experiment Science experiment cards	

Instructional Targets

Reading Standards for Literature

- *Range and Level of Text Complexity:* Experience grade level and age-appropriate literature materials, including poems, biographies, chapter books, fiction and nonfiction works, that are adapted to student reading level.
- *Key Ideas and Details:* Answer questions and use support from text to explain the main ideas, details and inferences of a story.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Chapter 5: Electricity: Whose Idea Was That?

The title of the Chapter Book is *Electricity.* The fifth chapter, Electricity: Whose Idea Was That?, introduces the students to some of the famous inventors who worked with electricity.

- Chapter books present a "reading to learn" experience. Therefore, students may read independently, in a shared reading experience or books may be read to them. Present students with one chapter at a time for reading and comprehension instruction.
- After each page is read, ask the discussion question that appears in italics at the bottom of the page. Focus on pictures to reinforce understanding. Repeated readings are encouraged.
- Suggested Reading Levels for this chapter include Levels J/K, presented in a text format, and F/G, presented in both text and symbol-supported formats.

Read and Answer

Comprehension activities extend beyond "checking" what students remember from reading. During instruction, students learn to refer to the book, using both illustrations and text to locate answers to questions. Students recognize types of responses appropriate to *who*, *what* and *where* formats. Question responses may also provide students with a foundation for story retell. Activities should be repeated throughout the unit to increase students' skills in multiple areas of comprehension.

- Select the level of comprehension questions appropriate to each student. Comprehension questions are also in three formats. Level 3 is text only. Level 2 is symbol-supported. Level 1 is written in sentence strip format, allowing students to select from multiple choices or one errorless picture choice.
- Build comprehension and vocabulary through discussions.

Standards Connection

- These standards connection lessons are designed to build summarizing skills and are applicable to all chapters. Using the first standards connection form, determine whether this book is a work of fiction or nonfiction. Select the additional standards connection lesson based on whether the chapter is a fictional format that has a story line or an informational text that includes facts and historical events.

The first two sets of comprehension questions are derived from the lower levels of text. An advanced level of mixed questions is provided in text-only format.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will independently read literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will independently read questions about a story and write, speak or select an answer.	• Students will read supported and shared literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student reading level. • Students will point to or select a picture from a choice of three in response to a question about a story.	• Students will actively participate in supported reading of literature forms, including chapter books, biographies, poems, fiction and nonfiction works that have been adapted to student ability level. • Students will respond to a question by choosing a single option or errorless picture.

Resources and Materials	Additional Resources
Chapter 5: Electricity: Whose Idea Was That? Communication board Comprehension questions (fill-in and multiple-choice) Advanced questions Fill-in cards Standards Connection Lessons 3, 5, 7, 9, 11, 13	

Lesson 11, Chapter 5: Answer Key

Fill-In

light bulb battery inventors easier lightning

1. Many _____ made different things that use electricity. (inventors)
2. Benjamin Franklin discovered _____ is electricity. (lightning)
3. Thomas Edison invented a _____. (light bulb)
4. Alessandro Volta invented the electric _____. (battery)
5. Electric inventions have made life _____. (easier)

Multiple-Choice

1. What is this chapter about? (teachers, inventors, presidents)
2. What hit Benjamin Franklin's kite? (pizza, string, lightning)
3. What did Thomas Edison invent? (kite, light bulb, pants)
4. What did Alessandro Volta invent that stored electricity? (battery, flashlight, key)
5. What is important to know about this chapter?
   - Electric inventions made life easier.
   - A TV is the most important invention using electricity.
   - Electricity is everywhere.

Fill-In Advanced

Use the Chapter Book to help you fill in the blank.

1. Ben Franklin proved that _____ is a form of electricity. (lightning)
2. Alessandro Volta invented the electric _____. (battery)
3. The _____ is a measurement of electricity. (volt)
4. Thomas Edison made a working _____. (light bulb)
5. Edison created stations that brought _____ to homes. (power, electricity)

Multiple-Choice Advanced

These questions may have more than one correct answer.

6. What electric invention did Lewis Latimer help put in? (car, streetlight, airplane)
7. What did most people in cities have by 1930? (vegetables, clothes, electricity)
8. Who still did not have electricity in 1930? (actors, farmers, athletes)
9. Why was Benjamin Franklin's experiment dangerous?
   - He got shocked by electricity.
   - His kite flew away.
   - He lost his hair.
10. How did President Roosevelt help with electricity?
    - He invented the telephone.
    - He helped get electricity to the farmers.
    - He used electricity every day.

Instructional Targets
Standards for Language • *Vocabulary Acquisition and Use:* Use words acquired through academic and domain-specific sources when speaking and writing. Daily Living • *Home Living:* Responsibly use sources of energy and technology involving heat, light and electricity.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Life Skills Application 5: Just How Much Electricity Do We Use?
 	
Introduce this activity after students have read Chapter 5. Many times, we take electricity for granted. It seems to always be ready and available, and for many students – free.
 	
• Remind students that electricity is not free. Someone has to pay for it. Ask students, "How much electricity do you think you use each day?"
• Explain to students that many times we rely on electricity out of necessity as well as pleasure. Because we use it so much, we need to take responsibility for turning electricity on and off.
• Discuss the differences between necessary electrical use (lights, heat, etc.) and recreational electrical use (TV, hair dryers, etc.).
• Have students fill out the Electrical Use Journal. Students will write or select pictures of electrical items they use throughout the day that are necessary and those that are recreational.
• Each student will fill in the journal for the following times:
  o morning, before school
  o at school
  o at home, after school
  o dinner
  o evening
• After students have completed their journals, have them investigate their journal to see when they use the most electricity, the least electricity, etc. Discuss ways students can be responsible with their electrical usage by turning off lights when they leave a room or unplugging devices when not in use. Discuss safety issues for the electrical appliances being used.
 	
  Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use unit topic words in conversation. • Students will demonstrate safety rules when using electrical appliances and tools.	• Students will point to pictures of key vocabulary from unit topics as part of a discussion. • Students will use electrical appliances and tools with supported guidance.	• Students will make a selection to indicate a picture of key vocabulary within a unit topic. • Students will activate electrical appliances with switch assistance (e.g., switch-latch timer).

Resources and Materials	Additional Resources
Electrical Use Journal Picture/word cards	

Instructional Targets

Reading Standards for Informational Text

- *Range and Level of Text Complexity:* Read and use grade level and age-appropriate informational materials, including social studies and technical texts that are adapted to student reading level.
- *Key Ideas and Details:* Answer questions and use support from text to explain the main ideas, details and inferences of a story.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Chapter 6: Electrical Safety

The title of the Chapter Book is *Electricity.* The sixth chapter, Electrical Safety, identifies and describes the rules for using and dealing with electricity in a safe way.

- Chapter books present a "reading to learn" experience. Therefore, students may read independently, in a shared reading experience or books may be read to them. Present students with one chapter at a time for reading and comprehension instruction.
- After each page is read, ask the discussion question that appears in italics at the bottom of the page. Focus on pictures to reinforce understanding. Repeated readings are encouraged.
- Suggested Reading Levels for this chapter include Levels J/K, presented in a text format, and F/G, presented in both text and symbol-supported formats.

Read and Answer

Comprehension activities extend beyond "checking" what students remember from reading. During instruction, students learn to refer to the book, using both illustrations and text to locate answers to questions. Students recognize types of responses appropriate to *who*, *what* and *where* formats. Question responses may also provide students with a foundation for story retell. Activities should be repeated throughout the unit to increase students' skills in multiple areas of comprehension.

- Select the level of comprehension questions appropriate to each student. Comprehension questions are also in three formats. Level 3 is text only. Level 2 is symbol-supported. Level 1 is written in sentence strip format, allowing students to select from multiple choices or one errorless picture choice.
- Build comprehension and vocabulary through discussions.

Standards Connection

- These standards connection lessons are designed to build summarizing skills and are applicable to all chapters. Using the first standards connection form, determine whether this book is a work of fiction or nonfiction. Select the additional standards connection lesson based on whether the chapter is a fictional format that has a story line or an informational text that includes facts and historical events.

The first two sets of comprehension questions are derived from the lower levels of text. An advanced level of mixed questions is provided in text-only format.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will independently read informational materials, including social studies and technical texts that have been adapted to student reading level. • Students will independently read questions about a story and write, speak or select an answer.	• Students will read supported and shared informational materials, including social studies and technical texts that have been adapted to student reading level. • Students will point to or select a picture from a choice of three in response to a question about a story.	• Students will actively participate in supported reading of informational materials, including social studies and technical texts that have been adapted to student ability level. • Students will respond to a question by choosing a single option or errorless picture.

Resources and Materials	Additional Resources
Chapter 6: Electrical Safety Communication board Comprehension questions (fill-in and multiple-choice) Advanced questions Fill-in cards Standards Connection Lessons 3, 5, 7, 9, 11, 13	

Lesson 13, Chapter 6: Answer Key

Fill-In

plug touch cord turn off safe

1. We need to be _____ with electricity. (safe)
2. Don't use a _____ if it is broken. (cord)
3. Don't _____ power lines outside. (touch)
4. Only put a _____ in an electrical outlet. (plug)
5. If there is a big storm, _____ the computer. (turn off)

Multiple-Choice

1. What is this chapter about? (storms, TV, electrical safety)
2. What is the only thing to put in an electrical outlet? (plug, candy, finger)
3. What should we not use if it is broke? (hair, clothes, cord)
4. What do we turn off if there is a big storm? (computer, light, stove)
5. What is important to know about this chapter?
   - Lights use electricity.
   - We must be safe with electricity.
   - Turn off the lights when you leave the room.

Fill-In Advanced

Use the Chapter Book to help you fill in the blank.

1. There are rules for being _____ with electricity. (safe)
2. _____ runs through a cord. (Electricity)
3. Do not use anything with a cord that is _____. (cut)
4. Do not pull on an electric _____. (cord)
5. Don't plug too many cords into one _____. (outlet)

Multiple-Choice Advanced

These questions may have more than one correct answer.

6. What should be turned off before changing a light bulb? (water, light switch, radio)
7. What should electric appliances stay away from? (water, vegetables, shoes)
8. What should you do if a power line is down? (call mom, touch it, call the power company)
9. How is electricity dangerous?
   - Electricity is a form of energy.
   - Electricity can shock you.
   - Electricity can cause fires.
10. How can we stay safe around electricity?
    - Don't pull on electric cords.
    - Use the hair dryer in the shower.
    - Turn the light switch off before changing a light bulb.

Instructional Targets
Standards for Language • *Vocabulary Acquisition and Use:* Use words acquired through academic and domain-specific sources when speaking and writing. Lifelong Learning • *Reading:* Locate and use information from various sources to achieve a purpose.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan
Life Skills Application 6: Using Electricity Safely Introduce this activity after students have read Chapter 6. Knowing what to do in times of electrical danger is an important life skill. In this lesson, students will give safety demonstrations and make safety posters to use throughout a home or building. • Discuss ways in which electricity can be dangerous. • Review the safety rules of electricity by having students match the correct picture to the rule on the Electrical Safety Overview activity. • Have each student select a poster of a safety rule. Student will complete the poster by adding the safety rule that goes with the picture on the poster. • Each student should present their poster to the class. If demonstration of the rule is appropriate, allow student to do so. Electrical Safety Rules: o Only put plugs into electrical outlets. o Don't pull the electrical cord. Hold the plug and pull it out. o Have dry hands when you plug or unplug an electrical cord. o If a cord or plug is broken or cut, don't use it. o Don't plug too many cords into one outlet. o Turn off the light before changing a light bulb. o Don't use hair dryers or electric razors if there is water in the sink. o Keep appliances away from water. o If there is a big storm, turn off the TV and computer. o Don't touch power lines outside. Call the power company if lines fall down.
Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use unit topic words in conversation. • Students will use learned vocabulary in speaking and writing.	• Students will point to pictures of key vocabulary from unit topics as part of a discussion. • Students will recognize and use words and pictures specific to a topic when speaking and writing,	• Students will make a selection to indicate a picture of key vocabulary within a unit topic. • Students will use language to share ideas with others.

Resources and Materials	Additional Resources
Electrical Safety Overview activity Safety Posters Safety Rules	

Lesson 15

Instructional Targets

Reading Standards for Literature

- *Craft and Structure:* Use context clues and illustrations to determine meaning of words and phrases in a text, including figurative and connotative meanings.

Standards for Language

- *Vocabulary Acquisition and Use:* Use words acquired through academic and domain-specific sources when speaking and writing.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Vocabulary Quiz Game: Electricity Is Everywhere

Vocabulary refers to the words we must know to communicate effectively. In general, vocabulary can be described as oral vocabulary or reading vocabulary. Oral vocabulary refers to words that we use in speaking or recognize in listening. Reading vocabulary refers to words we recognize or use in print. Vocabulary plays an important part in learning to read. Readers use the words they have heard to make sense of the words they see in print.

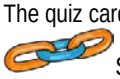
Build Word Meaning

- Select a word or a picture. Name it. Write it. Use the word or have students use the word in a sentence.
- Present words or pictures on a chart or whiteboard. Describe each word for students to identify.
- Select a word to describe by acting it out.
- Identify words using the category wheel. Have students determine if the word is a person, a place, a thing, an action or a descriptor.
- Assist students in finding the words in text materials from this unit. Have students describe what each word means on the basis of the text content.
- Use definition cards to provide students with additional practice in word meaning of vocabulary from the unit topic.

The content for this quiz game focuses on electricity, electrical appliances, electrical conservation and electrical safety.

- Create a quiz game board using the answers listed in the lesson (similar to the *Jeopardy*® game).
- Cover each of the answers on the quiz board with a money amount.
- When students select a space, they will answer in the form of a question (e.g., What is a tool a farmer uses to plow a field?)
- One at a time, each student will take a turn and select a category and money amount card to respond to (no buzz-in for answering). If the question is answered correctly, that student gets the card with a money amount.
- Continue until all cards are gone or a predetermined time period has ended.
- Students will count and add the total amount on their money cards. The player with the highest total wins the game.

The quiz cards may be enlarged for a large classroom board. The answer sheet may be used to support communication.



Standards Connection

- The standards connection activities build on skills that encourage students to use reference materials to extend word meaning from unit vocabulary.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will determine literal and figurative meanings of a word as it is used in a text. • Students will match a unit topic word to a definition. • Students will use unit topic words in conversation.	• Students will point to pictures or words to match words with same meanings in text. • Students will point to pictures of key vocabulary from unit topics as part of a discussion.	• Students will identify a named picture related to the unit topic from a single option or errorless choice. • Students will make a selection to indicate a picture of key vocabulary within a unit topic.

Resources and Materials	Additional Resources
Quiz game board and answer key Money amount cover cards Picture/word answer cards "What is" answer board Word definition cards Standards Connection Lesson 15	Additional ideas for vocabulary instruction are provided in the ULS Instructional Guides: Vocabulary. Additional supporting pictures may be downloaded from SymbolStix Online, which is available free to all Unique subscriber by clicking on the SymbolStix button at: n2y.com

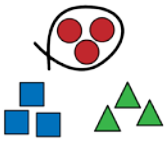
Instructional Targets	
	Standards for Language: • *Vocabulary Acquisition and Use:* Use context clues, word structures or reference materials to determine the meaning of unknown words.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will match a unit topic word to a definition. • Students will use reference materials, such as a glossary, or a dictionary, to determine the meaning of an unknown word. • Students will identify the meaning of words with multiple meanings and recognize figurative language.	• Students will point to pictures or words to match a description within a text passage. • Students will match words and pictures with similar meanings. • Students will point to pictures of key vocabulary from unit topics as part of a discussion.	• Students will identify a named picture related to the unit topic from a single option or errorless choice. • Students will make a selection to indicate a picture of a word with a meaning similar to that of another word (errorless choice).

Making Meaning with Words

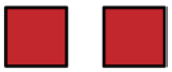
What is the word?	What is the definition?
	
Add a picture.	**Write or tell a sentence.**
	

Words in groups (For example, cars and trucks are both vehicles.)



_____ and _____ are both _____z__.

Words about the same: (For example, truck and semi)



_____ and _____ are about the same.

Refer to this site for an online dictionary and thesaurus: www.wordcentral.com/home.html

Instructional Targets

Standards for Language

- *Conventions of Standard English:* Apply conventions of grammar when speaking or writing. Apply correct capitalization, punctuation and spelling in sentences.

Standards for Writing

- *Production and Distribution of Writing:* With some guidance and support, plan, edit and revise writing with a focus on the purpose of the document.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Edit It: Thoughts On Electricity

Editing is the process of examining a piece of writing to be sure that it conforms to the conventions and purposes of standard English grammar, usage and punctuation. In this lesson, students will learn the conventions of capitalization, punctuation and spelling in the context of unit topics. Students will also listen to the grammatical form of sentences in the examples. Some students may be able to locate and correct errors independently. Others will participate in this process by observing modeling done by the teacher. Talk through the process of editing as a learning strategy. Rules are written at the top of each document as the focus of the lesson instruction.

Document 1: A Book Report

- Read and discuss the rules at the top of the page. Read or have a student read the book report. Students will locate and revise words that require capitalization and periods needed to end a sentence.

Document 2: Current Events

- Read and discuss the rules at the top of the page. Read or have a student read the current events report. Students will locate and revise words that require capitalization and periods needed to end a sentence. Arrange the sentences in order.

Document 3: A Letter

- Read and discuss the rules at the top of the page. Read or have a student read the letter. Revisions for capitalization, periods and commas should be located. Additionally, misspelled words should be corrected.

Document 4: A Report With Facts

- Read and discuss the rules at the top of the page. Read or have a student read the facts report. Revisions for capitalization, punctuation (including periods, commas or question marks) and misspelled words should be located.

Document 5: An Opinion

- Read and discuss the rules at the top of the page. Read or have a student read the opinion report. Revisions for capitalization, punctuation (including periods, commas or question marks) and misspelled words should be located.

These documents may also be used for whole-class instruction using a projector.

Standards Connection

- Extend this activity by having students create one of the listed documents. Follow the steps of the writing process to model writing, and have each student create a rough draft. Tell students to find and correct any punctuation, capitalization or spelling errors before they write a final draft.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will demonstrate conventions of grammar in spoken and written sentence forms. • Students will demonstrate conventions of written language, including appropriate capitalization, ending punctuation and common spelling. • Students will plan, edit and revise writing to strengthen written sentences.	• Students will create simple sentence forms in a grammatically correct order when speaking or writing. • Students will identify beginning capital letters and ending punctuation in a written sentence. • Students will spell familiar words with letter-sound matches. • With support, students will use pictures and text to plan, edit and revise a written sentence idea.	• With picture supports, students will combine two or more words during a shared writing or speaking activity. • Students will locate capital letters and ending punctuation in a sentence. • Given errorless choices of pictures, students will make a selection of pictures to plan, edit and revise a sentence idea.

Resources and Materials	Additional Resources
Five documents for editing Standards Connection Lesson 16	Additional supporting pictures may be downloaded from SymbolStix Online, which is available free to all Unique subscriber by clicking on the SymbolStix button at: n2y.com Additional ideas for writing instruction are provided in the ULS Instructional Guides: Writing.

Standards Connection Lesson 16

Instructional Targets	
	Standards for Writing • *Text Types and Purposes:* Generate paragraphs to analyze a topic, including supporting facts and evidence. OR Generate informative paragraphs, including a topic sentence, supporting facts or details and a concluding sentence. OR Generate narrative paragraphs, including a logical sequence of events, descriptive details and a reflective conclusion.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will create one or more paragraphs, expressing an analysis of a topic or text with supporting reasons and clear evidence. OR • Students will create one or more paragraphs, including a topic sentence with supporting facts, details and a concluding sentence. OR • Students will create one or more paragraphs containing narrative elements, including a sequence of events and a reflective conclusion.	• Students will select pictures with text to express an opinion with supporting reasons. OR • Students will select pictures with text to create a written document of factual sentences on a topic. OR • Students will select pictures with text to create a logical sequence of events that tell a story.	• Given errorless choices of pictures, students will make a selection of pictures to communicate an opinion. OR • Given errorless choices of pictures, students will make a selection to communicate facts on a given topic. OR • Given an errorless choice of pictures, students will make a selection to tell a story sequence.

During **writing time**, students experience opportunities to see writing modeled, to explore the writing process and to be guided on ways to bring writing into a conventional form. Select one of the writing types in the lesson. Create a model and support students in writing their own story.

Day 1 Modeling

Discuss the topic. Model and talk through the writing process: brainstorming words and ideas and drawing a picture to illustrate what the story is about, writing sentences on a whiteboard or poster paper, reviewing for revisions (capitals, periods, sentence order, spelling) and finally, sharing the written document by reading it aloud.

Day 2 Brainstorming

Students will begin with the topic modeled for them on Day 1; however, students will generate their own ideas on the brainstorming prewriting chart. If necessary, add pictures for students. Some students may dictate words or ideas, and others will write ideas. When ideas have been added, students will draw a picture next to the topic to show what the story is about. Encourage students to write and draw, but support their work with picture choices as necessary. Some students may need to draw first to generate the vocabulary for this planning process.

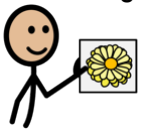
Day 3 Writing

Students will take the ideas from their prewriting chart and generate sentences or word combinations. Refer to the words from the word wall and encourage students to use these words in their writing. Support students in generating this written document through typical or adapted processes: using a keyboard for typing, dictating with support while viewing the writing of sentences, pointing to pictures, etc.

Day 4 Reviewing and Revising

In a teacher conference setting, each student will review his or her document for capitalization at the beginning of sentences and names, for a period at the end of each sentence, for grammatical order of words in each sentence and for spelling. This one-on-one instructional time offers an individual level of support to each student's written work.

Day 5 Sharing



Each student will have a turn to share his or her writing by reading aloud, by using a voice output device or by showing the document to classmates.

Instructional Targets

Standards for Language

- *Knowledge of Language:* Demonstrate conventions of language to effectively communicate when speaking or writing in varied contexts.

Standards for Speaking and Listening

- *Comprehension and Collaboration:* Identify information from multiple sources that contribute to making a decision.

Standards for Writing

- *Range of Writing:* Participate routinely in supported writing activities, using conventional formats.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Real-World Writing: Lights Out

When writing in real-world documents, it is often necessary to use resources to make a decision on what information is provided (e.g., what date and time on an invitation, what references to put on an application). In this activity, consider ways to enable students to seek information from a variety of resources that will contribute to this writing task.

When the power goes out, we need to be responsible and inform the power companies of issues of which they may not be aware.

- In this lesson, students will practice reporting a power outage to the electric company.
- Picture and text versions are provided.
- Discuss the methods that students can use to fill out personal information: careful handwriting, copying from an ID card, dictating or using a communication device.
- Follow up by discussion of when to call in an outage. Remind students that if a power line is sparking, call the police first and the power company second. Also show students how to report an outage through the power company's website, if available.

Standards Connection

- Students must be especially accurate when writing notes, letters and invitations, filling out job applications or creating other real-world documents. Emphasize the importance of precise sentence structure and the correct use of capital letters, punctuation and spelling. Have students use the review guide to check and revise their work.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will apply conventions of language to generate sentences specific to the purpose when speaking or writing. • Students will gain information from two or more sources to reach a personal decision. • Students will write routinely for a range of discipline-specific tasks, purposes and audiences.	• Students will use conventions of language to generate a simple sentence when speaking or writing. • Students will gather and compare information from two sources. • Students will participate routinely in supported writing activities for a range of discipline-specific tasks, purposes and audiences.	• Students will use language to share an idea with others. • Students will make a choice when presented with two informational choices. • Students will actively participate in shared writing and communication activities for a range of discipline-specific tasks, purposes and audiences.

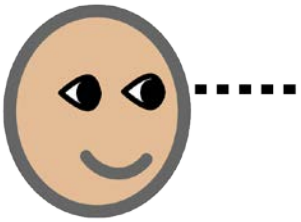
Resources and Materials	Additional Resources
Power Outage forms: text only and symbol-supported Standards Connection Lesson 17	Additional supporting pictures may be downloaded from SymbolStix Online, which is available free to all Unique subscriber by clicking on the SymbolStix button at: n2y.com

Standards Connection Lesson 17

Instructional Targets	
	Standards for Writing • *Production and Distribution of Writing:* With some guidance and support, plan, edit and revise writing with a focus on the purpose of the document. Standards for Language • *Conventions of Standard English:* Apply conventions of grammar when speaking or writing. Apply correct capitalization, punctuation and spelling in sentences.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will plan, edit and revise writing to strengthen written sentences. • Students will demonstrate conventions of grammar in spoken and written sentence forms. • Students will demonstrate conventions of written language, including appropriate capitalization, ending punctuation and common spelling.	• With support, students will use pictures and text to plan, edit and revise a written sentence idea. • Students will create simple sentence forms in a grammatically-correct order when speaking or writing. • Students will identify beginning capital letters and ending punctuation in a written sentence. • Students will spell familiar words with letter-sound matches.	• Given errorless choices of pictures, students will make a selection of pictures to plan, edit and revise a sentence idea. • Students will combine two or more words with picture support during a shared writing or speaking activity. • Students will locate capital letters and ending punctuation in a sentence.

A shared checklist is a way to review and revise writing. In the writing conference, guide students to review a written text and revise it as needed.



- ☐ Do I have a **capital letter**
  - at the beginning of the sentence?
  - for names of people and places?
- ☐ Do I have punctuation at the end of the sentence?
  - **period**
  - **question mark**
  - **exclamation point**
- ☐ Does my sentence make sense when I say it out loud?
- ☐ Are there any spelling words to check?

Instructional Targets

Standards for Writing

- *Text Types and Purposes:* Generate informative paragraphs, including a topic sentence, supporting facts, details and a concluding sentence.

Standards for Language

- *Conventions of Standard English:* Apply conventions of grammar when speaking or writing. Apply correct capitalization, punctuation and spelling in sentences.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Topic Paragraph: Newsletter and Activity Report

The topic paragraph activity is a starting point for creating a class newsletter that will report to family and friends what the students have learned in this unit. Each student will contribute a single paragraph to the newsletter.

- As a group, generate topics from the unit and put these on a web. Topics may include information gathered from chapter reading or learned by engaging in an activity that accompanied the chapters. When the web has been generated, each student will select a topic on which to focus his or her paragraph.
- Assign the planning process and outline what is appropriate to each student. Planning processes and corresponding templates are available for three levels of ability. Only Template A (symbol-supported) includes interactive participation. The templates include these steps:
    1. Name of the Activity: Create a title for the paragraph.
    2. The Big Idea: Choose one topic sentence.
    3. Parts of the Activity: Sequence the steps of the activity.
    4. Reaction: Say what you think about this activity.
    5. Paragraph: Put the sentences together.
- Students may complete this exercise by writing notes, using pictures or dictating. Many pictures from the unit lessons may be used in this activity.
- Individualize the writing process. Writing, typing, copying, dictating or using pictures are acceptable formats that can be used for the topic paragraph. Use your own resources to develop this material in a newsletter format.
- Have students share the newsletter at home and in school.

Standards Connection

- Have students review and revise their completed work. Use the guide in Lesson 17 for this purpose.
- You may wish to extend this activity by assigning oral presentations or having students add multimedia components.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will create one or more paragraphs, including a topic sentence with supporting facts, details and a concluding sentence. • Students will demonstrate conventions of grammar in spoken and written sentence forms. • Students will demonstrate conventions of written language, including appropriate capitalization, ending punctuation and common spelling.	• Students will select pictures with text to create a written text containing relevant facts to support a stated topic. • Students will create simple sentence forms in a grammatically correct order when speaking or writing. • Students will identify beginning capital letters and ending punctuation in a written sentence. • Students will spell familiar words with letter-sound matches.	• Given errorless choices of pictures, students will make a selection to communicate facts on a given topic. • With picture supports, students will combine two or more words during a shared writing or speaking activity. • Students will locate capital letters and ending punctuation in a sentence.

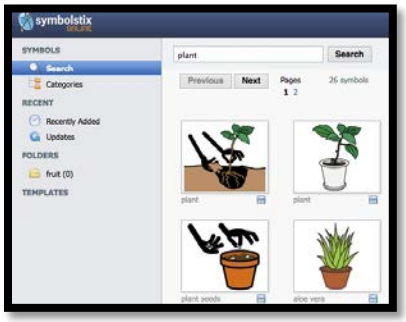
Resources and Materials	Additional Resources
Topic paragraph planner Template C: text only Template B: one picture before sentence Template A: one picture before sentence (interactive) Standards Connection Lesson 18	Additional supporting pictures may be downloaded from SymbolStix Online, which is available free to all Unique subscriber by clicking on the SymbolStix button at: n2y.com

Standards Connection Lesson 18

Instructional Targets	
	Standards of Speaking and Listening • *Presentation of Knowledge and Ideas:* Present information in an organized manner appropriate to a task, audience or situation. Integrate media to enhance a presentation. Adapt communication using formal or informal language to effectively communicate in a variety of contexts and tasks.

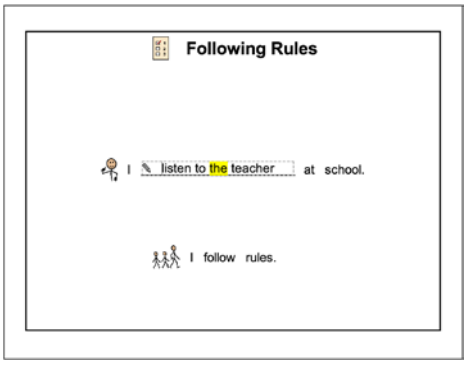
Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will communicate on a topic specific to the purpose and audience. • Students will select and use multimedia components to enhance a presentation. • Students will communicate using formal or informal language specific to the task/topic.	• Students will communicate on a topic specific to the purpose and audience, using picture supports. • With support, students will add multimedia components to a presentation. • Students will effectively communicate in a variety of contexts and tasks.	• Students will communicate basic information on a topic or experience, using communication technology and picture supports. • Students will participate in creating multimedia components to support a presentation. • Students will communicate by using supported modes of expression.

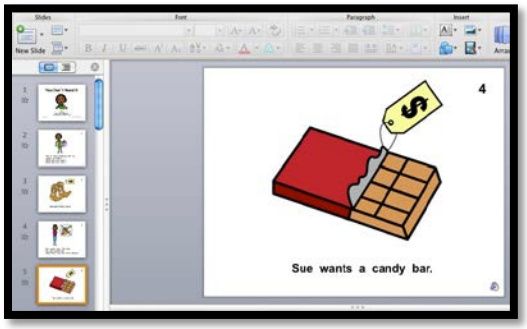
Use the newsletter reports as a springboard for oral reports to the class. This activity will extend the writing process and build oral communication. Consider ways to make the presentation interactive by using multimedia tools.



Expand the topic by finding digital pictures. Many pictures are available on SymbolStix® Online. These pictures may also be used in other digital projects. Encourage students to insert pictures into a Storybook template (located on SymbolStix® Online), a Microsoft® Word document, a Microsoft PowerPoint® slide show, or another format that allows for text entry. Generate sentences to go with these pictures. Students may combine all created pages to make a new book.

Can you make sentences talk? Have students use text boxes (indicated by the pencil icon) to enter words, phrases or sentences about a topic. Students can then listen to the generated text using the Unique Learning system's text-to-speech feature by clicking the "Speak" button at the top of the page. Encourage students to make edits and additions after listening to the generated text.





Microsoft PowerPoint® is a presentation tool that has multimedia features. Add pictures and text to a slide, animate the pictures or text and even add recorded speech messages to the slide. Combine all slides to make a class report. Want to make the PowerPoint presentation accessible for switch users? Simply utilize a switch interface and switch.

Grade Band: High School
Unit Target: Physical Science
Unit Topic: Using Electricity

Unit 6

Lesson 19

Instructional Targets

Math Standards for Algebra

- *Building Blocks to Algebra:* Understand and use +, - and = in problems. Solve addition and subtraction problems. Model and solve problems involving multiplication or division.
- *Seeing Structure in Expressions–Interpret the structure of expressions:* Represent a real-world situation with a numeric expression.
- *Seeing Structure in Expressions–Write expressions in equivalent forms to solve problems:* Solve multi-step problems that include a sequence of operations to reach a solution.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Math Story Problems: Lights, Camera, Action

The early grades build the foundational skills needed for learning more complex mathematical concepts. These skills include number recognition and use of numbers in operations to solve problems. Many students continue to require practice in adding and subtracting to build an understanding of multiplication and division concepts. The math story problems present real-world scenarios in which early skills are put to use. Interactive number journal supports and printable manipulative pictures allow teachers to create additional scenarios. The scenarios in this lesson have students visiting a television station and taking an inventory of the electrical devices used in the many studios.

- These scenarios may also provide early number recognition and counting.
- Although certain math concepts may appear complex to some students, the involvement in this math topic is important for all students. Teaching and Learning Guides are provided to build foundational skills, including how to add with carrying and how to subtract with borrowing.
- Appropriate activities should be selected on the basis of each student's skills and needs. Level 3 differentiated task activities are intended for students who can write numbers and solve problems with little or no support. Level 2 differentiated task activities may require additional support including interactive number journal supports, printable manipulatives or teacher support. Although tracing lines are available, hand-over-hand assistance may be appropriate. For students using Level 1 activities, interactive number journal supports, numbers and printable manipulatives are available to provide access and opportunities for practice of basic math skills. Voice output devices may be programmed to help students count pictures and manipulatives. Students may be given multiple choices or one errorless number choice.

Scenario cards are provided to address these skills.

- Addition (with or without carrying)
- Subtraction (with or without borrowing)
- Multiplication
- Division

Use of a calculator simplifies the process for some students.

- Create additional scenarios for further practice.
- Use Unique's math scenarios with other math methods, for example, Touch Math.

Standards Connection

- Teaching guides are provided to build foundational skills: How to use a calculator.
- Number comparisons may be drawn from this lesson's problem scenarios to determine greater than (>), less than (<) and equal to (=).

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Number Journal: Click icon within the lesson to access the number journal.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will calculate addition and subtraction problems in the context of a real-world scenario. • Students will read, write and solve a math sentence. • Students will use a combination of operations to solve multi-step problems in the context of a real-world scenario. • Students will model multiplication and division with objects and numbers showing equal groups in the context of a real-world scenario.	• Students will model addition and subtraction of two sets of objects in the context of a real-world scenario. • Students will select pictures and numbers to model a math sentence. • Students will use operations and models to solve a two-step problem in the context of a real-world scenario. • Students will count equal number of objects in selected groups or an array.	• Students will count a set of objects in an addition or subtraction problem through an active participation response (e.g., voice output device, eye gaze choice board). • Students will select a number (errorless choice) within a math problem. • Students will select numbers and count within a two-step problem in the context of a real-world scenario. • Students will count a set of objects in a group through an active participation response (e.g., voice output device, eye gaze choice board).

Resources and Materials	Additional Resources
Math story problem scenarios Standards Connection Lesson 19	Number Journal Number cards and symbol cards (+, – and =) are provided in the ULS Instructional Tools: Math Pack/Numbers. Additional ideas for math instruction are provided in the ULS Instructional Guides: Mathematics.

Standards Connection Lesson 19

Instructional Targets	
	Math Standards for Algebra • *Building Blocks to Algebra:* Recognize and compare numbers showing the symbols >, < or =.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will compare two numbers and use symbols to indicate >, < or =.	• Students will compare two groups of objects and determine which group is bigger, smaller or equal in amount.	• Students will count objects in a group through an active participation response (e.g., voice output device, eye gaze choice board).

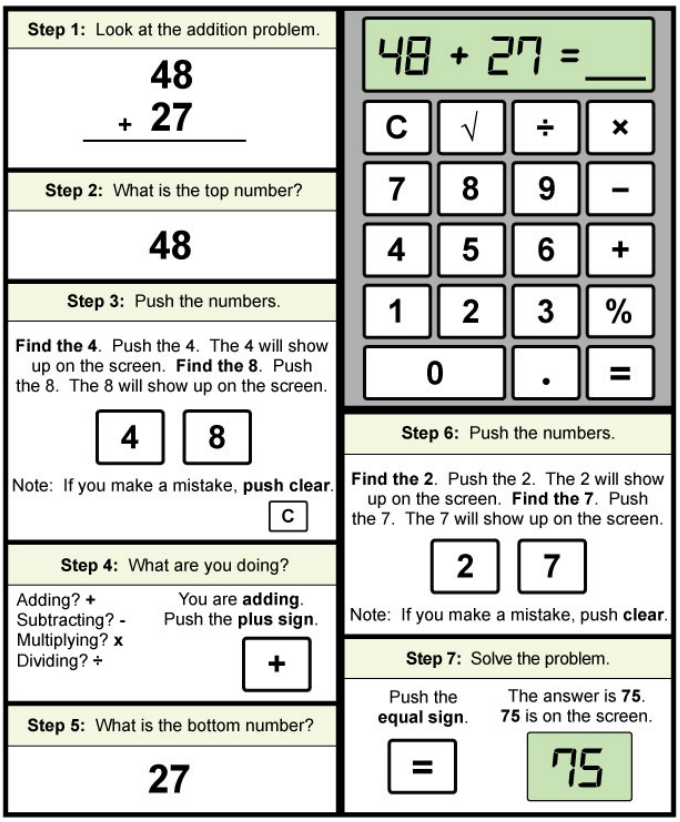
Comparing numbers is a skill with many applications in daily life. We compare a number of objects to determine whether we have enough for a required activity. We determine sets of objects that have more, less or equal amounts. However, this skill is often difficult for students. Using the scenario problems from the lesson, compare numbers and objects. Some students may use both the mathematical terminology and the symbols: *greater than* (>), *less than* (<) and *equal to* (=). Other students may use only the terminology of *more, less* and *the same*.

	> greater than more	
	< less than less	
	= equal to same	

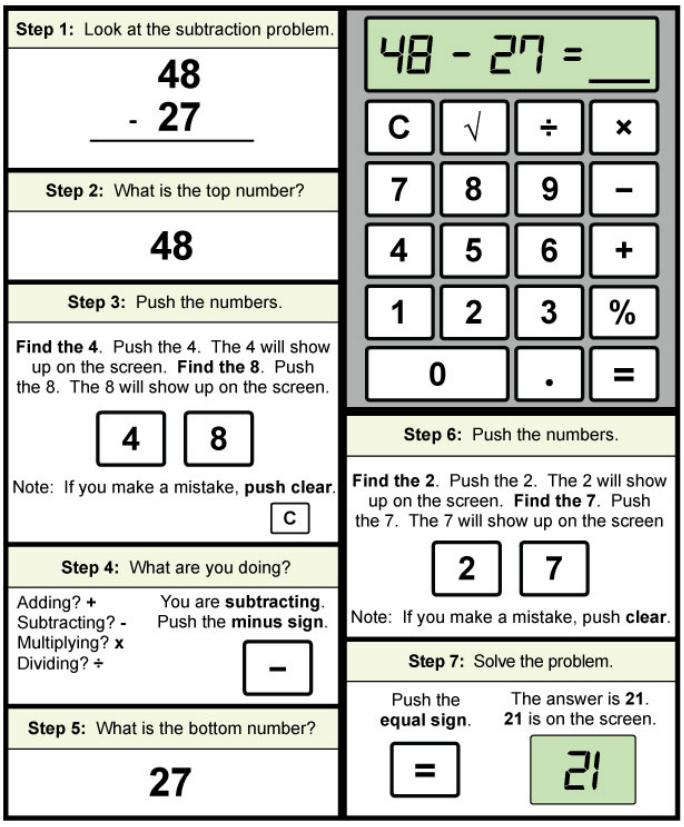
Instructional Targets	
	Math Standards for Algebra/Seeing Structure in Expressions • *Building Blocks to Algebra:* Understand and use +, - and = in problems. Solve addition and subtraction problems.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will calculate addition and subtraction problems in the context of a real-world scenario.	• Students will model addition and subtraction of two sets of objects in the context of a real-world scenario.	• Students will count a set of objects in an addition or subtraction problem through an active participation response (e.g., voice output device, eye gaze choice board).

Teaching How to Use a Calculator – Addition



Teaching How to Use a Calculator – Subtraction



Step 1: Look at the addition problem.

48
+ 27

Step 2: What is the top number?

48

Step 3: Push the numbers.

Find the 4. Push the 4. The 4 will show up on the screen. **Find the 8**. Push the 8. The 8 will show up on the screen.

4 **8**

Note: If you make a mistake, **push clear**.

C

Step 4: What are you doing?

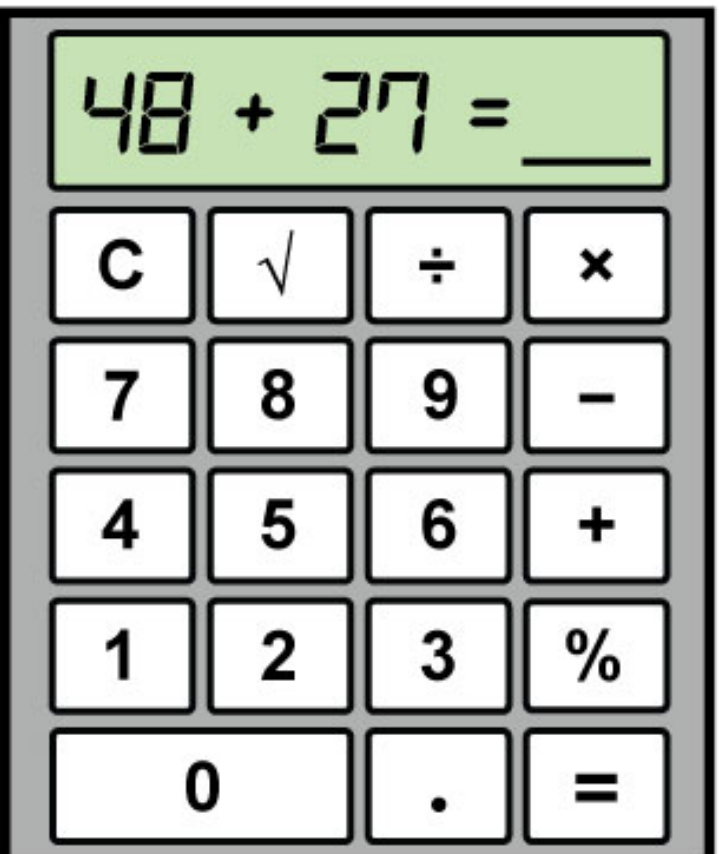
Adding? **+**
Subtracting? **-**
Multiplying? **x**
Dividing? **÷**

You are **adding**.
Push the **plus sign**.

+

Step 5: What is the bottom number?

27



Step 6: Push the numbers.

Find the 2. Push the 2. The 2 will show up on the screen. **Find the 7**. Push the 7. The 7 will show up on the screen.

2 **7**

Note: If you make a mistake, push **clear**.

Step 7: Solve the problem.

Push the **equal sign**.

=

The answer is **75**. **75** is on the screen.

75

Step 1: Look at the subtraction problem.

48
- 27

Step 2: What is the top number?

48

Step 3: Push the numbers.

Find the 4. Push the 4. The 4 will show up on the screen. **Find the 8**. Push the 8. The 8 will show up on the screen.

4	8

Note: If you make a mistake, **push clear**.

C

Step 4: What are you doing?

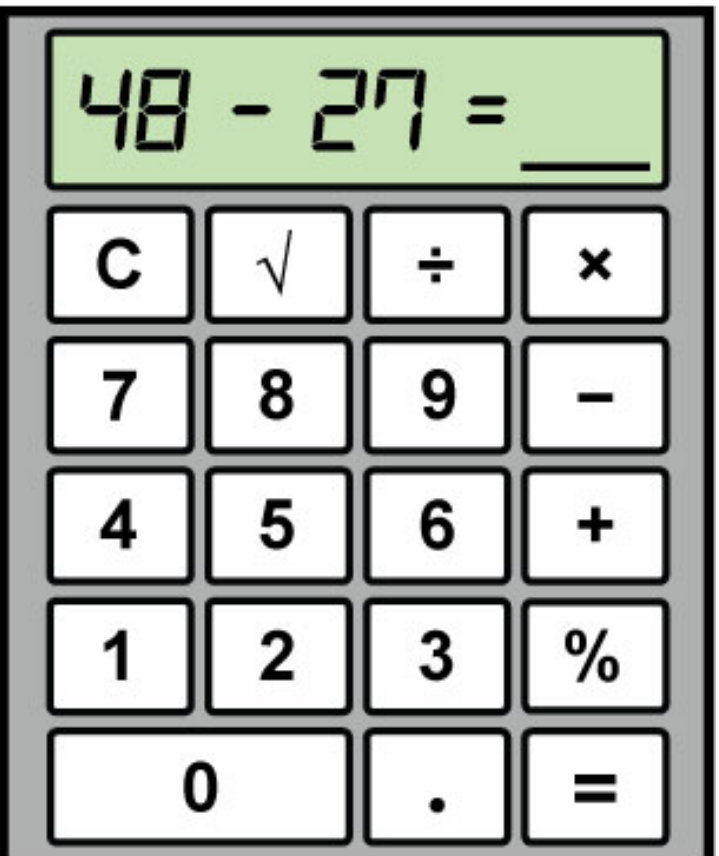
Adding? **+**
Subtracting? **-**
Multiplying? **x**
Dividing? ÷

You are **subtracting**. Push the **minus sign**.

–

Step 5: What is the bottom number?

27



Step 6: Push the numbers.

Find the 2. Push the 2. The 2 will show up on the screen. **Find the 7**. Push the 7. The 7 will show up on the screen

2	7

Note: If you make a mistake, push **clear**.

Step 7: Solve the problem.

Push the **equal sign**.

=

The answer is **21**. **21** is on the screen.

Instructional Targets

Math Standards for Geometry–Geometric Measurement and Dimension

- *Visualize relationships between two-dimensional and three-dimensional objects:* Identify and compare three-dimensional objects that have volume.

Math Standards for Measurement and Data

- *Life Skills for Measurement:* Select units and use measurement tools accurately in the context of a daily living activity. Solve problems involving measurement.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Measure It!: Sunshine Smoothie

Measuring is a count of how many units are needed to fill, cover or match an object or area being measured. Students need to understand what a unit of measure is and how it is used to find a measurement. They need to predict the measurement, find the measurement and then discuss the estimates, errors and the measuring process. Following a recipe is a real-world application of informational text (the recipe) and measurement tools.

This lesson focuses on measurement skills and tools for volume (dry and liquid measure when cooking). Simple kitchen tools, such as measuring cups and spoons, allow students to experience the life skill of basic cooking. Cooking is also a participatory activity: Even those who do not eat by mouth can enjoy the activities. Explore adapted cooking tools that promote participation.

The Sunshine Smoothie is a healthy, dessert-like drink students will enjoy. Point out to students how the blender uses electricity to do the hard work for this recipe. Discuss how long it would take to blend frozen fruit by hand.

Note: Always consider student food allergies when making a recipe.

You will need (makes four, 8-oz. servings)	Directions
• ½ C orange juice • ¾ C plain Greek yogurt • 1 T honey • ½ C baby carrots • ½ C frozen pineapple chunks • ½ C frozen mango chunks • blender	1. Put orange juice in blender. 2. Put yogurt and honey in blender. 3. Put carrots, pineapple chunks and mango chunks into blender. 4. Put cover on blender and set in base. 5. Blend for 30-60 seconds 6. Drink.

Recipes may be used over several days of instruction.

Day 1 Discuss ingredients. Ask, "What will we need to buy?"
Day 2 Teach measurement tools. Have students identify cups and spoons.
Day 3 Discuss the sequence. Have students cut apart steps and put them in order.
Day 4 Make the recipe. Prepare and enjoy.

Standards Connection

- Ounces, cups, gallons, pints: All of these measurement units are associated with volume. Use the connections lessons to increase students' understanding of volume and help them compare the measurement units for size and capacity. Vary the units each week so that students will become familiar with additional proportions and learn when to use them.

Additional ideas for measurement instruction are provided in the ULS Instructional Guides: Mathematics.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will use standard measurement tools and units to measure the volume of an object. • Students will apply use of volume measurements in real-world scenarios.	• Students will select a volume measurement tool appropriate to a real-world task. • Students will match objects with same volume measurements.	• Students will compare two measured volumes to determine which is larger. • Students will match objects of same size and shape.

Resources and Materials	Additional Resources
Recipe Recipe review Picture/word cards Standards Connection Lesson 20	Additional ideas for measurement instruction are provided in the ULS Instructional Guides: Mathematics.

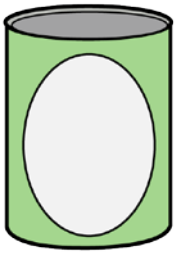
Instructional Targets	
	Math Standards for Geometry–Geometric Measurement and Dimension • *Visualize relationships between two-dimensional and three-dimensional objects:* Identify and compare three-dimensional objects that have volume.

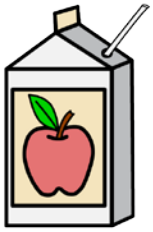
Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use standard measurement tools and units to measure the volume of an object. • Students will apply use of volume measurements in real-world scenarios.	• Students will select a volume measurement tool appropriate to a real-world task. • Students will match objects with same volume measurements.	• Students will compare two measured volumes to determine which is larger. • Students will match objects of same size and shape.

Learning About Ounces!

The list below shows several items that are measured in ounces. Present real examples of these items and have students determine each item's weight in ounces. Continue this activity and extend interest by introducing a variety of objects.

Find these items. How many ounces is each? (read the label)





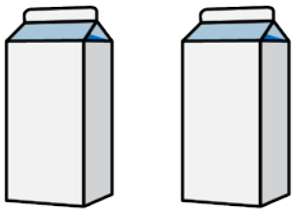
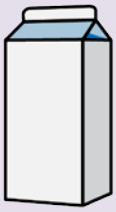
Make estimates: Choose two items. Which one do you think is heavier?
Compare the items in ounces to see which item(s) is heavier.

Grade Band: High School
Unit Target: Physical Science
Unit Topic: Using Electricity

Unit 6

Standards Connection Lesson 20

Equivalent Volumes Present empty containers of these sizes.
Focus on one measurement unit or equivalent each week. Estimate, measure and demonstrate equivalents.

1 cup 	½ pint 
2 cups 	1 pint 
4 cups 	1 quart 
4 quarts 	1 gallon 
2 half gallons 	1 gallon 
2 quarts 	½ gallon 

Making Comparisons Use the chart to compare two measurable items.

	> greater than more	
	< less than less	
	= equal to same	

Instructional Targets

Math Standards for Statistics and Probability–Interpreting Categorical and Quantitative Data

- *Summarize, represent and interpret data on a single count or measurement variable:* Create a bar graph to represent data. Interpret data from a bar graph. Compute the mean (average) and median of a data set.
- *Summarize, represent and interpret data on two categorical and quantitative variables:* Compare data on a graph to show the relationship between two sets of data.
- *Interpret linear models:* Describe a rate of change based on a line on a graph.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Read This Chart: Electric Appliances at Work and Play

Charts and graphs are tools that provide useful information. In this lesson, students are reading and creating charts on favorite electronic devices to use for work and entertainment.

- In the first part of this activity, students will read a chart containing specific information, then answer questions about it.
  - Display the bar graph and discuss how each of the appliances help us finish chores. Note the choices in each bar. Ask, "Which appliance is the most popular? Which appliance is the least popular?"
  - Analyze the bar graph and answer the questions.
- In the second part of the activity, students will design and conduct a related survey and record their findings on a picture graph. Through analysis of the gathered data, students will report findings and determine the probability of a particular outcome. The picture choices may be made into stickers by printing on a full sheet of label paper.
  - Have students conduct a survey to see which of the three electronic devices are most popular for high school students to use for entertainment. Record data and discuss.
- In the last activity, students will examine averages. Point out that the *median* is the middle point of data information and that the *mean* is the average of the data numbers.
  - The Great Light Bulb Giveaway is a fictitious donation of lightbulbs from electric companies to households across the country. Families registered to receive a free energy saving light bulb from one of the five electric companies.

Probability Quiz

- Use the bonus quiz question that involves a daily living probability situation. Three options are provided. Discuss the scenario and determine the probability of each option occurring.

Learn more about mean, mode and median with this interactive game:
www.bbc.co.uk/schools/ks2bitesize/maths/data/mode_median_mean_range/play.shtml

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will design survey questions and collect, organize and report data presented on a graph. • Students will compare data from tables and graphs to report specific information. • Students will calculate an average (mean) from data. • On the basis of information gathered, students will determine the probability that something is likely or unlikely to occur.	• Students will ask questions to gather data information and display the data on a graph. • Students will identify specific data information from a table or graph. • Students will identify a middle point (average) in a set of data. • On the basis of available information, students will determine that something is likely to happen.	• Students will ask a question and select pictures as part of a data-gathering process. • Students will report data information that is presented in a table or graph. • Students will communicate data information that describes an average. • Students will select an activity that is likely to occur.

Resources and Materials	Additional Resources
Chart Chart questions Survey graph Survey questions Mean and Median activity Probability quiz Picture/word cards and picture cards Survey graph picture cards	

Instructional Targets

Math Standards for Measurement and Data

- *Life Skills for Measurement:* Apply knowledge of money skills to real-world problem solving situations and scenarios.

Math Standards for Algebra

- *Building Blocks to Algebra:* Understand and use +, - and = in problems. Solve addition and subtraction problems. Model and solve problems involving multiplication or division.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Money: Buying Electronic Devices

This lesson focuses on money skills. The use of money is a problem-solving skill that requires several mathematical processes when applied to real-world situations. The scope of this lesson is limited to one or two problems in each skill area, but students who need additional practice may work on real-world scenarios provided by the teacher. In this lesson, students are at the electronics store purchasing various electronics for the classroom. This lesson allows students to strengthen individual skill areas. Students will learn to recognize coins and the values of coins and bills. They will also practice selecting specific money amounts and calculating costs. Choose the most appropriate activity on the basis of each student's skills and needs. Scenarios in this lesson may be used to help students understand the exchange of money for purchases.

Skills

Money 1: Counting Like Coins 1, 5, 10, 25
Money 2: Counting Mixed Coins to $1.00
Money 3: Amounts to $5.00
Money 4: Amounts to $10.00
Money 5: Amounts to $10.00/"One-Up" Method
Money 6: Adding Amounts to $5.00
Money 7: Adding Amounts to $10.00
Money 8: Adding Amounts to $10.00; 3 Items
Money 9: Adding Amounts to $20.00; 3 Items
Money 10: Adding Amounts Under $100.00
Money 11: Adding Amounts Over $100.00
Money 12: Making Change to $5.00 – No Borrowing
Money 13: Making Change to $5.00 – Borrowing
Money 14: Making Change to $10.00 – No Borrowing
Money 15: Making Change to $10.00 – Borrowing
Money 16 and 17: Problem Solving
Money 18: Problem Solving – Ratio With Multiplication
Money 19: Problem Solving – Ratio With Division
Money 20: Problem Solving – Percentage With Tip
Money 21: Problem Solving – Percentage With Discount

Expanding problem-solving sequences: Students will learn to find a better price for an item and then determine whether they have enough money to make a purchase. They will also use a unit ratio for making a purchase. You may wish to use scenarios like these: (1) We paid $6.00 for 3 pairs of socks. How much did each pair cost? (2) One hamburger costs $1.50. How much will 4 hamburgers cost? In addition, students will calculate percentages as these are applied to sale items or tips.

- Vary the ways to apply these activities on the basis of each student's abilities.
- Encourage students to use a calculator.

Standards Connection

- The lesson activities in this section focus on problem-solving processes that build financial literacy.
- Comparison of money amounts may be drawn from the lesson's problem scenarios to determine less than (<), greater than (>) and equal to (=).
- Students will calculate percentages for taxes, tips and sales items. Relate these skill to situations when planning money for an outing in the community.

Pre- and post-assessments are available through Monthly Checkpoints.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will calculate the amount of money needed for a purchase and ascertain the coins and bills required to complete that purchase. • Students will calculate addition and subtraction problems in the context of a real-world scenario.	• Students will match coins and bills to a given price. • Students will model addition and subtraction of two sets of objects in the context of a real-world scenario.	• Students will exchange money for a purchase. • Students will select a money amount in an addition or subtraction problem.

Resources and Materials	Additional Resources
Money scenario cards Standards Connection Lesson 22	Price tags, coins and bills are provided in the ULS Instructional Tools: Math Pack/Money. Additional ideas for money instruction are provided in the ULS Instructional Guides: Mathematics.

Instructional Targets	
	Math Standards for Algebra • *Building Blocks to Algebra:* Recognize and compare numbers showing the symbols >, < or =. Math Standards for Measurement and Data • *Life Skills for Measurement:* Apply knowledge of money skills to real-world problem-solving situations and scenarios. Math Skills for Ratios and Proportional Relationships • *Life Skills for Ratio and Proportional Relationships:* Apply understanding of percent into real-world scenarios (e.g., 10% tip, 30% sale).

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will compare two money amounts and use symbols to indicate >, < or =. • Students will calculate percentages in real-world scenarios.	• Students will compare two money amounts and determine which amount is bigger, smaller or equal in amount. • Students will locate a percentage amount from a chart.	• Students will state a money amount using a voice output device. • Students will identify a number that represents a percentage.

Comparing prices is a skill that may prove difficult for some students. Use the lesson's scenarios to demonstrate comparing prices and objects. Some students may use both mathematical terminology and symbols: greater than (>), less than (<) and equal to (=). Other students may use only simple terminology: *more, less* and *same*.

$ ___ . ___ ___	> greater than more	$ ___ . ___ ___
$ ___ . ___ ___	< less than less	$ ___ . ___ ___
$ ___ . ___ ___	= equal to same	$ ___ . ___ ___

Buying an item on sale is a good idea. Use this form to create sale prices and calculate the amount to pay after a certain percentage off is applied.

Item price	x	Percentage off (.00)	=	Amount of discount
Item price	**-**	**Amount of discount**	**=**	**Price you pay**

What is the item price?	What is the percentage off?	What will be the new price?
	10 %	
	20 %	
	30 %	
	40%	
	50 %	
	60 %	

In our culture, it is customary to tip restaurant servers and hairdressers. Use this chart to develop scenarios for tipping. Calculate a 10% or 20% tip.

Where will you go?	What is the amount of your bill?	Calculate a 10% tip (.10)	How much will you pay in all? (bill + tip = total)

Where will you go?	What is the amount of your bill?	Calculate a 20% tip (.20)	How much will you pay in all? (bill + tip = total)

Sales tax is another amount that must be calculated when planning a purchase. Most states have a sales tax on certain items. Learn the sales tax for your state or city. Round the figure to the nearest whole number; for example, 5.25% rounds to 5% or .05.
www.en.wikipedia.org/wiki/Sales_taxes_in_the_United_States

Where will you go?	What is the amount of your bill?	Calculate the tax ____%	How much will you pay in all? (bill + tax = total)

Instructional Targets
Math Standards for Measurement and Data • *Life Skills for Measurement:* Apply knowledge of time skills to real-world, problem-solving situations and scenarios.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan
Schedules and Times: Monthly Activities A calendar is an organizational system that helps us plan activities and keep scheduled appointments. Use a classroom calendar to record the activities for each month. Write activities on certain dates or use picture symbols to identify the activity and the date on which it will occur. Schedule periodic "calendar times" during which students will suggest items to be placed on the calendar. Ask, "What will we do tomorrow? This week? Next week? What should we do to plan and prepare for certain activities?" As unit activities are introduced in a lesson, add new activities to the calendar. • Be sure to put a specific time next to each activity recorded on the calendar. Continue to give students practice in telling time, such as telling time to the hour or half hour. • Use the time card provided to schedule the time for each daily activity and indicate the amount of time needed to complete that activity. • Consult the daily schedule plan included with this lesson for additional information. Note that scheduling activities may also be completed by using the ULS Core Materials, Task 1.1 and Task 1.2.    Standards Connection • The form included provides an extension for calculating elapsed time.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will read time and apply it to a real-world activity.	• Students will represent times for morning, afternoon, evening in the context of a real-world scenario.	• Students will select a time for a personal activity of the day.

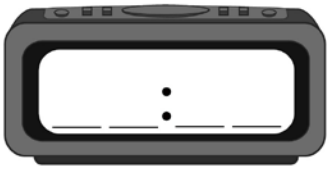
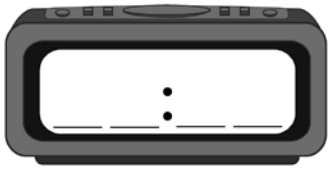
Resources and Materials	Additional Resources
Calendar Daily schedule Standards Connection Lesson 23	Time cards and digital/analog clocks are provided in the ULS Instructional Tools: Math Pack/Time. Additional ideas for time instruction are provided in the ULS Instructional Guides: Mathematics.

Standards Connection Lesson 23

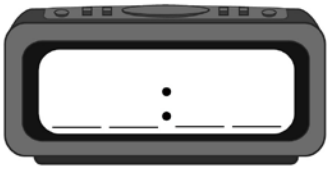
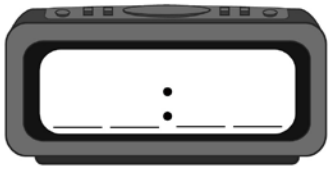
Instructional Targets	
STANDARDS Connection	Math Standards for Measurement and Data • *Life Skills for Measurement:* Apply knowledge of time skills to real-world, problem-solving situations and scenarios.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will read time and apply it to a real-world activity.	• Students will represent times for morning, afternoon, evening in the context of a real-world scenario.	• Students will select a time for a personal activity of the day.

Consider real activities of the day or week. Have students calculate the amount of time an activity will take and recognize the end time.

Activity	Start time	How long?	End time
			

Consider real activities. Have students determine the time at which the activity will begin, calculate the time needed to prepare for or travel to this activity, as well as the time to start getting ready.

Activity	Activity time	How long to get ready or travel?	Time to prepare or leave
			

Instructional Targets

Math Standards for Geometry–Congruence

- *Experiment with transformations in the plane:* Identify points, lines, line segments and angles (right, acute, obtuse) within the context of real-world situations. Establish congruency by applying a turn (rotation), a flip (reflection), or a slide (translation) to match items of similar size and shape.

Math Standards for Geometry–Similarity, Right Triangles and Trigonometry

- *Understand similarity in terms of similarity transformations:* Identify shapes by similar attributes (e.g., similar angles). Identify parts of a right triangle (right angle, legs) in real-world objects and areas.

Math Standards for Geometry–Modeling with Geometry

- *Apply geometric concepts in modeling situations:* Identify the shape in real-world two-and three-dimensional objects.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Geometry: Where's the Remote Control?

Geometry is the branch of mathematics that studies properties of points, lines, curves, plane figures and solid shapes, as well as their measurement and relationships. Early learners begin to identify shapes and manipulate these shapes to recognize spatial positioning. Students learn about points, lines and angles and apply reasoning skills to measurement strategies. The coordinate plane is a framework for spatial organization and the foundation for geometric thinking. Scaled drawings can be designed to replicate real-world situations and problems involving shapes and measurement. Choose the level of activity that is most appropriate for each student.
In this lesson, students will be measuring a remote control and batteries required to run various electronic devices.

- Measuring for Area and Length
  - This activity includes a model of a remote control drawn to scale. The simplest task requires students to measure the model's sides in inches. These scaled measurements may be converted to feet at the next level. Students will use the measurements to calculate perimeter and area of the model. Select skills for this activity on the basis of individual student skills and needs. One-inch unit squares are provided to support area measurements.
- Fit It in This Space
  - In this activity, students will determine how to fit a set of objects into a designated space. If possible, the scenario may be applied to real objects in the environment.


Standards Connection

- These lessons build on areas of geometry using the terminology associated with circles, angles and right triangles, while connecting life skills applications that can be applied on a regular basis.

Many tools are available online to explore shapes and measurements.


Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will use lines and angles within shapes to solve a real-world problem. • Students will identify properties of shapes to solve a real-world problem. • Students will use a model representing two- and three-dimensional objects to solve real-world problems.	• Students will match like shapes in the context of a real-world problem. • Students will identify shapes in the context of a real-world problem. • Students will arrange two-dimensional figures on a model of a real-world scenario.	• Students will select objects of same shape in the context of a real-world problem. • Students will select shapes in the context of a real-world problem. • Students will match two-dimensional figures on a model of a real-world scenario.

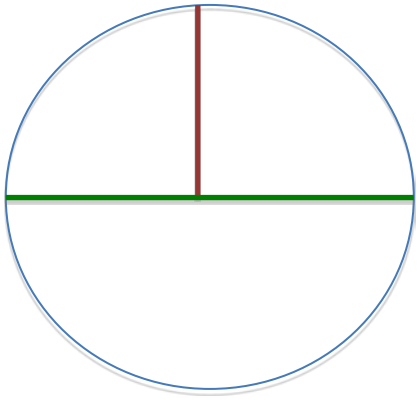
Resources and Materials	Additional Resources
Built-to-scale models for area and space Fit It in This Space One-inch unit squares Standards Connection Lesson 24	Additional ideas for geometry instruction are provided in the ULS Instructional Guides: Mathematics.

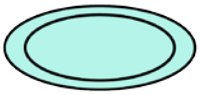
Instructional Targets	
	Math Standards for Geometry–Circles • *Understand and apply theorems about circles:* Identify parts of a circle (radius, circumference, diameter) in real objects and areas.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use circles and circle measurements to solve a real-world problem.	• Students will match like circles in the context of a real-world problem.	• Students will select objects with circles in the context of a real-world problem.

Terms to know about a circle

Circumference: The boundary line of a circle or the length of such a boundary line.
Radius: The distance from the center of a circle to any point on its circumference.
Diameter: A line segment that passes through the center of a circle and has its two endpoints on the circle. This term also represents the length of such a line segment.





What can we do with circles?

Some jars and containers have circular lids. Collect containers and lids of various sizes, some large and some small. Direct students to determine which lid fits on which container. Some lids may fit on more than one container. This activity is a problem-solving process that involves making an estimated guess and then checking the guess by putting a lid on a container.

Most plates are circles. Collect a variety of paper plates and have students sort and stack them according to size.

Instructional Targets	
	Math Standards for Geometry–Congruence*:* • *Experiment with transformations in the plane:* Identify points, lines, line segments and angles (right, acute, obtuse) within the context of real-world situations. Establish congruency by applying a turn (rotation), a flip (reflection), or a slide (translation) to match items of similar size and shape.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use lines and angles within shapes to solve a real-world problem.	• Students will match like shapes in the context of a real-world problem.	• Students will select objects of same shape in the context of a real-world problem.

Terms to know about angles

Right angle: An angle that measures 90°. It is the angle formed by two perpendicular lines, such as the corner of a square, or two perpendicular planes, such as a wall and the floor.
Acute angle: An angle that measures between 0° and 90°.
Obtuse angle: An angle that measures between 90° and 180°.
Congruent: Planar figures or solid shapes that have the same size and shape.

Right Angle

Obtuse Angle

Acute Angle

What can we do with angles?

Folding paper for a purpose requires creating precise angles. The two sides of a sheet of paper folded in half should be the same, or congruent; that is, edges should meet and sides should align. Display examples of precisely folded papers, such as business letters or programs for a special event. Look for tasks that will allow students to learn about angles by folding. Folding jigs are provided in the ULS Transition Passport Toolbox/Vocational/*Bifold Jig* and *Trifold Jig*.

Daily living and vocational tasks that require an awareness of angles include folding clothing linens. Devise opportunities that allow students to have regular practice with folding, and encourage students to focus on achieving precise angles.

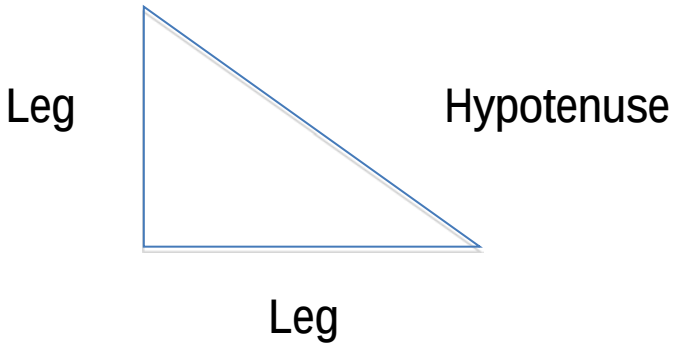
\

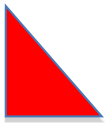
Instructional Targets	
	Math Standards for Geometry–Similarity, Right Triangles and Trigonometry: • *Understand similarity in terms of similarity transformations:* Identify shapes by similar attributes (e.g., similar angles). Identify parts of a right triangle (right angle, legs) in real-world objects and areas.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will identify properties of shapes to solve a real-world problem.	• Students will identify shapes in the context of a real-world problem.	• Students will select shapes in the context of a real-world problem.

Terms to know about triangles

Right triangle: A triangle, one of whose interior angles is 90°.
Pythagorean Theorem: A theorem in geometry stating that in a right triangle, the area of the square on the hypotenuse is equal to the sum of the areas of the squares drawn on the other two legs.





What can we do with right triangles?

Have students position books on a shelf at a right angle. Remind students that they may need to place a bookend next to the last book to keep the books upright. Tell students to note the angle change when the books are allowed to lean.

Tell students that wall decorations, when hung correctly, are positioned at a right angle with the ceiling and the floor. Point out that sometimes this positioning requires the use of a level to keep the top edge straight and in exact alignment. After the item is hung, its position may need to be readjusted. To reinforce the concept, have students practice hanging real pictures and decorations.

Instructional Targets

Math Standards for Algebra

- *Building Blocks to Algebra: Understand and use +, - and = in problems. Solve addition and subtraction problems. Model and solve problems involving multiplication or division.*

Math Standards for Algebra–Creating Equations

- *Create equations that describe numbers or relationships:* Represent a real-world situation with an algebraic expression.

Math Standards for Algebra–Reasoning with Equations and Inequalities

- *Understand solving equations as a process of reasoning and explain the reasoning:* Order a sequence of steps to solve an equation.
- *Solve equations and inequalities in one variable:* Use equations to solve real-world problems when a part is unknown. Use inequalities (e.g., < and >) to solve real-world problems where a part is unknown.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Algebra: Relaxing With Electronic Entertainment

Algebraic thinking is a process of solving problems in situations of adding to, taking from, putting together, taking apart and comparing, with unknowns in all positions.

- Algebra: A generalization of arithmetic in which letter symbols are used to represent unknown quantities so that we can generalize specific arithmetic relationships and patterns.
- Algebraic expression: An algebraic expression is made up of three things: numbers, variables and operation signs, such as + and -.

The scenarios in this lesson focus on ways we use electronic devices to relax and have fun. This lesson's real-world scenarios promote mathematical problem solving and the ability to write mathematical sentences. Students are asked to determine a mathematical process and write a math sentence that states the answer to the problem. Choose the most appropriate activity on the basis of each student's skills and needs. Interactive number journal supports and printable manipulative pictures allow teachers to create additional scenarios.

- Simple Sentences and Write Sentences 1 and 2
  - Students will solve for an unknown in a simple addition or subtraction process.
- Problem Solving
  - Students will use a chart to gather data for problem solving.
- Simple Sentences and Write Sentences 3
  - Students will multiply or divide a number of objects or numbers for a specific reason.
- Multi-Step Problem 1 and 2
  - Students will solve multiple-step problems involving more than one operation.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Number Journal: Click icon within the lesson to access the number journal.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will calculate addition and subtraction problems in the context of a real-world scenario. • Students will read, write and solve a math sentence. • Students will use a combination of operations to solve multi-step problems in the context of a real-world scenario. • Students will model multiplication and division with objects and numbers that show equal groups in the context of a real-world scenario.	• Students will model addition and subtraction of two sets of objects in the context of a real-world scenario. • Students will select pictures and numbers to model a math sentence. • Students will use operations and models to solve a two-step problem in the context of a real-world scenario. • Students will count equal number of objects in selected groups or an array.	• Students will count a set of objects in an addition or subtraction problem through an active participation response (e.g., voice output device, eye gaze choice board). • Students will select a number (errorless choice) within a math problem. • Students will select numbers and count within a two-step problem in the context of a real-world scenario. • Students will count a set of objects in a group through an active participation response (e.g., voice output device, eye gaze choice board).

Resources and Materials	Additional Resources
Scenario cards for math sentences	Number Journal Additional ideas for algebra instruction are provided in the ULS Instructional Guides: Mathematics. Samples of arrays to model multiplication and division are provided in the ULS Instructional Tools: Math Pack/Arrays.

Instructional Targets
Reading Standards for Informational Text • *Range and Level of Text Complexity:* Read and use grade level and age-appropriate informational materials, including social studies and technical texts that are adapted to student reading level.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan
Related Content: Trading Cards Collecting items such as stamps, coins or baseball cards is a hobby that some students may already enjoy. The trading cards used in this lesson are meant to encourage students to start such a collection or share their knowledge of collecting with the class. • Display the larger poster in the classroom and use it to introduce and discuss the notable person or foundation shown. • Provide each student with a trading card. Print the pages provided on cardstock or heavier paper for durability. Consider options for collecting and trading cards. • Discuss with students the accomplishments of each person or foundation shown on the cards. Note the times during which these people lived and indicate whether the person or foundation are still living. These trading cards may be introduced along with the Chapter Book.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will independently read informational materials, including social studies and technical texts that have been adapted to student reading level.	• Students will read supported and shared informational materials, including social studies and technical texts that have been adapted to student reading level.	• Students will actively participate in supported reading of informational materials, including social studies and technical texts that have been adapted to student ability level.

Resources and Materials	Additional Resources
Trading Cards: Benjamin Franklin, Alessandro Volta, Thomas Edison, Lewis Howard Latimer	For more scientists and inventors, see the following link: http://www.energyquest.ca.gov/scientists/

Instructional Targets

Standards for Speaking and Listening

- *Presentation and Knowledge of Ideas:* Present information in an organized manner appropriate to a task, audience or situation. Integrate media to enhance a presentation. Adapt communication using formal or informal language to effectively communicate in a variety of contexts and tasks.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Related Content: Oral Report

Students are often required to give oral or written reports. In this lesson, the students will generate a report on electronic devices and electricity. Additional research and reading may be needed before generating this report. The report may be generated in written or oral forms. The text-to-speech feature can be used to read sample reports aloud to students.

- Text-only and symbol-supported templates are provided for planning the report. Students will identify the topic in the first sentence.

  This is a report about _____.
  (Tell 2–3 sentences about an electric appliance or device) _____.
  (Why is this important to know?) It is interesting because _____.

- The goal of this lesson is to encourage students' expressive skills. Encourage topic development through questions, discussion and guided research.
  - Build on each student's personal modes of communication, including verbal ability, AAC devices and communication boards.
  - Consider ways to integrate multimedia formats, such as images on a poster, PowerPoint® slides and assistive technology software, to enhance the presentation.
- Two sample reports are provided for students who may need maximum support. If a student requires use of augmentative communication, be sure this mode is integrated in the reporting format.
- Present the report orally or through videotaping.

Standards Connection

- Design this lesson as a research activity. Use the Standards Connection form to guide the process.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will communicate on a topic specific to the purpose and audience. • Students will select and use multimedia components to enhance a presentation. • Students will communicate by using formal or informal language specific to the task or topic.	• Students will communicate on a topic specific to the purpose and audience using picture supports. • With support, students will add multimedia components to a presentation. • Students will effectively communicate in a variety of contexts and tasks.	• Students will communicate basic information on a topic or experience using communication technology and picture supports. • Students will participate in creating multimedia components to support a presentation. • Students will communicate by using supported modes of expression.

Resources and Materials	Additional Resources
Sample reports: Television, Electricity Planning template: text-only and symbol-supported Pictures/word cards: oven, microwave, light bulb, radio, flashlight, TV, electricity, light, heat Standards Connection Lesson 27	Additional supporting pictures may be downloaded from SymbolStix Online, which is available free to all Unique subscriber by clicking on the SymbolStix button at: n2y.com

Instructional Targets	
	Standards for Writing • *Research to Build Knowledge:* Research and gather information to answer a question or solve a problem. Generate a written text to summarize information from multiple sources; cite sources. Gather information from (adapted) literary or informational materials.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will research and gather information from multiple print and digital sources to answer a question or solve a problem. • Students will generate a report of one or more paragraphs to summarize information and list sources.	• Students will collect information from print or digital sources to answer a question or solve a problem. • Students will generate multiple sentences to summarize information.	• Students will select a picture from an errorless choice to contribute to a shared research and writing task.

Refer students to this helpful research site: www.kidsclick.org.

The unit chapter is meant to spark a variety of topics for students to research and learn more about.

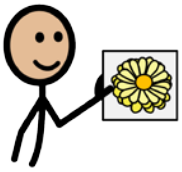
1. Write a question about what you want to learn:

_____

2. Time to research. Read books. Look on the Internet. Make notes or print pictures.

3. How will you make a report? Will you write it? Will you make a poster?

4. When you have your report ready, check it over.



5. Share what you have learned with someone else.

Instructional Targets
Standards for Scientific Inquiry • Identify questions to guide scientific investigations. Conduct simple scientific investigations. Use tools to gather data and information. Analyze and interpret data. Communicate and support findings.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Science Experiment: Battery Life

Scientific inquiry "refers to the activities of students in which they develop knowledge and understanding of scientific ideas, as well as an understanding of how scientists study the natural world." (*National Science Education Standards)* This lesson follows the step of a scientific inquiry process to engage students in developing a hypothesis, conducting an experiment and arriving at a conclusion.

In this science experiment, students will investigate the life of batteries and make hypotheses based on price and advertising. Discuss the steps for the simplified scientific method that students will use. The text-to-speech feature can be used to read directions aloud to students.

1. Ask a question.
2. Make a guess.
3. Do an experiment.
4. Organize data.
5. Find the conclusion.

You will need	Directions
• 3 flashlights (same type, size and brand) • 2 batteries for each flashlight (3 different brands)	1. Put batteries into each flashlight. Mark the flashlight with the brand of the batteries in each. 2. Test the flashlight to make sure it works. 3. Turn on all three flashlights at the same time. (Batteries typically work from 15-24 hours so this may take more than one day of trials). 4. Write down the time you turn the flashlight on. When the light goes out, write the time it burned out.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

Level 3	*Level 2*	*Level 1*
• Students will follow steps of a scientific process related to grades 9–12 science topics.	• Students will follow steps of a scientific process with support related to grades 9–12 science topics.	• Students will actively participate in a scientific process related to grades 9–12 science topics.

Resources and Materials	Additional Resources
Science experiment Science experiment cards	

Instructional Targets
Social Studies Standards for History • *American History:* Use multiple sources to create a sequence of events from a historical period.
Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan
History Timeline: Electrical Inventions Historical thinking begins with a clear sense of time–past, present and future–and becomes more precise as students progress. Through this thinking process, students can begin to understand the relationships among events and draw conclusions. This timeline shows significant dates that apply to inventions of electrical appliances. 1872 The first electric toaster was created by Maddy Kennedy in Europe. 1876 The first electric refrigerator was invented by a German scientist. 1890 The first electric hair dryer was created in which you sat under a large dome. 1893 The first electric oven was invented by Thomas Ahearn. 1901 The first electric vacuum cleaner was invented by Hubert Cecil Booth 1922 The first electric blender was invented for making milkshakes.    Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks		
Level 3	*Level 2*	*Level 1*
• Students will use multiple sources to create a description of a historical event or period of time.	• Students will use various sources to create a sequence of events in history.	• Students will select pictures to sequence a series of events in history.

Resources and Materials	Additional Resources
Picture timeline cards	

Instructional Targets

Standards for Writing

- *Range of Writing:* Participate routinely in supported writing activities, using conventional formats.

Which of your state standards are aligned to these instructional targets?

Classroom Activities/Lesson Plan

Journal Writing: Monthly Topics

In this lesson, students will be asked to write journal entries. The purposes of journal writing are these:

- To write personal thoughts.
- To write memories of people and events.
- To improve writing skills.

Each month, there will be four writing prompts. The first writing prompt will be a class journal writing activity. The other prompts will be either supported or independent writing activities. Journal entries may be dated and kept in a binder to follow growth. Students may use words or pictures to fill in a template or they may write independently. Journal entries may be shared orally. Choose the most appropriate writing template on the basis of each student's skills and needs. Template C is blank, allowing students to use the most appropriate format to fill in the template with their own thoughts. This template may also be used if a student needs a scribe. Students are encouraged to fill in their own punctuation. Template B is text with one picture before a sentence. Students use picture cards, word cards or write a word to complete a sentence. Punctuation is deliberately omitted in the sentences so that students must provide it. Template A is symbol-supported. Students are encouraged to read and decide on a picture to complete a sentence. This lesson provides some pictures and words that will support those students who need help in completing the sentences. Students may also be allowed to illustrate the journal entry or attach a photo to it to help explain their experiences. An illustration page is available with this lesson. This page may not be appropriate for every journal entry.

Monthly Journal Topics

Entry 1 Whole Group Entry

- This journal entry can be completed on chart paper, whiteboard or large writing paper. Begin by modeling for students how to write the date. Continue by writing about the day's events. Encourage students to suggest events to record in the entry.

Entry 2 Electricity is Important

- We use electricity for many things. Life would be hard without it. In this journal entry, students will tell about an electrical device they could not live without.

Entry 3 Batteries

- Batteries are useful to everyone. We use them all the time to power our electronic devices in places where there are no outlets. They can be changed, recharged and replaced just about anywhere.

Entry 4 Make Up Your Own Holiday Day!

- On March 26, celebrate your own holiday. Have students decide and tell about a holiday they would like to celebrate.

Writing Conference

- After each journal entry, discuss with students what they have written. Have each student read his or her entry to you. Remind students to use correct capitalization and punctuation.

Standards Connection

- Use the chart from this document to review and revise for conventions.

Interactivity: This lesson is available for interactive participation. See lesson for more details.

Differentiated Tasks

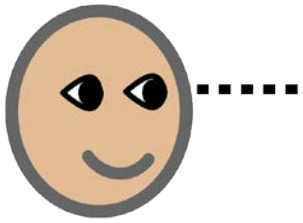
Level 3	*Level 2*	*Level 1*
• Students will write routinely for a range of discipline-specific tasks, purposes and audiences.	• Students will participate routinely in supported writing activities for a range of discipline-specific tasks, purposes and audiences.	• Students will actively participate in shared writing and communication activities for a range of discipline-specific tasks, purposes and audiences.

Resources and Materials	Additional Resources
Writing templates: Template C: starter sentence with writing lines Template B: one picture before sentence, no period at end of sentence Template A: pictures and symbols on sentence, period at end of sentence Fill-in picture/word cards and fill-in word cards Illustration page Standards Connection Lesson 30	Additional supporting pictures may be downloaded from SymbolStix Online, which is available free to all Unique subscriber by clicking on the SymbolStix button at: n2y.com

Instructional Targets	
	Standards for Writing • *Production and Distribution of Writing:* With some guidance and support, plan, edit and revise writing with a focus on the purpose of the document. Standards for Language • *Conventions of Standard English:* Apply conventions of grammar when speaking or writing. Apply correct capitalization, punctuation and spelling in sentences.

Differentiated Tasks		
Level 3	*Level 3*	*Level 3*
• Students will plan, edit and revise writing to strengthen written sentences. • Students will demonstrate conventions of grammar in spoken and written sentence forms. • Students will demonstrate conventions of written language, including appropriate capitalization, ending punctuation and common spelling.	• With support, students will use pictures and text to plan, edit and revise a written sentence idea. • Students will create simple sentence forms in a grammatically correct order when speaking or writing. • Students will identify beginning capital letters and ending punctuation in a written sentence. • Students will spell familiar words with letter-sound matches.	• Given errorless choices of pictures, students will make a selection of pictures to plan, edit and revise a sentence idea. • With picture supports, students will combine two or more words during a shared writing or speaking activity. • Students will locate capital letters and ending punctuation in a sentence.

A shared checklist is a way to review and revise writing. In the writing conference, guide students to review a written text and revise it as needed.



- ☐ Do I have a **capital letter**
  - at the beginning of the sentence?
  - for names of people and places?
- ☐ Do I have punctuation at the end of the sentence?
  - **period**
  - **question mark**
  - **exclamation point**
- ☐ Does my sentence make sense when I say it out loud?
- ☐ Are there any spelling words to check?