

INTERCONNECTIONS

5th Grade

Science and Social Studies: A Thematic Approach

Department of Teaching and Learning



Notes:

Foldable: Graphic organizer where students fold the paper and then write/draw information in each section. Do an internet search for some examples.

eMedia: Online media content provider that can be accessed through UEN.org. Video files can be shown directly from the website or can be downloaded and saved (recommended).

Document Camera: Overhead camera that connects to the computer and LCD projector so that the entire class can see a single document or book. HUE brand can be purchased from Amazon.com for around \$50 or less.

LCD Projector: The electronic copy of the manual can be used on the LCD instead of making copies, or to take advantage of the color graphics in the electronic version.

Nystrom Atlas: Recommended to have a class set for each grade level. Contact Kim Sorensen at Nystrom for a current catalog. 801-969-5737.

Book/Video list: A spreadsheet of all suggested materials is available on the Interconnections website (or Intranet for GSD employees). The teacher may always substitute another book if they do not have the suggested title. Books go out of print, or may not be as appropriate for every student. Teachers can use their judgment on replacing a book or video.

Supplies: The science supplies are listed in a spreadsheet on the Interconnections website (or Intranet for GSD employees). Suggestions for where to purchase items can be found in the spreadsheet.

Website:

<http://www.graniteschools.org/departments/teachinglearning/Curriculum/interconnectins/Pages/default.aspx>

5th Grade Table of Contents

5- Welcome

6- Imagine It Correlations

7-Unit 1 Change over Time

9-Essential Question #1 *What events/processes create change to Earth's surface?*

11-Shaping the Land

15-Earthquakes and Plate Tectonics

21-Essential Question #2 *What evidence shows the building up and breaking down of Earth's surface over time?*

23-It Takes Time

25-Essential Question #3 *How does understanding Earth's past help us predict and plan for the future?*

27-Earth's Past

31-Unit 2 Cause and Effect: Exploration, Colonization and the Road to Self Rule

33-Essential Question #1 *How were the early American colonies settled and how did they grow?*

35-Unit Introduction

37-North American Exploration

1-Challenges of Colonization

43-Plymouth Colony

47-The Thirteen Colonies

51-Essential Question #2 *How did American colonization impact the rest of the world?*

53-The Encounter

57-Triangles of Trade

59-Essential Question #3 *What rights and responsibilities did different groups of people have during the Colonial Period?*

61-Freedom in the Colonial Period

63-Essential Question #4 *Why did the American colonists desire independence from Great Britain and how did they achieve their goal?*

65-The Road to Revolution

67-Loyalist vs Patriot

71-The Declaration of Independence

75-Essential Question #5 *How did the Revolutionary War impact the American colonies' ability to self govern?*

77-The Revolutionary War

81-Leaders of the American Revolution

85-Independence at Last! Now what do we do?

89-Unit 3 Cause and Effect: Inheriting Traits

91-Essential Question #1 *How can you provide evidence that shows traits are passed from parent to offspring?*

93-Inherited Traits Introduction

97-Hey Good Looking? Where'd You Get Those Eyes?

99-Essential Question #2 *What are some of the variations or similarities between a parent and its offspring?*

101-Inherited Traits and Life Cycles

103-Essential Question #3 *How can the same trait be helpful to an organism in one environment but a hindrance in a different environment?*

105-Survival Advantage Introduction

109-Adaptations, Populations and Variations

113-Change of Address

115-Essential Question #4 *How are traits that are inherited different from traits that are learned?*

117-Inherited vs Learned

123-Unit 4 Change over Time: The Growth of our Constitutional Government

125-Essential Question #1 *What is the purpose of government?*

127-Preamble to the Constitution

129-Essential Question #2 *What are the underlying principles of the U. S. Constitution?*

131-Documents used to Develop the Constitution

133-Three Branches of the U. S. Government

139-How Laws are Made

143-Responsibilities of Good Citizenship

145-Essential Question #3 *How has the U. S. Constitution been amended and interpreted over time and how do these changes affect us today?*

147-And Justice for All

149-Unit 5 Change: Matter and its Properties

151-Essential Question #1 *How do physical and chemical changes affect matter?*

153-What is Matter? Solid, Liquid and Gas

159-Conservation of Matter

161-Physical Change

163-Chromatography

167-Chemical Reactions

171-Cookie Caper: A Chemistry Mystery

175-Essential Question #2 *What evidence do you have that Earth has a magnetic field?*

177-Magnet and Compass Investigation

183-Essential Question #3 *How do magnets attract each other?*

185-Magnet Investigation

189-Essential Question #4 *In what situations/materials will static electricity build up?*

191-Static Electricity

195-Static Electricity and Lightning

203-Essential Question #5 *How is the flow of electricity dependent on the type of material or the components of a circuit?*

205-Insulator or Conductor?

209-Simple Circuits

217-Circuit Projects

223-Unit 6 Times of Change: The United States in the 19th & 20th Centuries

225-Essential Question #1 *What role did people and events play in America's expansion during the 19th century?*

227-The United States Expands

233-Essential Question #2 *How did division and conflict lead to Civil War in the 19th Century?*

235-Causes of the Civil War

237-Perspectives on the Growing Conflict

241-Essential Question #3 *How did the events of the 19th century impact people, places and ideas?*

243-Impact of the Civil War

245-Reconstruction

249-19th Century Immigration

255-Essential Question #4 *How did World War I, the Great Depression and World War II change the United States in the 20th century?*

257-Social and Political Movements of the Earth 20th Century

259-The Great Depression

267-World War II

269-Civil Rights Movement

271-Essential Question #5 *Why is the United States considered a world power and how does this status impact our role in the world?*

273-On the World Stage-The Power and Influence of the United States



Welcome to *Interconnections*!

Interconnections is a thematic approach to teaching the Utah elementary science and social studies core curricula. Introduced over a decade ago, *Interconnections* was and continues to be a collaborative effort of classroom teachers, media coordinators, curriculum specialists, and district administrators. The 2011 revised program honors the past, yet embraces current research, resources, and technology. Built on the *Backward Design** model, each grade level in the 2011 program includes four to six units sequenced to build on skills and knowledge outlined in the curricula and assessed through state criterion-referenced tests (CRTs). Each unit includes an enduring understanding and three to five essential questions designed to teach both science and social studies comprehensively and efficiently.

Time is a precious instructional resource. *Interconnections* recognizes this and consolidates resources, ancillary materials, and lesson plans into one user-friendly notebook per grade level. Theme-related graphics associate individual lessons and support materials with specific units of instruction. In addition to the notebook, electronic versions of the program replace the need for overheads and excessive photocopying. Program updates and support services are available through the Granite School District *Interconnections* website.

The look may be new, but the philosophy remains the same. Students need to recognize authentic connections among content areas and use them to enhance their skills and understanding of a given subject. Students must be engaged in learning tasks that promote life skills and higher-level thinking. Students need opportunities to apply their reading and writing abilities during science and social studies instruction. While *Interconnections* adheres to this philosophy, it honors the expertise of individual classroom teachers and encourages them to make program adjustments as necessary to meet the needs of individual students and classrooms.

5th Grade Pacing Map

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
3 weeks	9 weeks	4 weeks	3 weeks	10 weeks (complete <u>before science</u> CRTs)	5 weeks

**Understanding by Design*, Grant P. Wiggins & Jay McTighe

Imagine It! Correlations to the Interconnections Units

5 th Grade	Heritage	Energy at Work	Making a New Nation	Our Corner of the Universe	Going West	Call of Duty
Interconnections	Unit VI, EQ 3	None	Unit II, EQ 4	None	Unit VI, EQ 1	None

Fifth Grade Interconnections
Unit I
Change over Time: The Surface of the Earth

Enduring Understanding:

Earth's surface is in constant change.

Essential Questions

- *What events/processes create change to Earth's surface?*
- *What evidence shows the building up and breaking down of Earth's surface over time?*
- *How does understanding Earth's past help us predict and plan for the future?*

Core Curriculum Concepts/Skills: change, cause and effect, observation, sort, sequence, measure, compare, classify

Core Standards

Science

Standard II: Students will understand that volcanoes, earthquakes, uplift, weathering, and erosion reshape Earth's surface.

Objective 1: Describe how weathering and erosion change Earth's surface.

Objective 2: Explain how volcanoes, earthquakes, and uplift affect Earth's surface.

Objective 3: Relate the building up and breaking down of Earth's surface over time to the various physical land features.

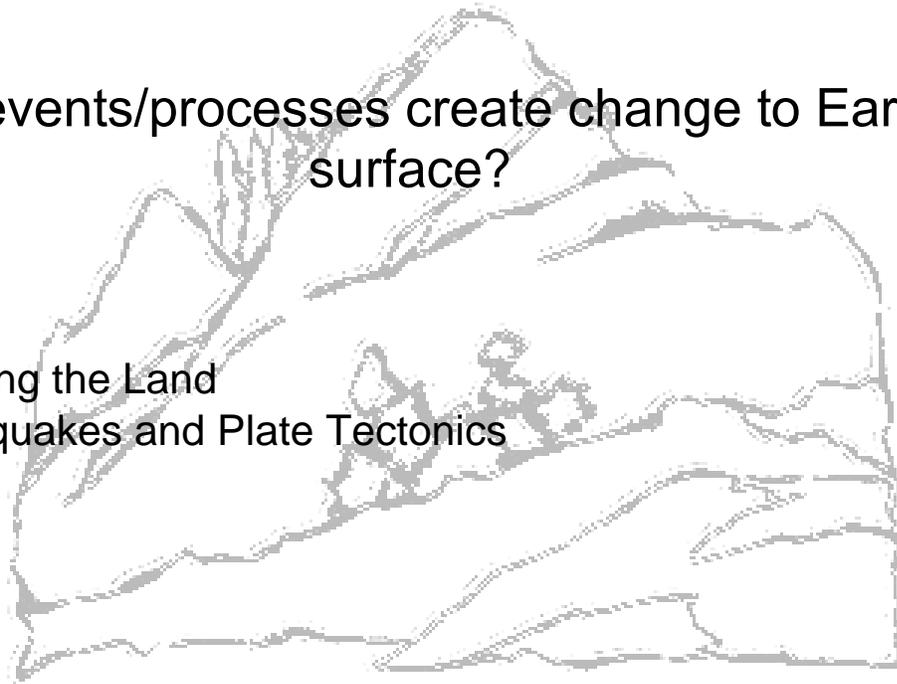
Science language students should know and use: earthquakes, erode, erosion, faults, uplift, volcanoes, weathering, buttes, arches, glaciers, geological, deposition

Essential Question #1:

What events/processes create change to Earth's surface?

Lessons:

- Shaping the Land
- Earthquakes and Plate Tectonics



Core Standards	
Social Studies	Science
	Standard II
	<input type="checkbox"/> 1a identify the objects, processes, or forces that weather and erode Earth's surface <input type="checkbox"/> 2b describe how geological features are changed through erosion <input type="checkbox"/> 2c explain the relationship between time and specific geological changes <input type="checkbox"/> 3b describe the role of deposition in the processes that change Earth's surface



5th Grade
Unit 1: Change over Time: The Surface of the Earth

Essential Question #1: What events/processes create change to Earth's surface?

Lesson Title: Shaping the Land

SC Standard II, Objectives 1, 2

Implementation Time: Two 45-minute sessions

Media Resources Needed:

Optional: *Weathering and Erosion* video (online, eMedia)

Materials Needed:

Pictures of landscapes from magazines

Shaping the Land Sheet

Scissors

Glue

Procedure:

Day 1

1. Optional: Watch the video *Weathering and Erosion* and discuss.
2. Pass out magazines to students and tell them you want them to find pictures of landscapes and cut them out. After students turn in their pictures, pick out the landscapes you want to focus on.
3. Teacher should glue the pictures on heavy paper and use a marker to place an asterisk on the area of the picture you want the students to name. (Number and laminate the pictures, you will need about 15. Examples of features and the force of erosion that shaped the feature: **U-shaped valley** – formed by a glacier; **butte** – water (and uplift); **canyon** – wind and water; **arch** – wind; **valley** – water; **sand dunes** – wind; **bay** – water; **hills** – wind, water, and gravity; **cliff** – water and gravity; **mesa** - wind, water and gravity; **peninsula** – water; **delta** – water; **fjord** – glacier; **gulf** – water; **island** – water



Day 2

1. Write a list of landscape features on the board (ex. Arch, canyon, valley, and butte etc...).
2. Pass out “Shaping the Land” worksheet and have students work in pairs. Give each pair a picture and give them about 3 minutes to look at the picture and have them fill in the worksheet. They will write the number of the picture, the name of the landform, and the type of erosion most responsible for the feature.
3. Pass the pictures around the room until the students have seen all of them.

Assessment: Discuss each picture as a class and have students check their worksheets and correct if necessary. Ask the following question during the discussion: Which type of erosion was the most common in the pictures you saw? Were there any pictures where wind was the main type of erosion? Which pictures showed landscapes formed by rapid change? If you look out your classroom window or door, what evidence do you see of different types of erosion?



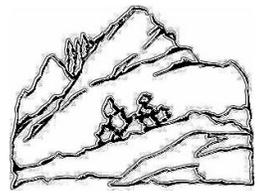
Shaping the Land

Introduction: In this activity you will name the landscapes in the pictures provided by your teacher. You will decide which force of erosion has shaped the feature.

Directions:

1. Look at your first picture. Notice the number on it and make sure you write in your data in the correct place. If you have #5, start on #5 on the data table
2. Write down the name of the landscape feature. Look on the board for a list to help you.
3. Decide which type of erosion was most responsible for making this feature. Write it down on the data table.
4. Pass the pictures around the room until you have seen all of them.

Picture #	Name of feature	Type of erosion (wind, water, glacier, or gravity)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		





5th Grade
Unit 1: Change over Time: The Surface of the Earth

Essential Question #1: What events/processes create change to Earth's surface?

Lesson Title: Earthquakes and Plate Tectonics

SC Standard II, Objective 2

Implementation Time: 1 to 1 ½ hours

Media Resources Needed:

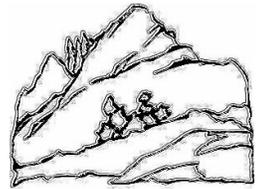
Kids Discover: Earthquakes (class set)

Materials Needed:

Kid's Discover Activity sheet
"Shimmy—Shimmy-- Shake!"

Procedure:

1. Teach students the song "Shimmy—Shimmy—Shake!" (Sung to the tune of Old MacDonald Had a Farm).
2. Pass out a KIDS Discover Earthquakes magazine to each student. Tell students they will find evidence of the relationship between plate tectonics and earthquakes.
3. Instruct students to work with a partner. Explain that they are to take turns reading aloud the magazine. (You may want students to sit on the floor or let students choose an area to peer read.)
4. Explain that when partners are finished reading the magazine they are to come to the teacher and give their evidence of the relationship they discovered about plate tectonics and earthquakes. Students could use a graphic organizer or make a Foldable if they want to. (Students should discover that lateral movement of sliding plates touching each other causes earthquakes to happen.) Then the teacher will hand the partners the activity sheet "KIDS Discover earthquakes".
5. Correct as a class and make sure students understand that a Richter magnitude is the strength of an earthquake and a seismograph is an instrument scientists use to measure it. (Collect the magazines)



Assessment: Assess the students' earthquake activity sheets.

Extension:

Instruct students that they could write new lyrics about earthquakes to a different tune.

You could take a fieldtrip to the University of Utah Seismograph Stations or have a geophysicist or seismologist come to your class to talk about seismographs and earthquakes



Shimmy—Shimmy—Shake!

(To the tune of Old McDonald Had a Farm, lyrics adapted from Sylvia Herndon)

Verse 1

Rumble, rockin', shakin' ground
Shimmy-shimmy-shake!
Whoops! It's hard not to fall down
Shimmy-shimmy-shake!

Chorus

With a rattle rattle here
And a rumble tumble there

Here a rattle – there a rumble...
Everywhere a rumble tumble.
Rumble, rockin', shakin' ground
Shimmy- shimmy- shake!

Verse 2

Someone says "It's an earthquake!"
Shimmy-shimmy-shake!
Best to hurry, don't you wait...
Shimmy-shimmy-shake!

Chorus

Verse 3

Get under something near and safe
Shimmy-shimmy shake!
You must be fast, now don't you wait...
Shimmy-shimmy-shake!

Chorus

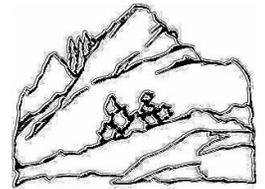
Verse 4

Hold on tight and 'fore you know
Shimmy-shimmy-shake!
Rockin's over, you can go...
No more shimmy-shake?

No rattle rattle here
No rumble tumble there

Here no rattle- there no rumble
Gone is all the rumble tumble,
Rumble, rockin', shakin' ground...
No more shimmy-shake!

**Copied with permission from
NSTA/FEMA**



Name _____

**KIDS Discover
EARTHQUAKES**

Answer the following questions after reading the magazine.

1. Earthquakes rarely last more than a few minutes, but what continues to happen and why?

2. The Richter scale is the standard method of measuring _____ of earthquakes.

3. Earthquakes produce three kinds of waves. Name and describe them.

4. Name 5 different ways to measure earthquakes.

1.

2.

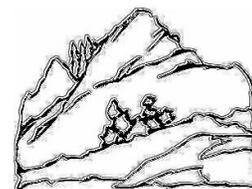
3.

4.

5.

5. Where do most earthquakes occur?

6. Draw and label the cross section of the Earth's plates moving against each other.



7. List the effects of earthquakes on people's lives.

8. Define and describe tsunamis.

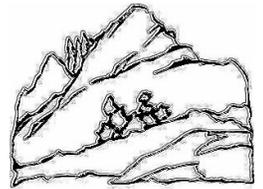
9. When energy is released, as rocks along a fault line bend and break, what occurs?

10. Match the letter of the location below to the date on the timeline that corresponds to the occurrence of an earthquake in that location.

- | | |
|---------------------|------------------------------|
| 1. Nov. 1755 | a. Loma Prieta, California |
| 2. Oct. 28, 1891 | b. Yokohama, Japan |
| 3. April 18, 1906 | c. Mino-Owari, Japan |
| 4. Sept. 1, 1923 | d. Tangshan, China |
| 5. July 28, 1976 | e. San Francisco, California |
| 6. Sept. 19, 1985 | f. Armenia |
| 7. December 7, 1988 | g. Lisbon, Portugal |
| 8. October 17, 1989 | h. Mexico City, Mexico |

11. When was the last earthquake in Utah? How big was it? (use www.quake.utah.edu/reactivity/recent.shtml to help find the answer)

KEY – KIDS DISCOVER EARTHQUAKES



1. *Secondary waves cause additional damage to the surrounding area. Entire villages can be pulled into the water by tsunamis. Avalanches and fires contribute to the destruction.*

2. *Magnitude*

3. *P or primary waves – Compress and stretch material, they can go all the way through the earth*

S or secondary waves – shake rocks from side to side, they can't go through the earth's center.

L or surface long waves – whip or churn material

4. *Laser reflector, seismometer, magnetometer, strainmeter, Vibroseis truck*

5. *At the boundaries of earth's plates, usually along the Pacific Ring of Fire.*

6. *See page 13 of Kids Discover: Earthquakes*

7. *Start fires, destroy buildings/homes, kill people, destroy water systems*

8. *Tsunami is a Japanese word for harbor wave. They often do more damage than the earthquake alone, because they destroy the ecology of the ocean as well as the lives of the people on the land.*

9. *An earthquake*

10. *1. G, 2. C, 3. E, 4. B, 5. D, 6. H, 7. F, 8, A*

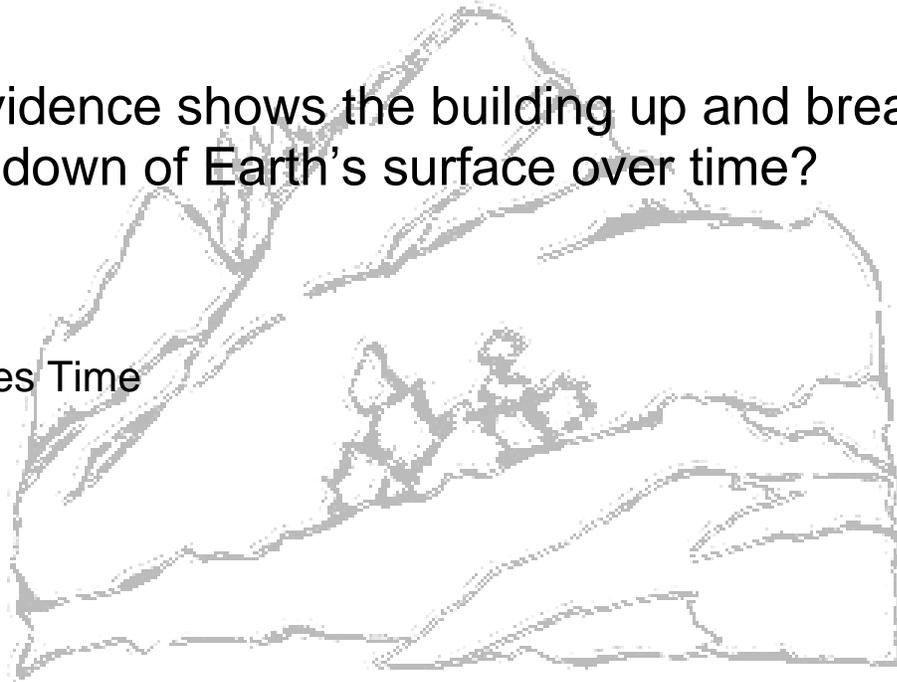
11. *Utah has earthquakes all the time, use the website to find the most recent.*

Essential Question #2:

What evidence shows the building up and breaking down of Earth’s surface over time?

Lessons:

- It Takes Time



Core Standards	
Social Studies	Science
	Standard II <input type="checkbox"/> 2a identify specific geological features created by volcanoes, earthquakes, and uplift <input type="checkbox"/> 2b give examples of different landforms that are formed by volcanoes, earthquakes, and uplift (<i>examples may include</i> : mountains, valleys, new lakes, canyons) <input type="checkbox"/> 2c describe how volcanoes, earthquakes, and uplift change landforms <input type="checkbox"/> 3a explain how layers of exposed rock, such as those observed in the Grand Canyon, are the result of natural processes acting over long periods of time <input type="checkbox"/> 3c use a time line to identify the sequence and time required for building and breaking down of geologic features on Earth



5th Grade

Unit 1: Change over Time: The Surface of the Earth

Essential Question #2: What evidence shows the building up and breaking down of Earth's surface over time?

Lesson Title: It Takes Time

SC Standard II, Objective 3

Implementation Time: 60 minutes

Materials Needed:

Paper
Colored pencils
Rulers
Toilet Paper roll (at least 400 sheets per roll)
Sticky notes
It Takes Time: Student Instruction Sheet

Procedure:

1. Activate students' background knowledge. Have each student make a time-line of their own life including events such as birthday, first day of kindergarten, first time they broke a bone, trip to Disneyland etc... You could add a math component and have students figure out how many inches=1 year on their page. Students could add graphics to their timeline if desired.
2. Explain to students that the earth has been around for a very long time and also has a timeline. As a whole class or in small groups, do the It Takes Time activity. Give each group the "It Takes Time" instruction sheet and a roll of toilet paper to do the activity.

Assessment:

Discuss with the students their surprise at how long earth has been around before their own timelines! Wow. What a journey! You must remember that your entire timeline is less than one fiber of that last sheet of the Toilet Paper Roll of Geologic Time!



It Takes Time Student Instruction Sheet

Work in your group in the hall, gym or outside on a dry, calm day.

Each square represents over 12 million years.

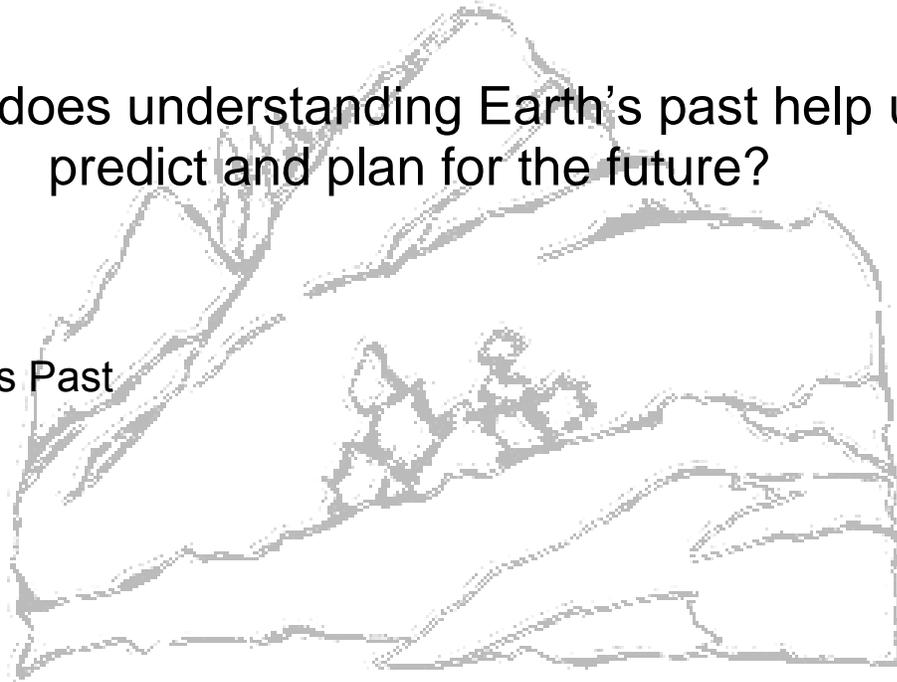
1. Write "5 billion years ago - earth and other planets formed" on a sticky note and put it at the beginning of the roll.
2. Count up the roll 104 squares. Write "Earth's crust becomes solid," and place it on the square.
3. Count up 16 more squares. You are now on square 120. Write "First simple life appears in oceans."
4. Count up 20 squares. You are now on square 140. Write "Plant life begins in oceans."
5. Count up 108 squares. You are now on square 248. Write "First complex cells in oceans - volcanic base deposit of Grand Canyon."
6. Count up 100 squares. You are now on square 348. Write "First many celled organisms appear."
7. Count up 11 squares. You are now on square 359. Write "First land plants appear."
8. Count up 21 squares. You are now on square 380. Write "Mass extinction of 99% of all life. Age of Dinosaurs begins."
9. Count up 8 squares. You are now on square 388. Write "Supercontinent breaks up, continents drift apart."
10. Count up 6 squares. You are now on square 394. Write "Age of Dinosaurs ends. Mass extinction of 70% of all living things."
11. Count up 5 squares. You are now on square 399. Write "Colorado River begins cutting the Grand Canyon."
12. Count up 1 square. Yes, you are on the last square. Write "First early humans appear in Africa."
13. Measure 1 mm from the end. Write "First modern humans."
14. If you can fit a note in put one .5 mm from the end. Write "Lake Bonneville exists."
15. Measure .1 mm from the end. Write "Recorded history begins."
16. At the very, very, very end of the last square, write "my timeline begins"

Essential Question #3:

How does understanding Earth’s past help us predict and plan for the future?

Lessons:

- Earth’s Past



Core Standards	
Social Studies	Science
	Standard II
	<input type="checkbox"/> 2d cite examples of how technology is used to predict volcanoes and earthquakes <input type="checkbox"/> 3d describe and justify how the surface of Earth would appear if there were no mountain uplift, weathering, or erosion



5th Grade

Unit 1: Change over Time: The Surface of the Earth

Essential Question #3: How does understanding Earth's past help us predict and plan for the future?

Lesson Title: Earth's Past

SC Standard II, Objective 3

Implementation Time: 45 minutes

Materials Needed:

Picture of the moon

Colored pencils (or materials to make a model of earth)

Student sheets from USOE Sci-Ber Text (<http://schools.utah.gov>)

Procedure:

Part 1

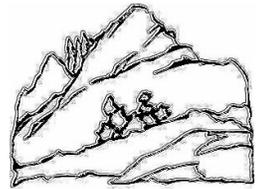
1. Show students a picture of the moon. Have students describe what its surface looks like. Ask them why the surface of the moon is so different from the surface of the earth?

Students should describe it as smooth, round, very flat surface, no trees, no big mountains, no big canyons etc... Lead the class discussion to understand that the moon does not experience erosion or weathering which causes things like mountains and canyons.

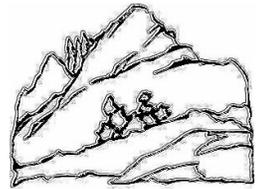
2. Have students draw or make a model of the earth if *it didn't* experience erosion or weathering. Note: Remember, the earth does have volcanoes, so there may be new lava flows, but without weathering and erosion no soil would be formed, no canyons would be carved, plate tectonics wouldn't happen, so no mountains would be created. (project the "What If?" Student sheet on the board)

Part 2

Reassess that students understand that earth is constantly changing. Have them find some relationships between past earth changes and planning for the future. Give students the handout and have them work in small groups (or individually) to come up with ideas.

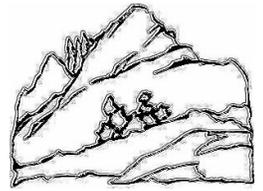


Assessment: Check student drawings. Their model earth should show earth as fairly smooth sphere with perhaps the occasional volcano and ocean. Check students understanding of how to plan for future disasters (Wasatch Fault: strong building codes to help keep buildings from falling down, roads/bridges not built on top of the fault, a family emergency plan, 72 hour kit etc... Zion's Park: Not climbing on arches or thin rocks, putting fences around fragile locations so that someone doesn't get hit with a falling rock, etc... Hawaii: Building town not too close to volcano, having back up water supply to put out fires, a city evacuation plan or shelter, etc...)



What If? Student Sheet
(from Sci-Ber text)

You've discovered that Earth is ever-changing. The surface is built up by volcanoes, earthquakes, and uplift. It is worn down by weathering and erosion. Some changes happen quickly, and others are so slow that it takes millions of years. Now think of the earth as it was in the beginning. If there were no earthquakes, no uplift, weathering or erosion - what would it look like today? Just suppose...no agents of change...nothing acting upon it. What would the world look like today? Draw your picture or make a model.



Student Sheet: How does knowing about the past help people plan for the future?

1. In Utah, the Wasatch Fault runs right through Salt Lake City. Geologists have evidence that big earthquakes have happened in Salt Lake in the past. What kinds of things should people do to help prevent a big disaster the next time an earthquake happens? (Think about things such as construction standards, road placement, and emergency procedures)

2. In Zion's National Park in Utah, there are many interesting rock formations that are caused by erosion and weathering. How can visitors stay safe while visiting the park? (Think about things such as fragile rock formations, crumbling rock, falling rock and personal safety)

3. In Hawaii, the volcano Kilauea erupts very regularly and lava flows down the mountain, usually at a pretty slow rate. What kinds of things could city planners do if they wanted to build a new city on the island? (Think about things such as lava flowing over roads or houses, emergency procedures such as evacuations).

Fifth Grade Interconnections
Unit II
*Cause & Effect: Exploration, Colonization &
the Road to Self-Rule*

Enduring Understanding:

North American exploration and colonization impacted the lives of many different groups of people. The conflicts that emerged during the Colonial Period led to the creation of a new government and new a new nation, the United States of America.

Essential Questions

- *How were the early American colonies settled and how did they grow?*
- *How did American colonization impact the rest of the world?*
- *What rights and responsibilities did different groups of people have during the Colonial Period?*
- *Why did the American colonists desire independence from Great Britain and how did they achieve their goal?*
- *How did the Revolutionary War impact the American colonies' ability to self-govern?*

Core Curriculum Concepts/Skills: change, cause and effect

Core Standards

Social Studies

Standard I: Students will understand how the exploration and colonization of North America transformed human history.

Objective 1: Describe and explain the growth and development of the early American colonies.

Objective 2: Assess the global impact of cultural and economic diffusion as a result of colonization.

Objective 3: Distinguish between the rights and responsibilities held by different groups of people during the Colonial Period.

Standard II: Students will understand the chronology and significance of key events leading to self-government.

Objective 1: Describe how the movement toward revolution culminated in a Declaration of Independence.

Objective 2: Evaluate the Revolutionary War's impact on self-rule.

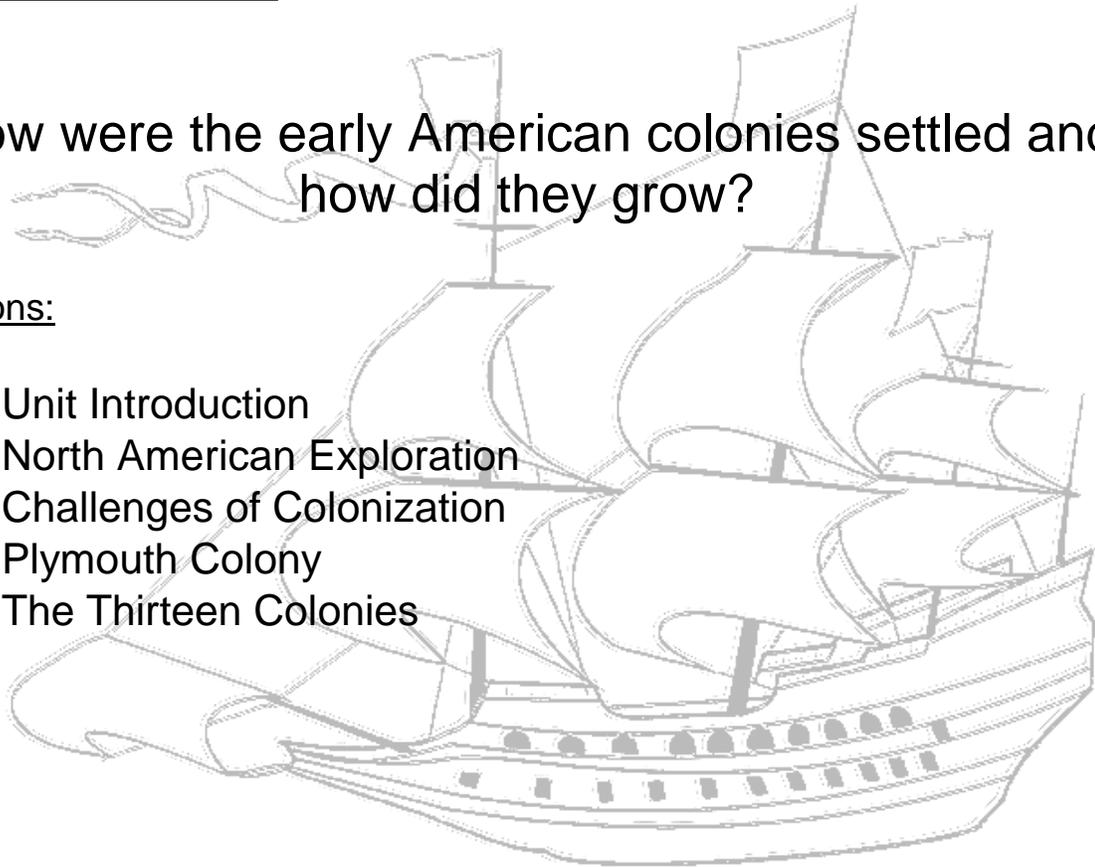
Social Studies language students should know and use: colony, exploration, Europe, North America, South America, cultural diffusion, indentured servant, slavery, displacement, charter, compact, revolution, independence, declaration, self-rule

Essential Question #1:

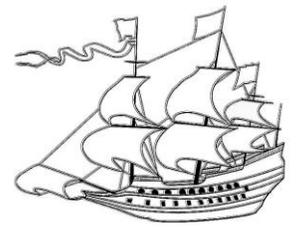
How were the early American colonies settled and how did they grow?

Lessons:

- Unit Introduction
- North American Exploration
- Challenges of Colonization
- Plymouth Colony
- The Thirteen Colonies



Core Standards	
Social Studies	Science
Standard I	
<input type="checkbox"/> 1a using maps (including pre-1492 maps) and other geographic tools, locate and analyze the routes used by the explorers	
<input type="checkbox"/> 1b explain how advances in technology lead to an increase in exploration	
<input type="checkbox"/> 1c identify explorers who came to the Americas and the nations they represented	
<input type="checkbox"/> 1d determine reasons for the exploration of North America (<i>examples may include:</i> religious, economic, political)	
<input type="checkbox"/> 1e compare the geographic and cultural differences among the New England, Middle, and Southern colonies	
<input type="checkbox"/> 1f analyze contributions of American Indian people to the colonial settlements	



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #1: How were the early American colonies settled and how did they grow?

Lesson Title: Unit Introduction

SS Standard I, Objective 1

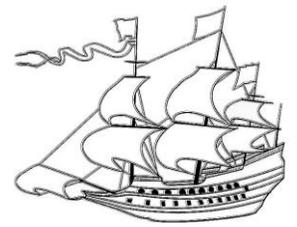
Implementation Time: 15 minutes

Materials Needed: Large KWL chart, KWL: Exploration & Colonization handout

Procedure:

1. Divide students into groups of 4 or 5.
2. Explain to the students that you will be starting a new unit on exploration and colonization. Project or pass out a copy of the KWL inventory to each group. Have students brainstorm in groups, filling in the graphic organizer on *what they know* and *what they want to know* about the topics. Allow 5 to 10 minutes to complete.
3. Fill in the KWL chart as a class making sure all groups participate.

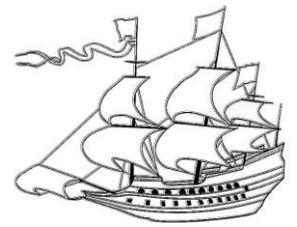
Assessment: Leave the chart up and complete the section on what the students have learned when you have finished the unit. Assess the students' growth on the KWL.



K-W-L: Exploration & Colonization

What do you know and want to know about the explorers and colonists who came to North America?

WHAT I KNOW	WHAT I WANT TO KNOW	WHAT I LEARNED



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #1: How were the early American colonies settled and how did they grow?

Lesson Title: North American Exploration

SS Standard I, Objective 1

Implementation Time: 60 minutes

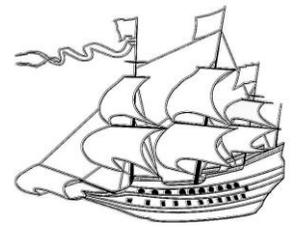
Media Resources Needed: Nystrom *Atlas of Our Country's History* (preferably classroom set or pages can be projected on document camera); computer and LCD projector

Resources Needed: “North American Explorers” grid (1 per student)

Materials: large sticky notes (1 per student, all the same color)

Procedure:

1. Direct students' attention to the *How does this atlas work?* pages from the atlas. Familiarize students with the text structure of the atlas, pointing out how/where to find important information and how to read the following: charts, graphs, maps, captions, keys, and bulleted information.
2. Distribute atlases. Give students time to explore the pages that examine the topic of exploration (pages 10-21).
3. Project the “North American Explorers” grid. Using Christopher Columbus as a model, complete the grid using information found in the atlas. Assign students to work in groups/pairs to fill in the information on the remaining explorers.
4. Call on groups/pairs to share the information they find on individual explorers. Add the information to the projected example, clarifying misconceptions and answering questions. Allow students the opportunity to change the information on their individual grids to reflect information generated by the class.

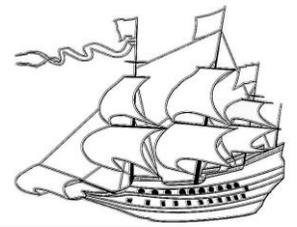


Assessment:

Refer to the classroom KWL. Give each student a large sticky note (all the same color) and assign them to write a summary statement about what they learned about North American exploration. Share and attach to the L column of the KWL chart.

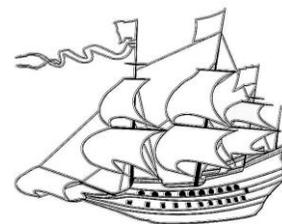
Extension:

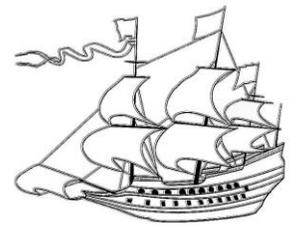
Have students create trading cards (computerized or hand-drawn) for the 11 explorers studied. Students should research what the explorers looked/may have looked like for the front of their cards and on the back should synthesize the information from their grid. *Most importantly*, students must rank “the value” of their trading cards based on the impact the explorers had on history and on the students’ lives today. Allow students to display their cards and justify their ranking rationale.



North American Explorers

Explorer	Country Represented	Why did he explore?	Impact of exploration:
Christopher Columbus			
Jacques Cartier			
Hernando de Soto			
Ponce de Leon			
Bartholomeu Dias			
Vasco Da Gama			
Francisco Coronado			
Giovanni Da Verrazano			
John Cabot			
Henry Hudson			
Narvaez & Cabeza de Vaca			





5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #1: How were the early American colonies settled and how did they grow?

Lesson Title: Challenges of Colonization

SS Standard I, Objective 1

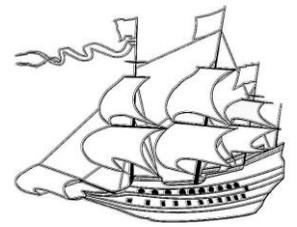
Implementation Time: 45 minutes

Media Resources Needed: *Roxaboxen* by Alice McLerran; Nystrom *Atlas of our Country's History* (classroom set or document camera to project individual pages)

Materials Needed: variety of candies (marshmallows, Lifesavers, Smarties, caramels, Rolos, miniature Hershey bars, Skittles, etc.) – per group; poster board or cardboard (1 per group)

Procedure:

1. Activate students' background knowledge about colonization. As a whole class, define **colony** and **colonization**. Post class definition. Discuss the following in a whole class discussion: *What would the challenges of creating a new civilization, or colony, be? Does every colony survive? Why do some colonies thrive while others fail?*
2. Read *Roxaboxen* to the students, stopping periodically to model **making connections** and **questioning the text**.
3. Divide students into groups. Tell each group they are a new colony and ask them to discuss what the needs of their new colony might be. Each group should come to consensus about a name for their colony and what their new colony needs to survive. *What does a colony need to survive?*
4. Pass out a variety of candies to each group. Groups will use the poster board and candies to create a colony.
5. Give students time to discuss and create their colonies. They should write on the poster board and make a key of what the candies represent. When finished, have each



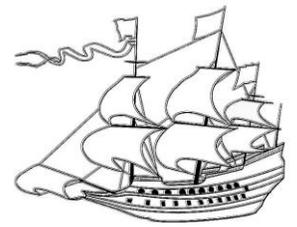
group share what they included in their civilization and why. Allow time for students to “visit” each of the different colonies.

Assessment:

Exit Slip: Refer students to pages 20-21 in their Nystrom *Atlas of our Country's History*. Assign students to read the information about the Jamestown colony and make connections to the *Roxaboxen* activity. Ask students to identify/infer what Jamestown colonists thought was important to the success of their colony. In one paragraph, answer the following question using as much detail as possible: *What challenges might Jamestown colonists have faced and how did they meet those challenges?*

Extension:

Have students write a “letter from Jamestown” to a relative back home in England. Letters should describe the challenges of creating a new colony and the positive and negatives of living in the Jamestown Colony.



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #1: How were the early American colonies settled and how did they grow?

Lesson Title: Plymouth Colony

SS Standard I, Objective 1

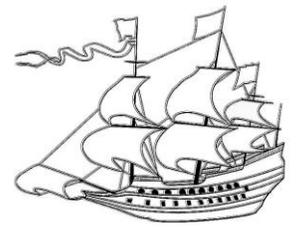
Implementation Time: 60 minutes

Media Resources Needed: *If you sailed on the Mayflower* by McGovern Pioneer or *On the Mayflower* by Kate Waters (or other relevant teacher preference); The Mayflower Compact handout (1 copy per student); United States map; computer and LCD projector

Materials Needed: masking tape

Procedure:

1. Prepare your room ahead of time for this activity by clearing an area 10 feet by 15 feet with masking tape. Students will experience the confines of ship travel during the 1600's in order to have empathy for the challenges faced by the colonists as they traveled to the New World. Instruct students to sit closely within the marked areas. At least one limb must be appropriately touching someone next to them. Discuss reasons the Pilgrims would be willing to suffer such a voyage only to come to an unknown place (fleeing religious persecution in Europe). Connect the experience the Pilgrims suffered to what students learned about the Mormon Pioneers in fourth grade. Note: *As a rule of thumb, simulations should not last more than 10 minutes.*
2. Ask students to discuss how the simulation felt, connecting the experience to what they might have felt (empathy) if they had traveled on the Mayflower. Ask students if they would like to travel this way today.
3. Instruct students to return to their desks. Read one of the suggested Mayflower book titles, stopping to answer questions and point out important information/examples, including the fact that women and children, and not just men, sailed on the Mayflower.



Point out the location of the Plymouth Colony on the United States map and explain that it was a New England colony in what later became the State of Massachusetts.

4. Project and pass out copies of the Mayflower Compact. Familiarize students with the text structure, explaining that a *compact* is an agreement between two or more people and, in this case, refers to the way the Pilgrims that traveled on the Mayflower agreed to live together. Point out the bolded words and talk about how words are bolded to draw a reader's attention. Explain that the spelling "errors" in the document are not mistakes; spelling and grammar were not standardized at the time this document was written. The original document (**primary source**) has been lost, so the information we have about what the document says and who signed it comes from **secondary sources** (in this case, journals and diaries) that discuss the document and its contents. Read the document several times and discuss as a class. Encourage students to mark the text as they read/discuss the document.

5. Divide students into small groups of 3-5. Explain that historians know what happened in the past because of evidence that was left behind by people who lived in the past. Documents like the Mayflower Compact are one piece of evidence we have about life in the Plymouth Colony.

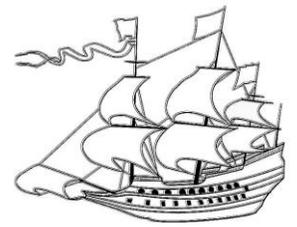
6. Project a copy of "Examining the Mayflower Compact." Assign students to use their marked text, bolded words, and one another *to think like historians* and look for evidence to answer the questions.

Assessment:

Assign students to write an 8-10 sentence paragraph summarizing what they learned about the Plymouth Colony. Paragraphs should include a topic sentence, supporting sentences and details, and a concluding statement.

Extension:

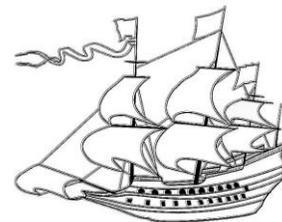
Assign students to create a T-Chart (two columns) that outlines the rights and responsibilities of colonists in the Plymouth Colony.



The Mayflower Compact

In the name of God, Amen. We, whose names are underwritten, the loyal subjects of our dread Sovereigne Lord, King James, by the grace of God, of Great Britaine, France and Ireland king, defender of the faith, etc. having undertaken, for the glory of God, and advancement of the Christian faith, and honour of our king and country, a voyage to plant the first colony in the Northerne parts of Virginia, doe by these presents solemnly and mutually in the **presence** of God and one of another, **covenant and combine ourselves together into a civill body politic**, for our better ordering and preservation, and furtherance of the ends aforesaid; and by virtue hereof to enacte, constitute, and frame such just and equall laws, ordinances, acts, constitutions and offices, **from time to time**, as shall be thought most meete and convenient for the generall good of the Colonie unto which we **promise** all due submission and obedience. In witness whereof we have hereunder subscribed our names at Cape-Codd the 11. of November, in the year of the raigne of our sovereigne lord, King James, of England, France and Ireland, the eighteenth, and of Scotland the fiftie-fourth. Anno Dom. 1620.

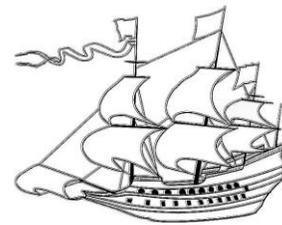
John Carver	Edward Tilley	Degory Priest
William Bradford	John Tilley	Thomas Williams
Edward Winslow	Francis Cooke	Gilbert Winslow
William Brewster	Thomas Rogers	Edmund Margeson
Issac Allerton	Thomas Tinker	Peter Browne
Myles Standish	John Rigdale	Richard Britteridge
John Alden	Edward Fuller	George Soule
Samuel Fuller	John Turner	Richard Clarke
Christopher Martin	Francis Eaton	Richard Gardiner
William Mullins	James Chilton	John Allerton
William White	John Crackston	Thomas English
Richard Warren	John Billington	Edward Dotey
John Howland	Moses Fletcher	Edward Leister
Stephen Hopkins	John Goodman	



Examining the Mayflower Compact

After reading the Mayflower Compact, work together to answer the questions below. Use the bolded words to help you navigate the document. Research any words and phrases you do not understand.

1. Why do you think the document begins **“In the name of God”**?
2. In what two **"presences"** is this document being signed?
3. What reason do the signers give for their promise to **"covenant and combine ourselves together into a civil body politic"**?
4. What will the civil body politic do **"from time to time"**?
6. What do the signers **"promise"**?
7. What do all of the signers have in common? Who did not sign the compact and what might this tell you about this time period?



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #1: How were the early American colonies settled and how did they grow?

Lesson Title: The Thirteen Colonies

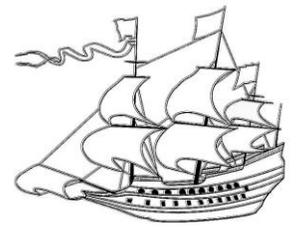
SS Standard I, Objective 1

Implementation Time: 60 minutes

Media Resources Needed: Nystrom *Atlas of our Country's History* (classroom set or document camera)

Procedure:

1. Refer to the map of the 13 original colonies on page 22 of the atlas. Compare this map to a map of the eastern United States (page 4 or 5 in the Nystrom atlas), pointing out that the 13 English colonies became the first states of the United States.
2. Explain to students that people came to the “New World” for many different reasons. Some came to the colonies from English debtor prisons or were indentured servants who worked for the people who paid their passage to North America. Some people left England because they were homeless (including children) or because they wanted freedom to practice the religion of their choice and many colonies were founded by religious groups (Plymouth – Separatists, MA – Puritans, MD – Catholics, etc.). Another common reason for coming to the colonies was to seek wealth. People hoped that their opportunities for improving their lives would be better in the colonies than they were in England, and in many cases, they were.
3. Refer again to the map on page 22, explaining that the colonies were divided among three regions – New England, Middle, and Southern Colonies that identified them *geographically* and *culturally*. Each of the three regions had unique geographic characteristics and ways of life that made them unique.
4. Divide the class into three “regions”– New England, Middle, and Southern. Assign each student (or pair of students) to use pages 22-31 of the Nystrom atlas to complete the assignment for their assigned region. Remind students to look at all the information on each page, including captions, keys/legends, maps, timelines and pictures.



5. Create groups of three, with one student representing each region. Give students time to share the information they gathered with the other two regions. Each student should complete their chart with information for the New England, Middle and Southern colonies.

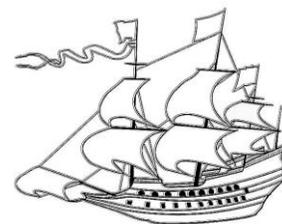
6. Discuss findings as a class and talk about some of the ways people may have learned about life in the colonies and how they might have decided to leave England. Explain how companies with financial interests, family members already in the colonies, and religious leaders may have “advertised” the colonies in a way that made them sound appealing.

Assessment:

Using the information collected on their chart, assign students to create an advertisement for one of the colonies in their region. Advertisements should target a specific audience based on skills, education, religion, etc., and should highlight life in that particular colony. Make sure students include “disclosures” on their advertisements that warn of negative aspects of colonial life (disease, climate, etc.).

Extension:

In lieu of traditional “State Reports,” assign students to research one of the thirteen English colonies and bring their findings /projects to a “Colonial Market” that highlights the imports/exports, cultural life, history, and population of their colony.

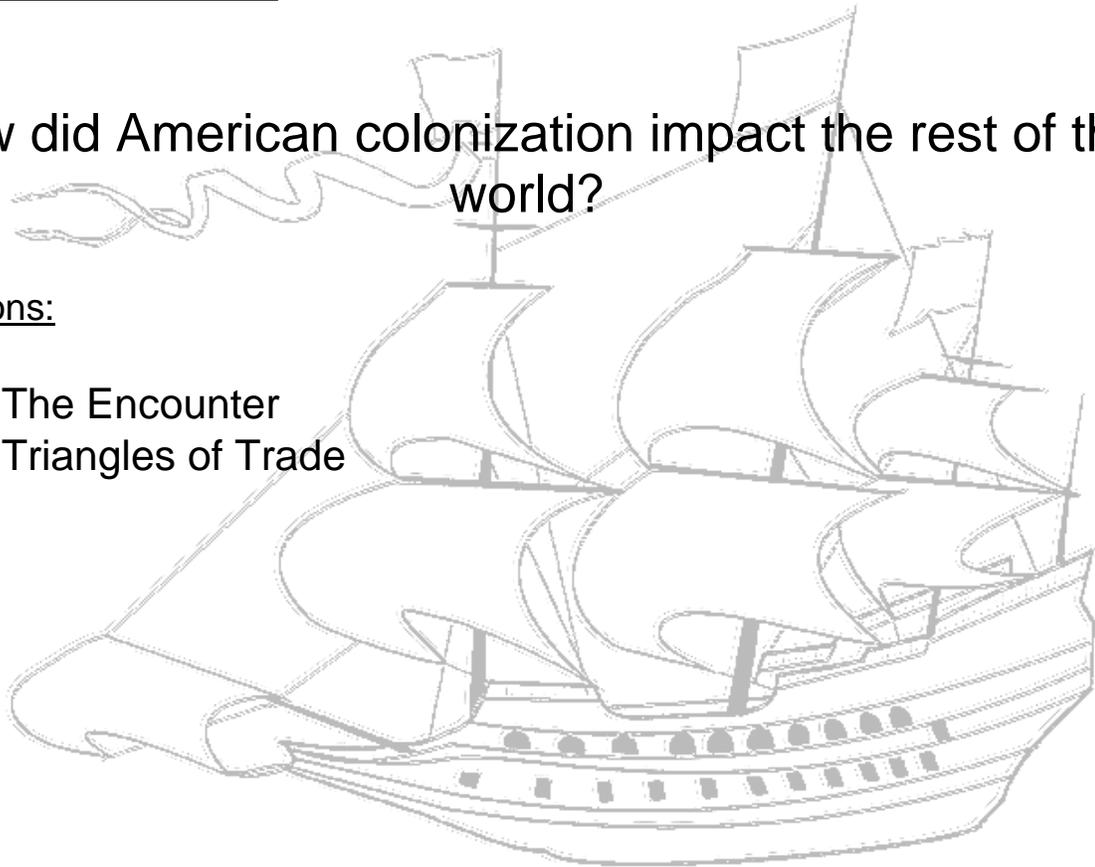


Essential Question #2:

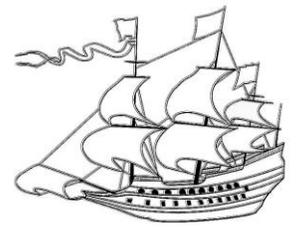
How did American colonization impact the rest of the world?

Lessons:

- The Encounter
- Triangles of Trade



Core Standards	
Social Studies	Science
Standard I <input type="checkbox"/> 2a describe the cultural and economic impacts that occurred as a result of trade between North America and other markets (<i>examples may include</i> : arts, language, ideas, the beginning and expansion of the slave trade, new agricultural markets) <input type="checkbox"/> 2b analyze and explain the population decline in American Indian populations including disease, warfare, displacement	



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #2: How did American colonization impact the rest of the world?

Lesson Title: The Encounter

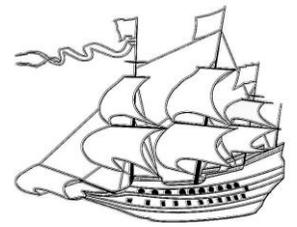
SS Standard I, Objective 2

Implementation Time: 45 minutes

Media Resources Needed: *The Encounter* by Jane Yolen; computer/LCD projector

Procedure:

1. Ask students to think about a time they have met or “encountered” someone very different from them. *What kinds of feelings did you experience? Fear? Excitement? Curiosity?* Tell students to imagine what it might have been like for indigenous people to “encounter” or meet Europeans for the first time. Explain that, because of geography, some indigenous people had never seen or heard of Europeans and that their clothing, customs, religion, values, and transportation would have been very different from what they were accustomed to. Some indigenous people may have been very curious, but others may have been very fearful. (Allow students time to make personal connections to fear of the unknown/that which is different or excitement when encountering new and unfamiliar things.)
2. Project the “Point of View” graphic organizer (attached) and have students draw one on their own piece of paper. If you project on a white or smart board, you can make additions/corrections as necessary. Write (and have students do the same) “American Indian Point-of-View on Exploration/Colonization” in the center of the circle. Explain that they will be filling out their graphic organizer while you read a book about a young indigenous boy’s point-of-view of an encounter with a European explorer/settler. They may gather more information from your discussion after the book, as well.
3. Read *The Encounter*, pausing to model **point of view** (example: the explorers arrived in “great canoes”) and make connections to the young boy’s emotions (trying to make sense of the unfamiliar by associating it with something that is familiar).
4. Share/discuss students’ findings.

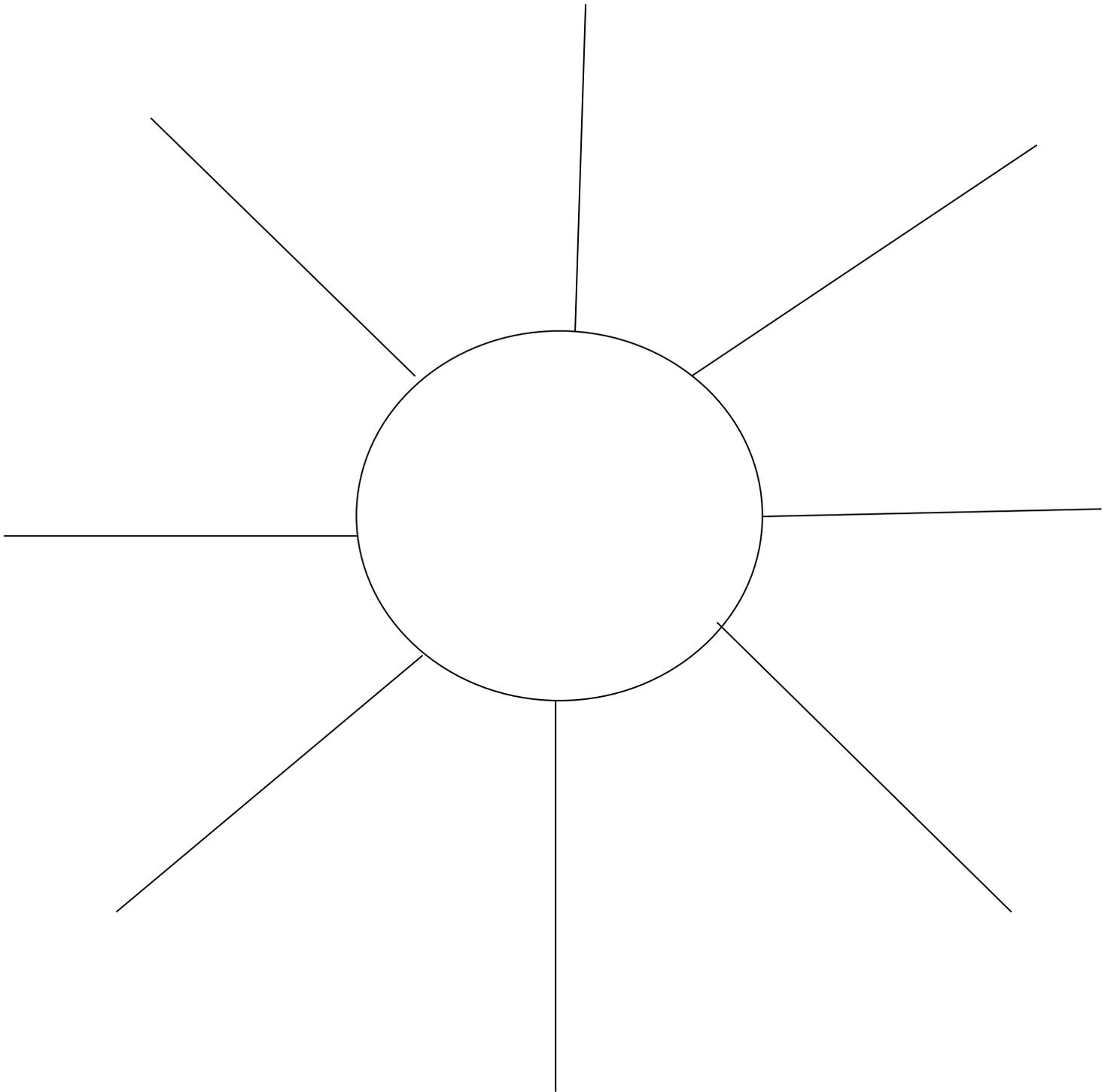
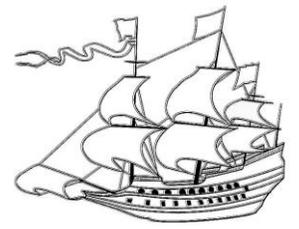


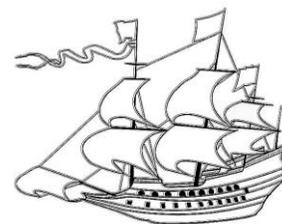
5. Explain that “encounters” such as these had devastating impacts on indigenous people. Once Europeans began to colonize the “New World,” they brought with them diseases that were unfamiliar to native people. These diseases killed millions of natives and caused population declines in the Americas. Colonists wanted to settle, own and farm land used by American Indians who had different ideas and beliefs about people’s relationship to land. These different **points-of-view** caused many conflicts, including warfare and displacement of natives to lands west of the colonies. Together, disease, warfare, and displacement caused a drastic decline in American Indian populations. Give students time to add this “point-of-view” of colonization to their graphic organizer.

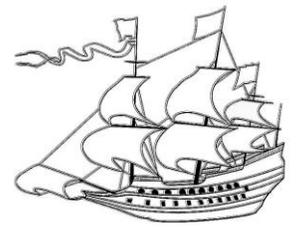
Assessment:

Use the information collected on the graphic organizer to write a well-developed paragraph of 5-8 sentences written in the voice of a young native explaining the impact of American exploration and colonization from his/her point-of-view.

Point-of-View Graphic Organizer







5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #2: How did American colonization impact the rest of the world?

Lesson Title: Triangles of Trade

SS Standard I, Objective 2

Implementation Time: 45 minutes

Media Resources Needed: Nystrom *Atlas of our Country's History* (classroom set or document camera to project pages)

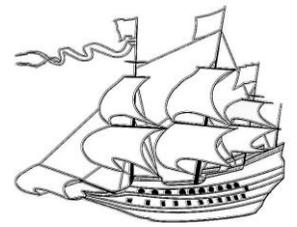
Materials Needed: bag of peanuts in the shells, box of sugar cubes, small baggies of rice, cotton balls, miniature gold chocolate bars, paper clips, and a small sign for each of the following: Thirteen North American/British Colonies, Europe, Africa

Procedure:

1. Direct students' attention to page 31 in the atlas. Explain that exploration and colonization created "triangles of trade" among three continents: North America (colonies and West Indies), Europe, and the west coast of Africa. Because of different natural resources, climate, and land use in "New World" colonies, new products or products that were once scarce entered the market. Older markets like those in Europe, now had new places to export their goods. However, increased demand for labor-intensive products created a market for slave labor. Many American Indians were enslaved, but the majority of slaves were brought to the colonies from Africa.

2. Point out the different market exchanges on the "Triangles of Trade" map on page 31 and discuss the reasons why people would want/need items such as cloth, cotton, sugar, grain, indigo, gold, weapons, etc. Draw students' attention to the "Share of Exports" graph and explain that the Southern Colonies could export cash crops in such large amounts because of climate and their use of slave labor.

3. Tell students they are going to participate in a "Triangles of Trade" simulation. Explain the rules and procedures for participating in the simulation. Note: *As a rule of thumb, simulations should not last more than 10 minutes.*



Triangles of Trade Simulation

Object: Each student will try to collect two of each of the six trade items and return them to their “homeland.”

Procedures:

- Divide the classroom into three labeled areas – Thirteen American/British Colonies (North America); Europe; Africa. Place the following sets of items on a table in each area: rice and sugar in North America; peanuts and gold chocolate bars in Africa; cotton balls and paper clips in Europe. Explain what each object represents.
- Divide students into three groups and send each group to a different continent.
- Explain that students may trade only one item at a time.
- Tell students they may stay in their area and wait to trade (merchants) or be traders who move to other areas – they should decide their role before beginning the simulation.
- Two students meet and play rock/paper/scissors. The winner takes an item from the other student (the winner may choose if the other student has more than one item).
- After trading, the student must move to another area to trade and may return to their home area to pick up a second home item.
- When students collect all 12 items (two of each kind) they return to their “homeland” and sit down quietly.

Assessment:

Ask students to think about the simulation. *When did it become difficult? Why?* (When resources became limited and there was still a demand.) *What would have happened if one of the three areas had an unlimited supply of their trading item?* (It would take them longer to finish the game; players could collect more from those areas.) Help students relate this to new markets like those in the colonies that seemed to have endless supplies of certain resources (fish, fur, land for growing crops).

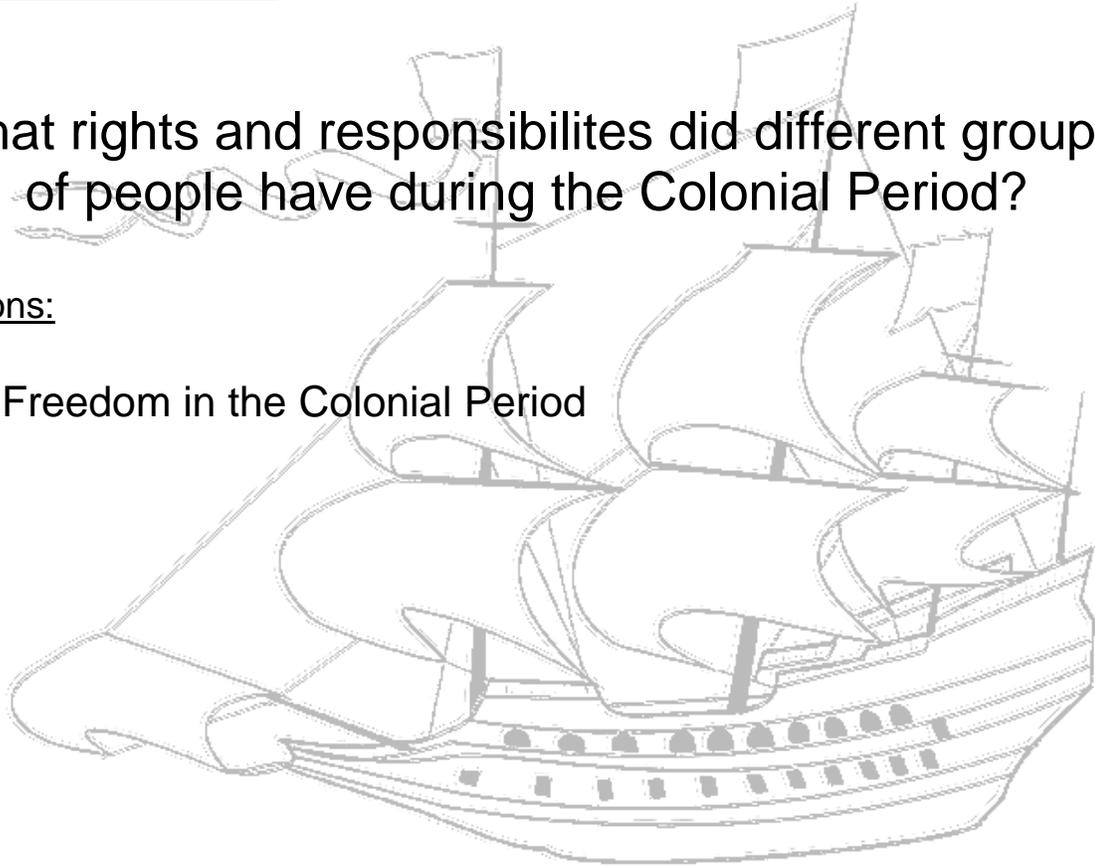
Instruct students to infer what other things might have been “traded” among countries/continents (art, language, ideas). Refer to the picture of the actress portraying an African slave girl dressed in European clothing on page 31 of the atlas to illustrate the point that more than products were traded in the Triangles of Trade – ideas, culture, etc. were also “traded.” Have students brainstorm a list of items in their own homes that are the result /influence of trade with other countries (food items, clothing, books, plants, pets, television shows/cartoons, etc.).

Essential Question #3:

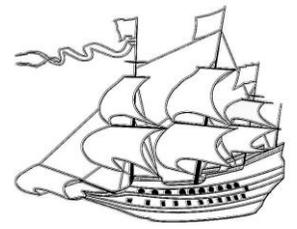
What rights and responsibilities did different groups of people have during the Colonial Period?

Lessons:

- Freedom in the Colonial Period



Core Standards	
Social Studies	Science
Standard I	
<input type="checkbox"/> 3a compare the varying degrees of freedom held by different groups (<i>examples may include</i> : American Indians, landowners, women, indentured servants, enslaved people)	
<input type="checkbox"/> 3b explain how early leaders established the first colonial governments (<i>examples may include</i> : Mayflower Compact, charters)	



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #3: What rights and responsibilities did different groups of people have during the Colonial Period?

Lesson Title: Freedom in the Colonial Period

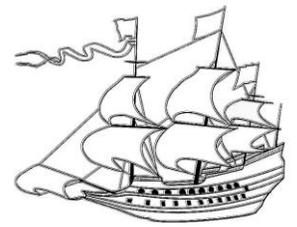
SS Standard I, Objective 3

Implementation Time: 45 minutes

Media Resources Needed: *We the People: The Citizen and the Constitution* (Center for Civic Education); *Molly Bannaky* by Alice McGill & Chris K. Soentpiet; *A Williamsburg Household* by Joan Anderson & George Ancona; document camera (if available)

Procedure:

1. Activate students' background knowledge about the rights and responsibilities of U.S. citizens. Remind students that colonists were British subjects and, therefore, expected to follow British law. These laws were very different than the laws we are familiar with today, especially because not all people had the same legal rights – including women, children, slaves, and those who did not own land. These groups were not considered citizens in the sense we recognize the word and, in the case of women, children, and slaves, were not allowed to own property or vote. Nevertheless, most colonists had more rights than people in Europe, especially in regards to religious freedom.
2. Introduce students to the text structure of the *We the People: The Citizen and the Constitution* book. Explain how the book is divided into units that are then broken down into lessons. Point out section headings and discuss why they are posed as questions. Draw students' attention to maps, graphs, timelines, captions, pictures, and cartoons.
3. Introduce each section of Lesson 1 (pages 5-11) by reading the section heading aloud. Assign students to read the section silently, stopping at the end of the section. Allow students to ask questions about what they read and ask questions of them, in turn, to check for understanding. Repeat through section titled "Who Governed the Colonies" on page 11.



4. Project the images from *A Williamsburg Household* and ask students to make inferences about the different rights and responsibilities of the various members of the family, recording their inferences in the first column of a sheet of paper they have folded into three vertical columns.
5. Read *A Williamsburg Household* and have students look for evidence that supports/disproves their inferences. Read slowly enough that students can pick out details from the book.
6. In the third column, assign students to make a connection (text-to-self, text-to-world, text-to-text) to their inference or to evidence from the book that describes the degrees of freedom held by different groups of people in the Colonial Period.
7. Read *Molly Bannaky* and discuss as a class, reflecting on the contrast between the rights (limited) and the responsibilities (abundant) of colonists. *How might Molly's rights have changed as the colonies became more populous? Why might her (and her husband's) rights have changed as the colonies grew and changed?*

Assessment:

Assign students to brainstorm other groups of people who may have experienced varying degrees of freedom.

Extension:

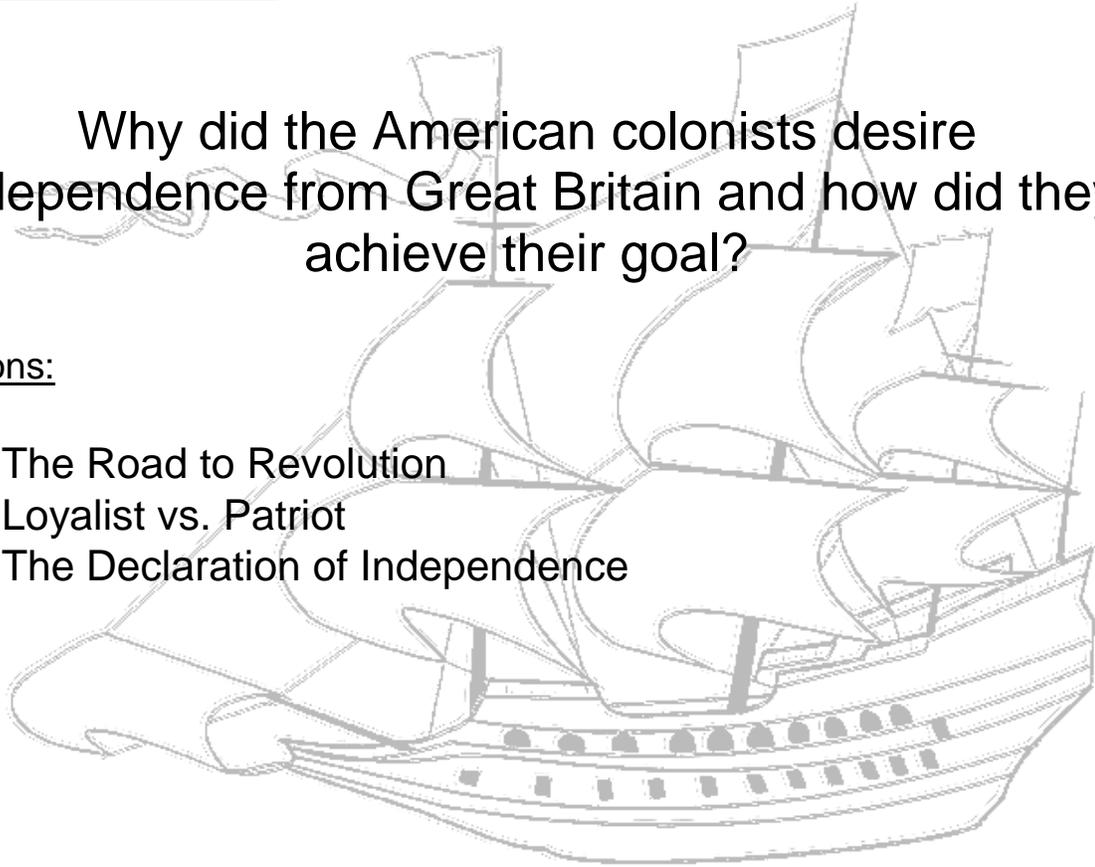
Assign students to research American Indian freedoms/rights during the Colonial Period and contrast their findings with those freedoms/rights outlined in the three column notes (above).

Essential Question #4:

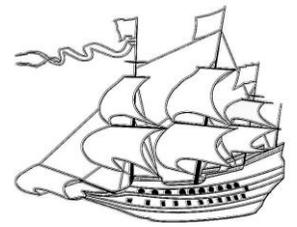
Why did the American colonists desire independence from Great Britain and how did they achieve their goal?

Lessons:

- The Road to Revolution
- Loyalist vs. Patriot
- The Declaration of Independence



Core Standards	
Social Studies	Science
Standard II	
<input type="checkbox"/> 1a explain the role of events that led to declaring independence (<i>examples may include</i> : French and Indian War, Stamp Act, Boston Tea Party)	
<input type="checkbox"/> 1b analyze arguments both for and against declaring independence using primary sources from Loyalist and patriot perspectives	
<input type="checkbox"/> 1c explain the content and purpose for the Declaration of Independence	



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #4: Why did the American colonists desire independence from Great Britain and how did they achieve their goal?

Lesson Title: The Road to Revolution

SS Standard II, Objective 1

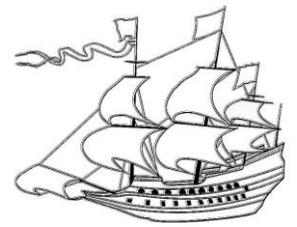
Implementation Time: 45 minutes

Media Resources Needed: Nystrom *Atlas of our Country's History* (class set); *Can't You Make them Behave, King George?* by Jean Fritz or other related titles (teacher's choice)

Materials Needed: butcher paper, markers, paper, pencils

Procedure:

1. Activate students' background knowledge regarding the American Revolution. Allow students time to share what they know/understand about this period of American History. Introduce and read *Can't You Make them Behave, King George?*, making connections to and elaborating on ideas mentioned during the class discussion.
2. Explain to students that they are going to analyze Great Britain's influence on the colonies and begin a timeline of the American Revolution.
3. Pass out *Atlas of our Country's History* and instruct students to turn to pages 32-33. Have students read the pages and study all maps, pictures, graphs, legends, and captions. When finished, have students discuss the information with a partner. Each group should write down three or four facts from their reading.
4. Discuss as a class the information on the two pages. *How did the French and Indian War change America?* (Britain won the war and took control of the French territory east of the Mississippi River. It triggered a series of British policy changes that eventually led to the colonial independence movement. Britain spent a large amount of money on the French and Indian War. They began taxing the colonies to pay for defense and to assert British control over colonists and colonial trade.)



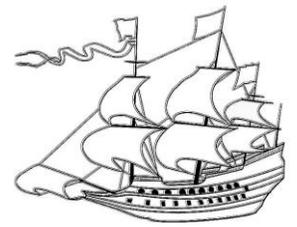
5. Tell students that Britain was a very important trading partner of the colonies. Ask students how taxing the colonists would change the trading of goods between Britain and America. Refer back to the Triangles of Trade simulation and how trading partnerships/decisions might have been different if you had to pay extra (possibly unfair) taxes. Explain that some colonists chose to boycott British imports. The demand for tea and other British goods quickly dropped, just as demand in the simulation may have dropped if one trading partner decided to tax products (because taxes impact cost).

6. Instruct students to draw a timeline on chart paper or notebook paper to record events of the Revolution. Begin with the years 1754-1763 and have students write “French and Indian War” under it. Also in 1763, the British Parliament voted to station a standing army in North America to strengthen British control. After the French and Indian War, colonists were prohibited to settle west of the Appalachian Mountains (add these two to the timeline under 1763.)

7. Instruct students to add other important dates from atlas pages 32-33 to their timelines (Sugar Act, Stamp Act, Townshend Act, Tea Act). Make a large butcher paper “Road to Revolution” classroom timeline to display in the room, reflecting the same dates and information students have compiled. Timeline should remain visible throughout the school year and should build with each social studies unit. For best results, create each of the unit timelines on different colored butcher paper.

Assessment:

Assign students to illustrate one of the events on the Road to Revolution timeline (make sure all events have at least one illustration). Illustrations should be symbolic representations of the event or act. Choose one student illustration per date/event to place on the classroom timeline. On the back of the illustration, students should summarize the event or act and indicate how it led the colonies on the “Road to Revolution.”



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #4: Why did the American colonists desire independence from Great Britain and how did they achieve their goal?

Lesson Title: Loyalists vs. Patriots

SS Standard II, Objective 1

Implementation Time: 60 minutes

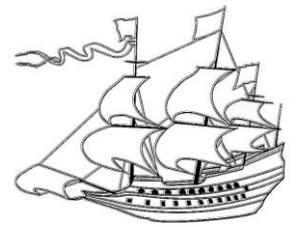
Media Resources Needed: *We the People: The Citizen & the Constitution* (Lesson 5)

Resources Needed: “Loyalist Ideas” and “Patriot Ideas” handouts

Materials Needed: 1 deck of playing cards

Procedure:

1. Refer to the “Road to Revolution” timeline of events and explain that not all colonists agreed with breaking away from Great Britain. Those that remained loyal to King George III were called *Loyalists*, while those who fought for American independence from the king were called *Patriots*.
2. Assign students to read pages 40-44 in *We the People: The Citizen & the Constitution*. Direct students’ attention to the cartoons at the bottom of page 40, 41, 42, and 44 to illustrate the main ideas of the lesson.
3. Use a deck of playing cards to divide student into two groups. Those with red cards will be loyalists, while those with black cards will be patriots. Have students move to opposite sides of the room.
4. Distribute copies of “Loyalist Ideas” to the loyalists and “Patriot Ideas” to the patriots. Each group should read and discuss their arguments, clarifying any questions as a group.



5. Break each group into pairs, and then join them with a pair from the opposing side. This will form a foursome composed of two loyalists and two patriots who will engage in informal debate, taking turns presenting arguments and alternating speakers.

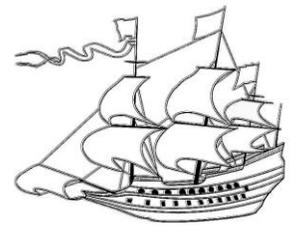
6. Instruct students to align themselves along an **opinion spectrum**. On one side of the spectrum, students who are convinced the loyalists had the best argument should stand, and on the opposite side those who are convinced the patriots had the best argument should stand. Those who think they both had good arguments should gravitate toward the middle to varying degrees of conviction, and so on. Instruct students to defend their position with evidence from the text.

Assessment:

Assign students to write an “editorial” for a colonial newspaper that expresses their opinion/argument for or against independence. Students should be able to use/cite evidence as well as address the counter-argument in order to make their case. Publish the editorials on a “Road to Revolution” bulletin board, explaining to students that newspapers, handbills, public speeches, and word-of-mouth were the main sources of news during the Colonial Period.

Extension:

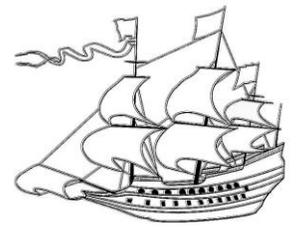
Assign students to identify a classmate with the opposite opinion and evidence (counter-argument). Share information. Have students form pairs and work together to write an argument (which may include additional research) that cites evidence and incorporates and addresses the counter-argument.



Loyalist Ideas

- We want a strong, unified British Empire. Everyone benefits from that.
- The national debt is because of the French and Indian War – a war fought to protect English colonists in North America. Now there is more English land in America to protect. We should help pay.
- We are British subjects, and we should obey British law. The King and Parliament have the right to tax the colonies and to make laws for the colonies. We cannot pick and choose which laws to obey. We must accept all the laws made by our government. That's the only way a government can work.
- The American colonies would be weak and defenseless without Britain. We need Britain's protection on the seas to be able to trade. If we were without British protection, another country like France or Spain might conquer us.
- We all profit from trade with Great Britain. Parliament does not really need to tax us in order to make money from the colonies. Colonies and the mother country will prosper through peaceful trade. However, if Parliament wants to tax us, it has the right to do so.
- Many people are trying to make a living that depends on British trade. Economic boycotts that encourage people not to buy British goods are not fair to hardworking merchants and shopkeepers. People are being bullied into obeying the boycott. What kind of freedom is that?
- We are too geographically far away from Great Britain – the Atlantic Ocean separates us - and that is why it would not be practical for us to be represented in Parliament. Nevertheless, we are still British subjects.
- The streets of Boston are out of control with riots and mob violence. Of course British troops have come to protect people's safety and keep peace. We should be grateful for their protection!
- All this unrest and talk of independence is being stirred up by a few smugglers and merchants who hope to get rich by avoiding paying customs duties and by putting their competitors out of business. The common people are being manipulated.

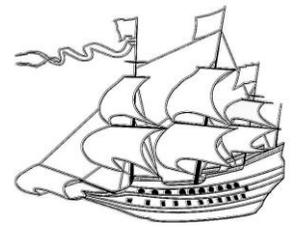
Source: The Bostonian Society



Patriot Ideas

- All people have certain rights that the government cannot take away, including a right to hold on to their own property. Taxation takes away some of our property. Our property (including money and goods) can only be taken from us if we or our representatives agree to it.
- The colonists do not have representation in British Parliament, so Parliament cannot make laws to tax us. We have not agreed to be taxed. No taxation without representation. If there is to be any taxation, let our own Colonial Assembly make that decision. Any money collected should be used here in the colonies, not sent to England.
- There is no way we could ever be represented in Parliament. We are too geographically far away, and our representatives would be so outnumbered that their votes would barely matter.
- We think we have done a good job of governing ourselves for many years, and we want to continue. We don't need Great Britain's help!
- Britain's national debt is not our responsibility. We loaned money to Parliament for the French and Indian War effort, and we have not been repaid. Many colonists fought and died in the war. We have done our part. Great Britain's land holdings in America have expanded, and they are benefitting from fur and fish trading now that the French are gone.
- British troops have been sent to Boston to threaten us. The troops are causing violence, not controlling it. The unfair taxes and tax collectors are causing riots. We are being provoked.
- Parliament is trying to suppress us. We have every right to protest and resist unfair laws. The Stamp Act, for example, interferes with every aspect of our lives and is an unnecessary financial burden.
- Innocent people died in the Boston Massacre. That event would not have happened if British troops had not been here.
- England is trying to use us and make money from us. Parliament is trying to control which companies and countries do business with us. Customs officials and some merchants are getting rich at our expense.
- John Hancock's ship *The Liberty* has been seized. American sailors have been unlawfully pressed (captured) by British captains. What right do they have to treat us this way?

Source: The Bostonian Society



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #4: Why did the American colonists desire independence from Great Britain and how did they achieve their goal?

Lesson Title: The Declaration of Independence

SS Standard II, Objective 1

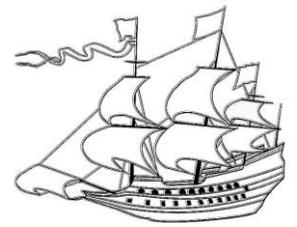
Implementation Time: 45 minutes

Media Resources Needed: *We the People: The Citizen & the Constitution* (Center for Civic Education); <http://www.archives.gov> ; computer and LCD Projector; emedia *Field Trips to Yesterday: Historic Philadelphia* segment 03:1776; *The Declaration of Independence: The Words that Made America* by Sam Fink (extension only)

Resources Needed: “Written Document Analysis Sheet” handout

Procedure:

1. Activate students’ background knowledge on the reasons the colonists declared independence from Great Britain. Project the 3-minute video segment from emedia titled *Field Trips to Yesterday: Historic Philadelphia*.
2. Assign students to re-read the section “What ideas about government are in the Declaration of Independence?” on pages 42-44, paying careful attention to the six bulleted complaints against King George III.
3. Project the primary source image of the Declaration of Independence housed in the National Archives in Washington, D.C. <http://www.archives.gov> . Allow students to ask questions and share responses to the document.
4. Have students turn to the Declaration of Independence in the back of their *We the People: The Citizen and the Constitution* book. Explain that, although this is not the original document, this is a transcription that makes it easy for us to read the document. The printing is different, but the words are the same as they appear on the original document and are written in 18th century language.



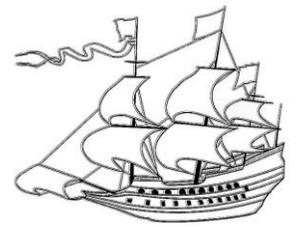
5. Explain that the first few lines beneath the title explain the **context** – date and place – of the document.
6. Explain that the first paragraph is where the author(s) explain their **purpose for writing the document** – declaring the causes for separation from Great Britain. Read the paragraph together as a class.
7. Explain that the second paragraph is where the author(s) **explain their ideas about the relationship between people and their government**. Read the paragraph together as a class.
8. Explain that the 29 paragraphs (of varying length) are **specific complaints against the British King**. Read the paragraphs together as a class and have students make a “short-hand” list of the complaints.
9. Explain that the last paragraph **absolves allegiance** to Great Britain and the king. It **declares** “The United States of America” free and independent of Britain and is followed by the signatures of congress.

Assessment:

Divide students into small groups of 3-5 students. Give each student a copy of the Written Document Analysis Sheet produced by the National Archives. Give students 10-12 minutes to work together to complete a document analysis on the Declaration of Independence.

Extension:

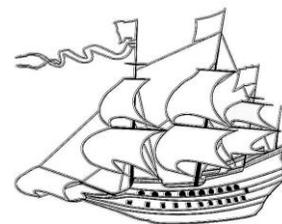
Using the book *The Declaration of Independence: The Words that Made America* by Sam Fink as a model, give each student a section of the Declaration of Independence to illustrate. Collect illustrations and display on a bulletin board.



Written Document Analysis Worksheet

1.	TYPE OF DOCUMENT (Check one): <input type="radio"/> Newspaper <input type="radio"/> Letter <input type="radio"/> Patent <input type="radio"/> Memorandum <input type="radio"/> Map <input type="radio"/> Telegram <input type="radio"/> Press Release <input type="radio"/> Report <input type="radio"/> Advertisement <input type="radio"/> Congressional Record <input type="radio"/> Census Report <input type="radio"/> Other
2.	UNIQUE PHYSICAL CHARACTERISTICS OF THE DOCUMENT (Check one or more): <input type="checkbox"/> Interesting Letterhead <input type="checkbox"/> Handwritten <input type="checkbox"/> Typed <input type="checkbox"/> Seals <input type="checkbox"/> Notations <input type="checkbox"/> "RECEIVED" stamp <input type="checkbox"/> Other
3.	DATE(S) OF DOCUMENT: <input type="text"/>
4.	AUTHOR (OR CREATOR) OF THE DOCUMENT: <input type="text"/> POSITION (TITLE): <input type="text"/>
5.	FOR WHAT AUDIENCE WAS THE DOCUMENT WRITTEN? <input type="text"/>
6.	DOCUMENT INFORMATION (There are many possible ways to answer A-E.) Limit response for each question to 3 lines of text A. List three things the author said that you think are important: <input type="text"/> B. Why do you think this document was written? <input type="text"/> C. What evidence in the document helps you know why it was written? Quote from the document. <input type="text"/> D. List two things the document tells you about life in the United States at the time it was written. <input type="text"/> E. Write a question to the author that is left unanswered by the document: <input type="text"/>

Designed and developed by the Education Staff, National Archives and Records Administration, Washington, DC 20408

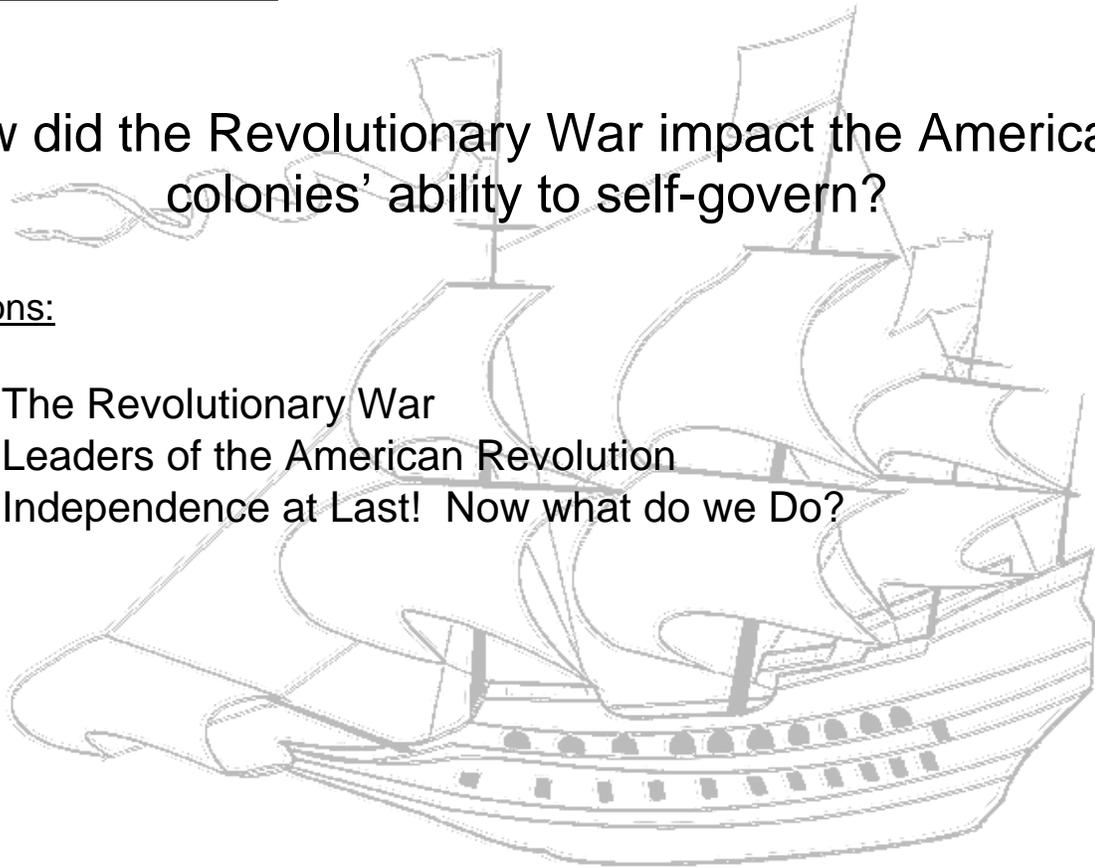


Essential Question #5:

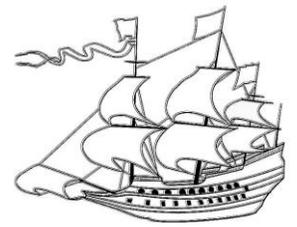
How did the Revolutionary War impact the American colonies' ability to self-govern?

Lessons:

- The Revolutionary War
- Leaders of the American Revolution
- Independence at Last! Now what do we Do?



Core Standards	
Social Studies	Science
Standard II	
<input type="checkbox"/> 2a plot a time line of the key events of the Revolutionary War <input type="checkbox"/> 2b profile citizens who rose to greatness as leaders <input type="checkbox"/> 2c assess how the Revolutionary War changed the way people thought about their own rights <input type="checkbox"/> 2d explain how the winning of the war set in motion a need for a new government that would serve the needs of the new states	



5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #5: How did the Revolutionary War impact the colonies' ability to self-govern?

Lesson Title: The Revolutionary War

SS Standard II, Objective 2

Implementation Time: 60 minutes

Media Resources Needed: *KIDS Discover: American Revolution* (class set)

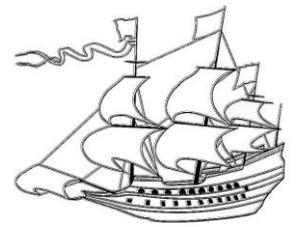
Materials Needed: *KIDS Discover: American Revolution* handout (1 per student)

Procedure:

1. Review events on the "Road to Revolution" timeline as a class and discuss/review how these events led to the American Revolution.
2. Divide students into groups of two or three. Give each group a copy of *American Revolution: Kids Discover* and give each student a copy of the study guide. Tell students they will work together reading the magazine and answering the questions on the study guide. Tell students to read two pages, stop for summarization and discussion, and then answer the question. There is one question for every two pages.
3. Give students time to read and complete the study guide.

Assessment:

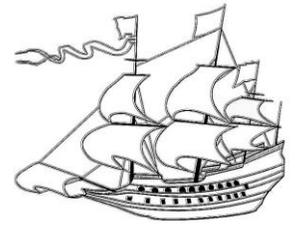
Explain the procedure for **reciprocal questioning** as follows: The magazines and study guides need to be put away. Students can ask the teacher five questions from the reading (discourage detail-driven questions) and then the teacher asks the students five questions. Continue the format two or three times. Emphasize that questions and answers **must** be from the magazine (text-based).



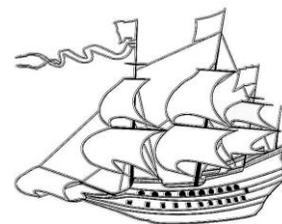
KIDS DISCOVER AMERICAN REVOLUTION Study Guide

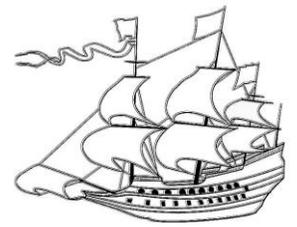
1. Why did the colonists dislike the symbolic tax on tea even though it was not an economic hardship for them to pay it?
2. Warned that the British were coming, the minutemen were waiting for the British troops. As they faced each other, a shot rang out. Who fired it? What was the shot called?
3. What were the British soldiers called? Why?
4. How did the war affect colonial women?
5. When New Yorkers tore down a statue of King George, they melted the torso down. What did they use it for?
6. What is significant about Washington and his troops crossing the Delaware to surprise the British?
7. Who was the French nobleman who arrived in America to fight for the cause of liberty?
8. What was George Washington's strategy against British forces that achieved victory for the colonists?

KIDS DISCOVER AMERICAN REVOLUTION STUDY GUIDE – KEY



1. *It was a hated symbol of Britain's power.*
2. *No one knows for certain which side fired it.
It was called "The shot heard 'round the world."*
3. *They were called redcoats because of the color of their jackets. Americans from the northeast colonies mockingly referred to them as lobster backs, after the color of a cooked lobster.*
4. *They had to take care of the financial needs of their families as well as protect themselves and their children when enemy soldiers were in the vicinity.*
5. *They used it for bullets.*
6. *Christmas night, 1776 (They wanted to cross under cover of darkness to gain advantage. Washington used unconventional tactics to gain military advantage by surprising and defeating Hessian troops at Trenton, New Jersey. Illustrated that Washington could hold his own against the strongest military power in the world.)*
7. *Marquis De Lafayette*
8. *He determined to fight a defensive war, avoiding large battles and wearing the enemy down.*





5th Grade
Unit 2: Cause & Effect: Exploration, Colonization, & the
Road to Self Rule

Essential Question #5: How did the Revolutionary War impact the colonies' ability to self-govern?

Lesson Title: Leaders of the American Revolution

SS Standard II, Objective 2

Implementation Time: Two 60 minute lessons (NOT back-to-back)

Media Resources Needed: Research materials for the Revolutionary War, biographies, classroom computers/computer lab

Materials Needed: paper, pencils, chart paper, posters, markers (for presentations)

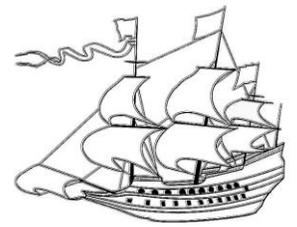
Procedure:

Lesson One:

1. Divide students into pairs. Explain that they are going to teach their classmates about the political and military leaders of the American Revolution. Each pair will have one person to research and prepare a presentation for the rest of the class.
2. Make students aware of the resources available for their research; Revolutionary War books, encyclopedias, and online resources.
3. Tell students they will be finding evidence of how the following people were involved in the American Revolution. Use the names below for students to research.

General George Washington
Benjamin Franklin
Thomas Paine
Thomas Jefferson
Mercy Otis Warren
Nathan Hale
General John Burgoyne
Marquis De Lafayette
Alexander Hamilton

Abigail Adams
John Hancock
Samuel Adams
Phillis Wheatley
Lord Charles Cornwallis
John Adams
General Nathanael Greene
Crispus Attucks
Ethan Allen



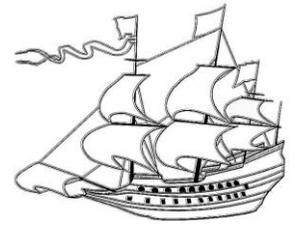
Lesson Two:

1. Allow students to give their presentation to the class.
2. Instruct students to listen to the presentations, marking their Revolutionary Bingo card when they hear key ideas, phrases, or names (some squares may apply to more than one leader of the American Revolution).

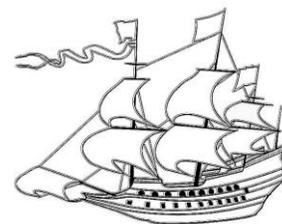
Assessment:

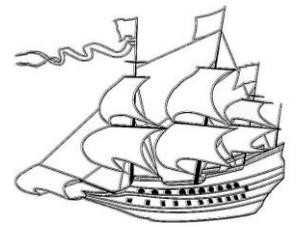
Using the information from the presentations, conduct a “news conference” where one student (the famous person being interviewed) is sent from the room without knowing who he/she is. The rest of the class is given the name and individually prepares questions to ask that will help the student discover who he/she is. Tell the “reporters” asking questions to formulate questions that make the “famous person” have to think. Easier questions can be asked if the “famous person” cannot figure out who he/she is after ten questions. Repeat.

Revolutionary



B	I	N	G	O
Author of the Declaration of Independence	"I only regret that I have but one life to give for my country."	French Ally	Revolutionary writer and sibling of another famous revolutionary	Advisor & Secretary to Gen. George Washington
Famous Boston resident	Yorktown	"Remember the ladies..."	Boston Massacre	British Commander
Poor Richard's Almanac	Boston Tea Party	FREE	Common Sense	Resigned his commission at the end of the Revolutionary War
Famous signature	Battle for New York City	Fort Ticonderoga	Battle of Bunker Hill	Revolutionary Poet
Continental congress	Philadelphia	Independence Hall	New England Colonist	Virginia Colony





5th Grade

Unit 2: Cause & Effect: Exploration, Colonization, & the Road to Self Rule

Essential Question #5: How did the Revolutionary War impact the colonies' ability to self-govern?

Lesson Title: Independence at Last! Now what do we Do?

SS Standard II, Objective 2

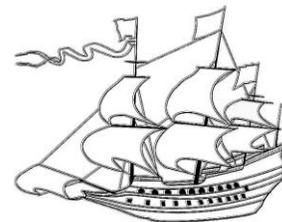
Implementation Time: 45 minutes

Resources Needed: "The Articles of Confederation" handout (1 per student)

Materials Needed: highlighters (1 per student)

Procedure:

1. Ask students to imagine what it would be like if we did not have a national government. What would happen if each state were a separate country with its own army, its own money, and its own trade rules and laws? Give students three minutes to brainstorm (alone or with a partner) a list of problems that might occur in this situation. Discuss as a class.
2. Explain that the Revolutionary War changed the way people thought about their own rights. Now that the states (former colonies of Great Britain) were independent from Great Britain, it was necessary to form a new government. Each state wrote their own state constitution and most of these contained a bill of rights. Most people at this time did not think of themselves as one nation but were loyal to their states. However, the individual states needed a way to control trade among the states and with other countries. They also needed a way to manage conflicts between and among states. A national government would help do these things. The first plan for the national government of the United States was the Articles of Confederation.
3. Write the following words on the board/word strips and discuss their definitions: **central government, confederation, alliance, ratification, sovereign, elite, reserved.**
4. Give each student a copy of "The Articles of Confederation" handout and a highlighter.



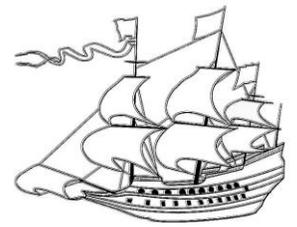
5. Familiarize students with the expository structure of the text. Explain that vocabulary words (above) are bolded and students should refer to the vocabulary word bank (step 3) when they approach such text.
6. Point out the primary source document on the lower right hand side of the handout and ask them to make inferences about what it is (front cover of the Articles of Confederation).
7. Draw students' attention to the text box on the left hand side of the page and to the questions inside. Explain that there is a question-answer relationship (QAR) that helps us comprehend text. In this case, **arrows** indicate that the answers to the questions can be found in the text – also known as “right there” questions. This means the answer to the question is “right there” in the text. The **light bulb** indicates that students need to do their own thinking and use their own ideas/understanding to answer the question, the answer is not stated in the text – also known as an “on your own” question. Assign students to use their highlighters to highlight the answers to the “right there” questions and the back of their handout to answer the “on your own”.

Assessment:

Assign students to write two original “right there” questions and two original “own your own” questions based on the Articles of Confederation handout. Students must include the answers to the questions.

Extension:

Have students research an early state constitution (Massachusetts, Pennsylvania and Virginia are good examples) and describe how the state organized and limited the power of its government. Explain why state constitutions usually began with a bill of rights and the purpose of a bill of rights.



The Articles of Confederation

In 1776, the Continental Congress appointed a committee to create a plan for a **central government**. The committee quickly wrote the **Articles of Confederation**, which created a loose **alliance of the states**. While the Articles were drafted quickly, **ratification** of them was delayed until 1781. The primary sticking point concerned disagreements about how to deal with the western lands claimed by several states. The states without such claims argued that the western lands should be owned by the national government. The states with land claims were reluctant to give up their claims. When Virginia finally gave up most of its claims to western lands, the Articles of Confederation were adopted.

The Articles of Confederation created a union of **sovereign** states. An assembly of delegates acted on behalf of the states they represented. Because the smaller states feared the domination of the larger ones, each state had one vote in the Confederation Congress, regardless of its size or population. Any act of Congress required the votes of nine of the thirteen states to pass.

Congress claimed the following powers: to make war and peace; conduct foreign affairs; request men and money from the states; coin and borrow money; regulate Indian affairs; and settle disputes among the states. Enforcing laws, regulating commerce, administering justice, and levying taxes were powers **reserved** to the states. Representatives were forbidden to serve in Congress more than three years to avoid formation of a political **elite**.



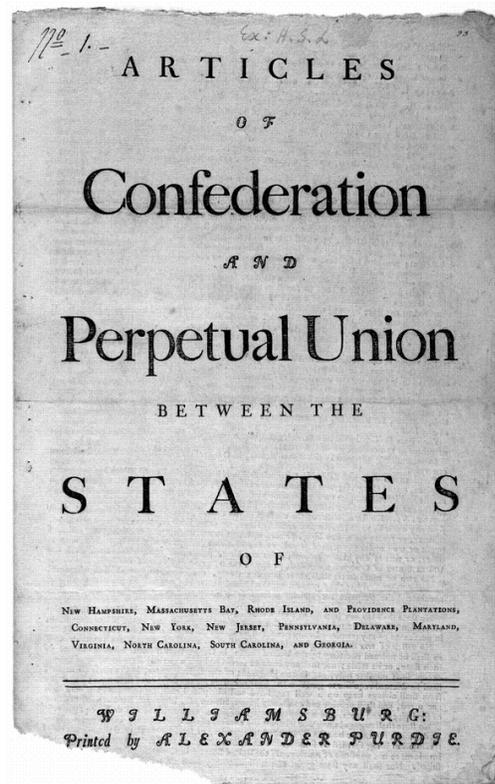
What powers did Congress claim under the Articles of Confederation?

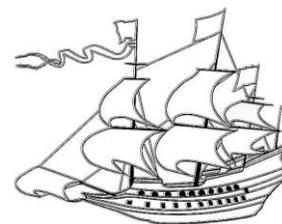


What powers were reserved to the states under the Articles of Confederation?

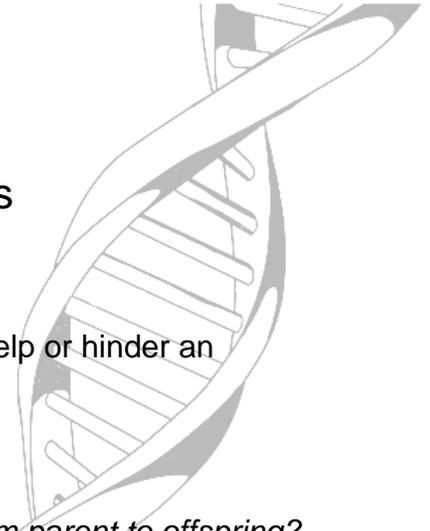


Which had more power under the Articles of Confederation: the national government or individual state governments?





Fifth Grade Interconnections
Unit III
Cause & Effect: Inheriting Traits



Enduring Understanding:

Traits are passed from parent to offspring and those traits may help or hinder an organism's survival in a given environment.

Essential Questions

- *How can you provide evidence that shows traits are passed from parent to offspring?*
- *What are some of the variations or similarities between a parent and its offspring?*
- *How can the same trait be helpful to an organism in one environment but a hindrance in a different environment?*
- *How are traits that are inherited different from traits that are learned?*

Core Curriculum Concepts/Skills: change, cause and effect, use supporting evidence, description

Core Standards

Science

Standard V: Students will understand that traits are passed from the parent organism to their offspring, and that sometimes the offspring may possess variations of these traits that may help or hinder survival in a given environment.

Objective 1: Using supporting evidence, show that traits are transferred from a parent organism to its offspring.

Objective 2: Describe how some characteristics could give a species a survival advantage in a particular environment.

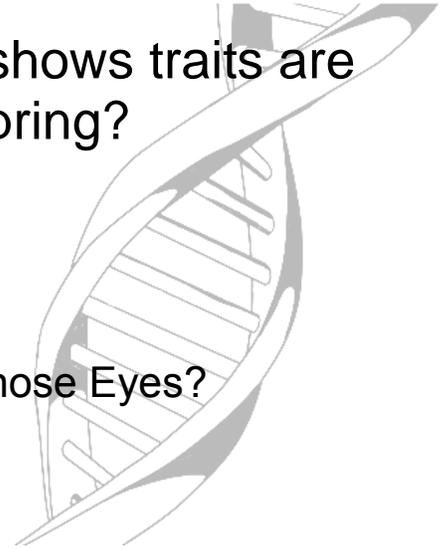
Science language students should know and use: inherited, environment, species, offspring, traits, variations, survival, instincts, population, specialized structure, organism, life cycle, parent organism, learned behavior

Essential Question #1:

How can you provide evidence that shows traits are passed from parent to offspring?

Lessons:

- Inherited Traits Introduction
- Hey Good Looking? Where'd You Get Those Eyes?



Core Standards	
Social Studies	Science
	Standard V
	<input type="checkbox"/> 1a make a chart and collect data identifying various traits among a given population (<i>examples may include:</i> the hand span of students in the classroom, the color and texture of different apples, the number of petals of a given flower)

5th Grade
Unit 3: Cause & Effect: Inheriting Traits



Essential Question #1: How can you provide evidence that shows traits are passed from parent to offspring?

Lesson Title: Inherited Traits Introduction

SC Standard V, Objective 1

Implementation Time: 45 minutes

Media Resources Needed:

A Bad Case of Stripes by David Shannon

Optional Video: *Science Now: Like Mother, Like Son* (online, eMedia)

Materials Needed:

sticky notes

art paper

crayons or markers

chart paper

rulers

Venn diagram

“An Inventory of My Traits” Student Sheet

Procedure:

1. Read *A Bad Case of Stripes* and discuss. Were the stripes inherited from her parents? What are some of her characteristics that were inherited from her parents? What was the main idea from the book? (Response: To be yourself and make your own decisions.)
2. Divide class into different traits of hair color.
3. Make a graph on the chalkboard or chart paper of blond, brown, black, and red.
4. Give each student a sticky note to write his/her name on.
5. Instruct the students to place their sticky on the graph under the correct heading.
6. Discuss the chart: most, least.



7. Continue using the graph with other criteria such as eye color, naturally curly or straight hair, ability to roll your tongue, freckles or no freckles, detached or attached earlobes, hitchhiker's thumb, dimples, right-handed, cross right thumb over left, cleft chin, allergies, can see the colors red and green, widow's peak, length of left foot, hand span, and wrist circumference.

8. Instruct students to work with a partner using a Venn diagram or "An Inventory of My Traits". They should compare their similarities and differences of their traits.

Assessment: Discuss heredity, the passing of traits from parents to their young, such as eye color, skin color, hair color, a widow's peak or straight hairline, straight or curly hair, freckles, cleft in chin, dimples in cheeks, shape of face. Have students draw a picture of themselves showing their unique hereditary traits.

Extension:

1. View the 30 second clip *Science Now: Like Mother Like Son* and make a list of traits that are inherited.

2. Explore genetics on the web. For information and activities go to:
<http://gslc.genetics.utah.edu/teachers>



AN INVENTORY OF MY TRAITS

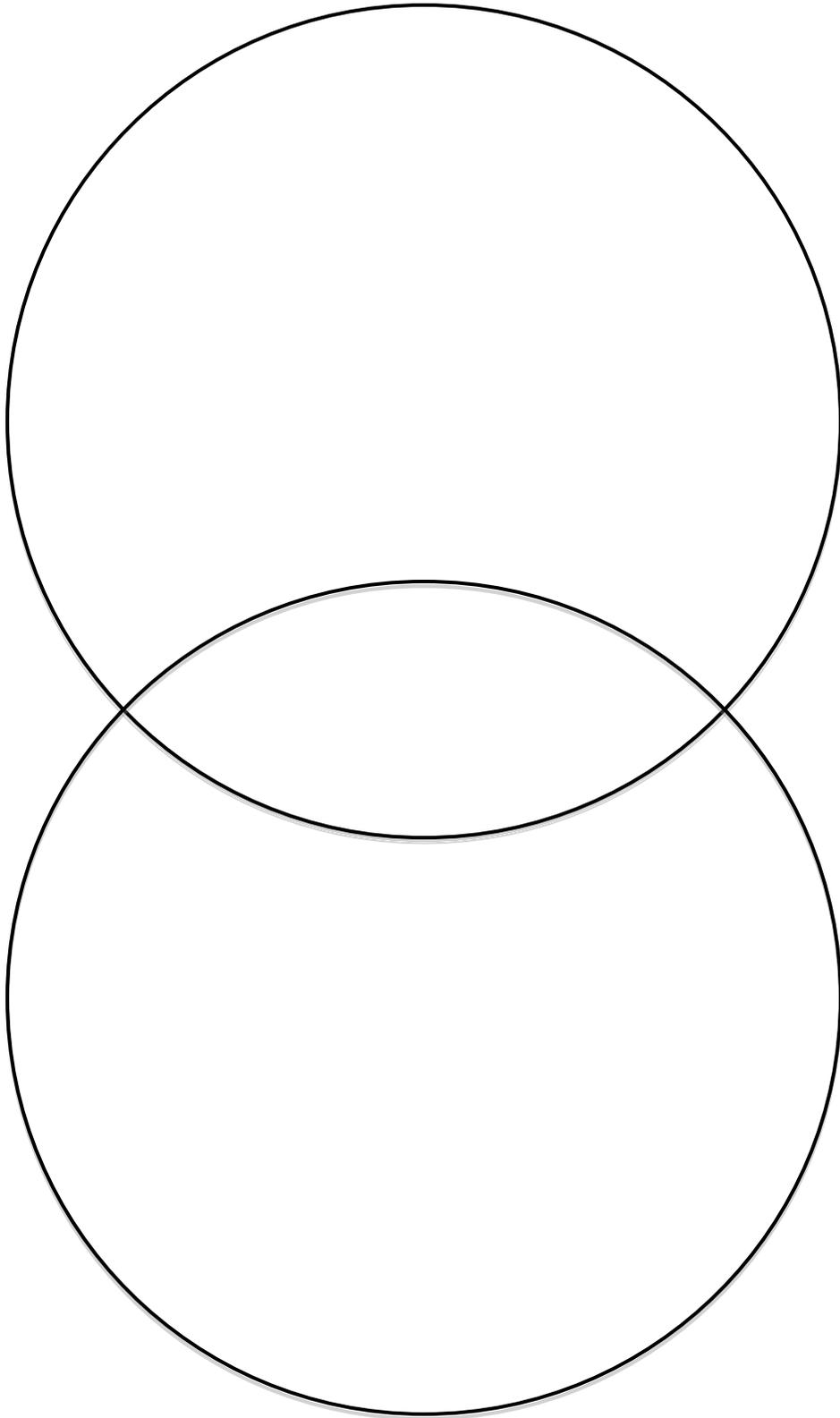
How similar are you and your partner? Complete this inventory and compare it with your classmate's inventory.

- | | |
|---|--------------|
| I am a: | male/female |
| I have detached earlobes. | yes/no |
| I have a hitchhiker's thumb. | yes/no |
| I can roll my tongue. | yes/no |
| I have dimples | yes/no |
| I am right-handed. | yes/no |
| I cross my left thumb over my right. | yes/ne |
| I have freckles | yes/no |
| I have naturally curly hair | yes/no |
| I have a cleft chin. | yes/no |
| I have allergies. | yes/no |
| I can taste PTC. | yes/no |
| I can see the colors red & green
(Color blindness) | yes/no |
| I have a widow's peak. | yes/no |
| The length of my left index finger is: _____ | centimeters. |
| The length of my left foot is: _____ | centimeters. |
| My hand span is: _____ | centimeters. |
| My wrist circumference is: _____ | centimeters. |



Classmate

Me



5th Grade
Unit 3: Cause & Effect: Inheriting Traits



Essential Question #1: How can you provide evidence that shows traits are passed from parent to offspring?

Lesson Title: Hey, Good Looking? Where'd You Get Those Eyes?

SC Standard V, Objective 1

Implementation Time: 45 minutes

Materials Needed:

Photos of the teacher's family members: self, children, parents, siblings, grandparents

Procedure:

Note: Since not all children have traditional families, bring in pictures of yourself and your family for all students to use (although you can let students bring in their own if you feel it appropriate). Pictures that include close ups of faces, or group shots that show height are most helpful.

1. Some traits are inherited, some traits are learned. In this activity students will be looking at pictures of a family and looking for traits that are inherited (eye color, hair color, curly/straight hair, freckles, hair line, ear lobes, height).
2. Learned traits can seem to be inherited (such as a mother plays piano and so did her father), but point out to students that we learn things as we grow up and sometimes we learn things because someone in our family wants to teach us or share a hobby with us.
3. Have students create a T-chart to compare traits between 2 of the pictures (mom and grandma, brother and sister, etc...) Sometimes traits are hard to compare if you are using a child vs an adult (such as height).

Assessment:

Use the T-chart to determine if students can identify similarities and differences.

Extension:

Have students do an interview with an adult (possibly a family member) who can share information about traits that are inherited in their family. Make a poster or do an oral report.



Picture 1

Name:

Picture 2

Name:

Essential Question #2:

What are some of the variations or similarities between a parent and its offspring?

Lessons:

- Inherited Traits and Life Cycles



Core Standards	
Social Studies	Science
	Standard V
	<input type="checkbox"/> 1b identify similar physical traits of a parent organism and its offspring (examples <u>may include</u> : trees and saplings, leopards and cubs, chickens and chicks)
	<input type="checkbox"/> 1c compare various examples of offspring that do not initially resemble the parent organism but mature to become similar to the parent organism (examples <u>may include</u> : mealworms and darkling beetles, tadpoles and frogs, seedlings and vegetables, caterpillars and butterflies)
	<input type="checkbox"/> 1e investigate variations and similarities in plants grown from seeds of a parent plant (examples <u>may include</u> : how seeds from the same plant species can produce different colored flowers or identical flowers)

5th Grade
Unit 3: Cause & Effect: Inheriting Traits



Essential Question #2: What are some of the variations or similarities between a parent and its offspring?

Lesson Title: Inherited Traits and Life Cycles

SC Standard V, Objective 1

Implementation Time: 45 minutes

Media Resources Needed:

Optional DVD: *Bill Nye: Life Cycles* (online, eMedia)

Materials Needed:

Poster and chart paper
Crayons, markers

Procedure:

1. Ask students if they look the same or different as they did when they were babies. They should come up with ways that they are different as well as things that are the same.
2. Brainstorm as a class or in small groups; list similar physical traits of a parent organism and its offspring (e.g., trees and saplings, leopards and cubs, chickens and chicks, cats and kittens, dogs and puppies, swan and cygnets, ducks and ducklings, rabbits and bunnies).
3. Brainstorm and list examples of offspring that do not initially resemble the parent organism but mature to become similar to the parent organism (e.g. mealworms and darkling beetles, tadpoles and frogs, seedlings and mature plants, caterpillar and butterfly, acorns and oak trees, seeds and flowers).
4. Optional: Show the DVD *Bill Nye: Life Cycles*
5. Divide class into small groups. Give each group a poster. They should discuss and illustrate a life cycle as a group. Tell students they will be sequencing the life cycle of the offspring from infant to adult. Make sure some groups represent similar physical traits of a parent organism and some groups represent offspring that do not initially resemble the parent organism, but mature to become similar to the parent organism

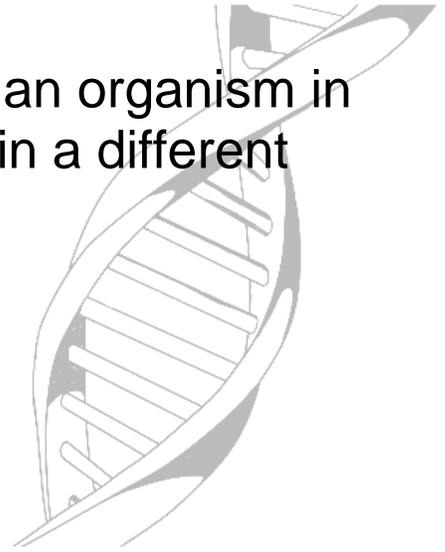


Assessment: Have groups present and explain their posters to the class.

Extension: Buy mealworms at the pet shop so students can observe the life cycle of a butterfly.

Essential Question #3:

How can the same trait be helpful to an organism in one environment but a hindrance in a different environment?



Lessons:

- Survival Advantage Introduction
- Adaptations, Populations, and Variations
- Change of Address

Core Standards	
Social Studies	Science
	Standard V
	<input type="checkbox"/> 2a compare the traits of similar species for physical abilities, instinctual behaviors, and specialized body structures that increase the survival of one species in a specific environment over another species <input type="checkbox"/> 2b. identify that some environments give one species a survival advantage over another <input type="checkbox"/> 2c describe how a particular physical attribute may provide an advantage for survival in one environment but not in another <input type="checkbox"/> 2d research a specific plant or animal and report how specific physical attributes provide an advantage for survival in a specific environment

5th Grade
Unit 3: Cause & Effect: Inheriting Traits



Essential Question #3: How can the same trait be helpful to an organism in one environment but a hindrance in a different environment?

Lesson Title: Survival Advantage Introduction

SC Standard V, Objective 2

Implementation Time: 45 minutes

Materials Needed:

coats, hats, gloves, swim suit, sunglasses, boots, sandals
samples or pictures of different types of animal coverings – rabbit fur, seashells, sheep wool, snakeskin, feathers, butterfly patterns,

crayons or markers

tape

Procedure:

1. Display a variety of outer wear. Ask for several student volunteers to assist in the demonstration. Ask the volunteers which of the items they would wear if it were:

- A bright, crisp fall afternoon?
- A cold, snowy winter night?
- A rain storm?
- A cool summer's evening?

Or if you were:

- Going to the beach?
- Going hiking?
- Going snowboarding?

2. Discuss how we wear different outer wear depending on the environment.

3. Tell students that animals have different outer coverings depending on where they live, and what they eat, and what eats them. Discuss the different functions of outer coverings of animals.

4. Pass out samples of outer coverings or the pictures of animals. Have students respond, in chart form to the following for each example.

- Describe physical traits of the outer covering.
- Describe the coverings' possible functions.



- Describe the environment in which the animal would live.
- Describe the advantage it would give the animal.
- Describe the limitations it would give the animal.

5. Discuss the responses to each example.

6. Pass out a butterfly pattern to each student.

7. Instruct the students to choose an area in the classroom and to color their butterfly in a way that it would blend into the area.

8. Send half of the class out of the room while the other half hides their butterflies, taping them in place.

9. Bring the students in and challenge them to find the butterflies; the winner is the student whose butterfly takes the longest to find.

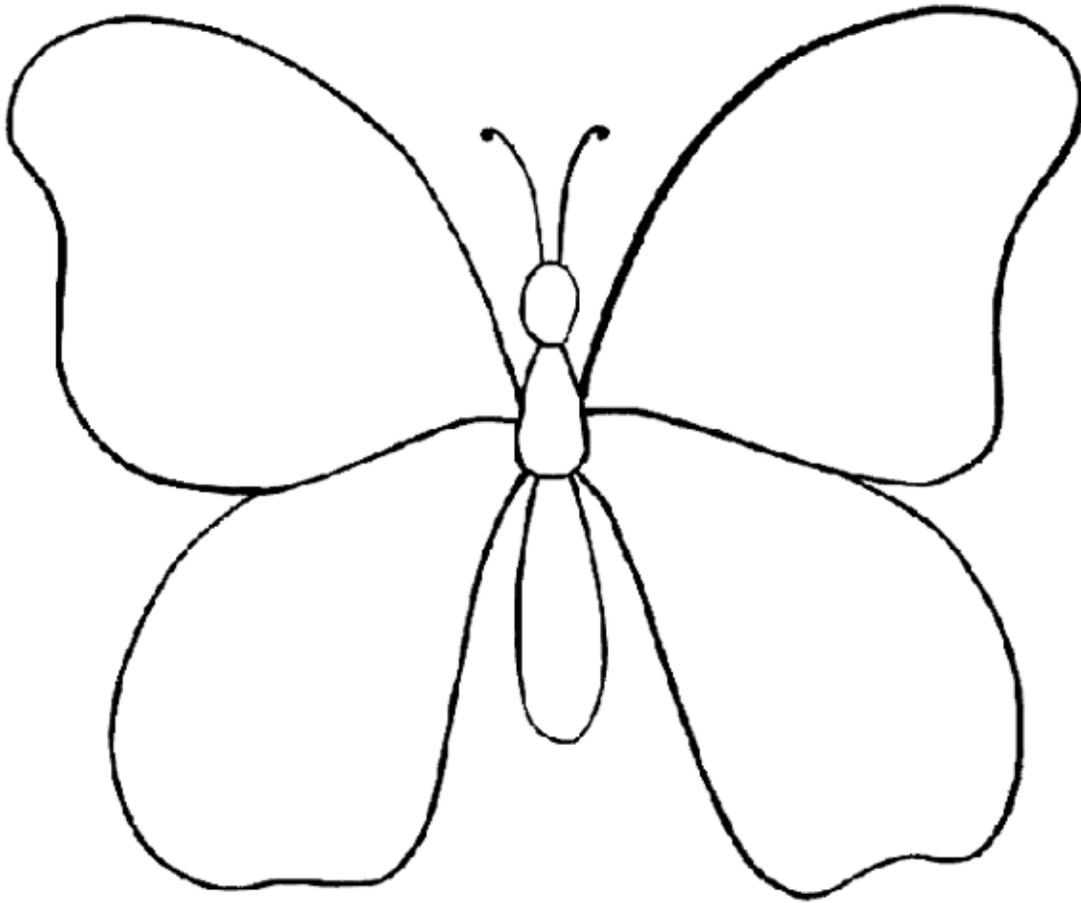
10. Repeat the activity to allow the other half of the class to hide their butterflies.

11. Take the winning butterflies and place them on backgrounds that make them “stand out.”

12. Ask the following questions:

- What would happen to these butterflies if their environment suddenly changed and their coloration became very visible instead of blending in?
- What would eventually happen to this species of butterfly?
What possible things could happen to give this species another survival advantage?

Assessment: Discuss how organisms use their special structures for a survival advantage in a particular environment. Discuss the cause and effect of the butterflies blending into their environment.





5th Grade
Unit 3: Cause & Effect: Inheriting Traits



Essential Question #3: How can the same trait be helpful to an organism in one environment but a hindrance in a different environment?

Lesson Title: Adaptations, Populations and Variations

SC Standard V, Objective 2

Implementation Time: 45 minutes

Media Resources Need:

USOE Sci-Ber Text <http://schools.utah.gov/curr/science/core/5th/sciber5/heredity/html/special.htm>

Materials Needed

Adaptation Information Sheet

Birdseed; different sizes, kinds

Assorted containers (cups, tubes, pan, egg carton etc...)

Tools for “beaks” (pliers, spoon, straw, tweezers, etc...)

Procedure:

1. Have students read the Adaptation Information Sheet as small groups or a whole class. Have a discussion about some of the reading questions. Optional: Students can do this online on Sci-Ber Text.
2. Put students in small groups to do the Bird Beak Simulation
3. Let’s look at how a bird’s beak affects the way it gathers food and is an adaptation to the environment.
4. Place the seeds at the bottom of each container. The containers represent the location of a food source. For example, the bark of trees, ponds, and flowers. See which “beaks” (tools) will work the best to remove seeds from each container. Rotate from station to station to test each type of beak in each container.
5. With a partner, discuss how different beak structures help birds adapt to their individual environments.
6. Now that you know a little more about how bird beak structure helps birds adapt to their environment, it is time to check your knowledge. Optional: Students can do this online at Sci-Ber Text



Assessment:

Have students do the “Check Your Knowledge” assignment (project the color chart with an LCD) Answers: 1. C, 2. E, 3. D, 4. B, 5. A



Adaptations, Populations, Variations Information Sheet

Source: USOE Sci-Ber Text

All the members of a species that live in the same area or habitat are called a *population*. The collection of the earthworms that live in your yard could be called a population. Utah's mule deer, peach trees in Brigham City, columbines in Albion Basin, and the bats of Logan Cave are all populations.

Each species has traits that set them apart, but individuals within a species can show variation. Some variations make it easier for the individual to survive in their environment. Such a variation makes them successful. They have offspring with the variation and they are also successful. Over many generations the variation becomes a trait for an entire species.

Consider rabbits and hares. They are closely related and often confused. At birth, a rabbit is blind, and has no hair. A hare on the other hand, can see at birth and has...well, HAIR! Jack rabbits (which are really hares - oh well!) graze openly, have very large ears, keen eyesight, and run very fast. Snowshoe hares have furry hind feet and turn from grey-brown in summer to snow-white in winter. Cottontail rabbits have bulging eyes and strong hind legs.

What are the specialized body structures for? Think about how these structures help each living thing to survive.

Wild sunflowers

Grow in the mountains

Have small leaves and small flowers. This variation helps them survive in their environment. Mountains are often very dry in the summer.

Small leaves and flowers use less water than large leaves and flowers.

How would a sunflower's small leaves and flowers help it survive in its dry mountain environment?

Bird adaptations

Owls have large feathers that let them to glide quietly. An owl's feathers help it survive by helping it quietly sneak up on mice. Humming birds have small feathers that let them flap their wings very, very quickly. Because they can flap their wings so quickly, they can hover in one place, like a helicopter.



Check your knowledge

Look at the variations in the beaks of different bird species.
Look at the variation of each bird beak.
Now look at the different environment choices.

Match the bird to the environment that it would have the greatest chance of survival.
Hint: Think of the beaks as food gathering tools and the diet of each bird eat – fish, seeds, insects, pollen?

1. 	A. 
2. 	B. 
3. 	C. 
4. 	D. 
5. 	E. 

5th Grade
Unit 3: Cause & Effect: Inheriting Traits



Essential Question #3: How can the same trait be helpful to an organism in one environment but a hindrance in a different environment?

Lesson Title: Change of Address

SC Standard V, Objective 2

Implementation Time: Two 45 minute sessions

Media Resources Needed:

Computer lab with internet or
Books on animals
Encyclopedia
USOE Sci-Ber Text online (opt)

Materials Needed

Paper, pencils
Book Template--print at:
<http://www.schools.utah.gov/curr/science/core/5th/sciber5/heredity/html/MINIBOOK.PDF>

Procedure:

1. This lesson should be done as a follow-up to the *Adaptations, Populations and Variations* lesson. Give students the instruction sheet called Change of Address Story Book, or just go over the required elements.
2. Students will write a story and make a book.

Assessment: Closure will be presentations. Assess students as follows:

- Student writes report and answers all questions in research 30 points
- Student makes visual aid or poster or power point – 20 points
- Student gives oral report and uses visual aid to help explain – 10 points



Change of Address Story Book

You've seen traits that can help an organism's survival in one environment can actually hinder, or hurt its chances someplace else.

In this activity choose one of the topic prompts below or create one of your own. Each is about an organism that has somehow gotten out of its natural environment. Your goal is to write a creative story about the trials and tribulations faced by the unhappy organism that you can share with a younger student.

Be sure to include real facts about traits and environments. Look creatively at the obvious problems your hero will face. Your objective is to inform a younger student as well as entertain. Remember to follow the steps of the writing process.

IDEAS: A good story has a beginning, middle, and satisfying ending. How did your organism come to be misplaced? What is its name? How will he/she survive? How will they adapt? Will they return home?

DRAFT: Get your ideas written down quickly. Don't worry about spelling and naming conventions yet.

REVISE: Look at your beginning sentence. Does it grab your attention? Look at the ending. Will a younger student be satisfied with the ending?

EDIT: Check your spelling and punctuation.

FINAL DRAFT: You may want to have your teacher, parent, or older friend edit your story one more time before you do your final copy.

PUBLISH: Create a book of your choice!

Topic prompts that you can write about....

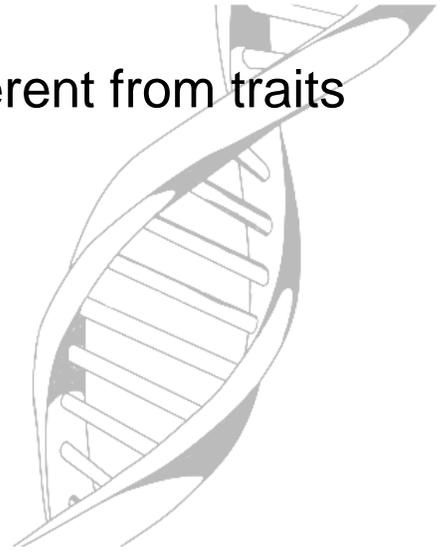
- polar bear in Florida
- cactus living in a swamp
- porcupine being raised by kangaroos
- fish in love with a bird
- alligator in the arctic
- shark in a small pond
- elephant in Alaska
- camel in Canada
- pelican living on the prairie
- ant in Antarctica
- gopher in a redwood tree
- seahorse in the Colorado River
- crab in Cairo, Egypt
- puppy in a pod of whales
- iguana in Siberia

Essential Question #4:

How are traits that are inherited different from traits that are learned?

Lessons:

- Inherited vs. Learned



Core Standards	
Social Studies	Science
	Standard V
	<input type="checkbox"/> 1d contrast inherited traits with traits and behaviors that are not inherited but may be learned or induced by environmental factors (<i>examples may include:</i> cat purring to cat meowing to be let out of the house; the round shape of a willow is inherited, while leaning away from the prevailing wind is induced)

5th Grade
Unit 3: Cause & Effect: Inheriting Traits



Essential Question #4: How are traits that are inherited different from traits that are learned?

Lesson Title: Inherited vs. Learned

SC Standard V, Objective 1

Implementation Time: 45 minutes

Media Resources

Optional video: *Fundamentals of Genetics* (online, eMedia)

Optional video clip: *Genetics. Heredity. Segment 03: Inherited Traits* (online, eMedia)

Materials Needed:

Behavior Investigation Chart

My Conclusions worksheet

Procedure:

Invitation to Learn

Ask students to raise their hand if they have a pet. If they do, have them describe some funny things they do. As they tell their behaviors, ask them to decide if it is something their pet has learned (playing dead, rolling over, coming to their food dish at the sound of a rustling bag) or if it is something instinctive to their species (barking at cats, playing with their tails, pouncing). Tell them that these are obvious behaviors. You can tell if they are learned from their surroundings or if they would act that way no matter where they were. Sometimes it's not so easy to tell.

1. Ask students to describe a behavior that they notice, or somebody else has noticed, that they do (they giggle a lot, they are very serious, quiet, surly, jolly, excitable, etc.). If they can't come up with one, give them an example from your own plethora of behaviors (I am loud and like lots of people around me.). Ask them why they think they act that way. Why do you act the way you do? Let them think about this a little.

2. Begin a list of behaviors on the board. Tell students that you want at least one type of behavior from each of them. It doesn't have to be one of their own behaviors, but some kind of act/behavior they have seen, do themselves, or know of. Call on students one at a time, writing their suggestions on the board.

3. Tell the students that there are two ways that they get their actions and behaviors.



First, and sometimes most obviously, their behaviors come from their environment. Their surroundings are the easiest place for them to attribute their actions. They will be the first ones to say, “Well, I’m pretty hyper, but my house is a fun and crazy place. We’re all pretty quiet at my house because my dad likes the silence. I mess around with art supplies because there’s nothing else to do at my house.” They understand that there is something in their environment that has influenced them to be the way they are. If you ask them if they think they would act differently if they were raised in a different home, they will almost always say yes.

4. Give them a twist—ask if they might consider the idea that perhaps they play with art supplies because they are genetically (instinctively) inclined to do so. With a little investigation they might find a great grandfather who loved to paint. Their enjoyment of art might be instinctive, not just a matter of finding something to do in the family room. Have them stop and think about their personalities. Is one of their parents like them in more ways than one? A quiet, passive personality can be learned and passed on through inherited traits.

5. Revisit the behavior list, using two distinct symbols to make instinctive and learned behaviors. See if the students can decide which behaviors are which. Most of the behaviors will probably have both symbols, because it is hard to tell which human behaviors are learned and which are instinctive.

6. Help them see that it is difficult to determine which behaviors are instinctive or learned, but that we definitely get our behaviors from both. Optional: Show the 2 minute clip *Genetics: Heredity, Part 3*.

7. Have students complete the Behavior Investigation chart. Complete the portion of the chart in the “me” section during class. If they already know some behaviors they share with their parents, siblings or cousins, etc., they can fill those in, also. Students interview their parents and determine behaviors that they, their parents, grandparents, aunts, uncles, cousins, etc., share by genes. Parents are very helpful with this because they often recognize behaviors in their children that they know they have, and vice versa. They are able to help in finding similarities with aunts, uncles, and grandparents who the children might not know as well. Students complete the chart and share at least one discovered inherited behavior with the class. Note: Be sensitive to students who may be adopted or consider someone other than their biological parent to be their family. Instead of doing their own family, they could do the teacher’s family or a famous celebrity.

8. Optional: Use the 20 minute online video *Fundamentals of Genetics* as a summary to the lesson.

Strategies For Diverse Learners: *ELL students* who are fairly new to the language have an easier time drawing pictures of things they like to do and of their behaviors. Students with special needs, depending on their abilities, benefit from drawing their behaviors as well. Other options would be to give them a simpler chart to complete with only a ME



and a PARENTS side. They would only be comparing their behaviors with their parents, instead of multiple people.

Gifted Students: Challenge students to look into their ancestry, interview grandparents about great or great-great grandparents and their behaviors. See if they can find an inherited behavior that has been passed on through more than two generations. Students who enjoy this can research more information on twins separated at birth and the studies that have been done about them.

Assessment:

Give students a list of ten example behavior situations and have them tell if it is instinct or learned and *why* (in their opinion). You are not really looking for a “right” answer. Rather, can they support their answer with correct logic? Some behaviors should be obviously learned (The phone rings and I walk over and pick it up), some obviously instinctive (I jump when I am startled), and some that are a bit in between (I sing in the shower just like my mom).

Review the Conclusions Worksheet to see if student grasp the difference between Inherited and Learned behaviors.

Extension:

Use the Sci-Ber Text as an additional reading resource.

Behavior Investigation Chart _____



Relatives	
Grandparents	
Siblings	
Parents	
Me	



Fifth Grade Interconnections
Unit IV

Change Over Time: The Growth of Our Constitutional
Government

Enduring Understanding:

The United States Constitution and Bill of Rights outline the rights and responsibilities of citizens.

Essential Questions

- *What is the purpose of government?*
- *What are the underlying principles of the U.S. Constitution?*
- *How has the U.S. Constitution been amended and interpreted over time and how do these changes affect us today?*

Core Curriculum Concepts/Skills: change, cause and effect, change over time, checks and balances

Core Standards

Social Studies

Standard III: Students will understand the rights and responsibilities guaranteed in the United States Constitution and Bill of Rights.

Objective 1: Assess the underlying principles of the U.S. Constitution.

Objective 2: Assess how the U.S. Constitution has been amended and interpreted over time, and the impact these amendments have had on the rights and responsibilities of citizens of the United States.

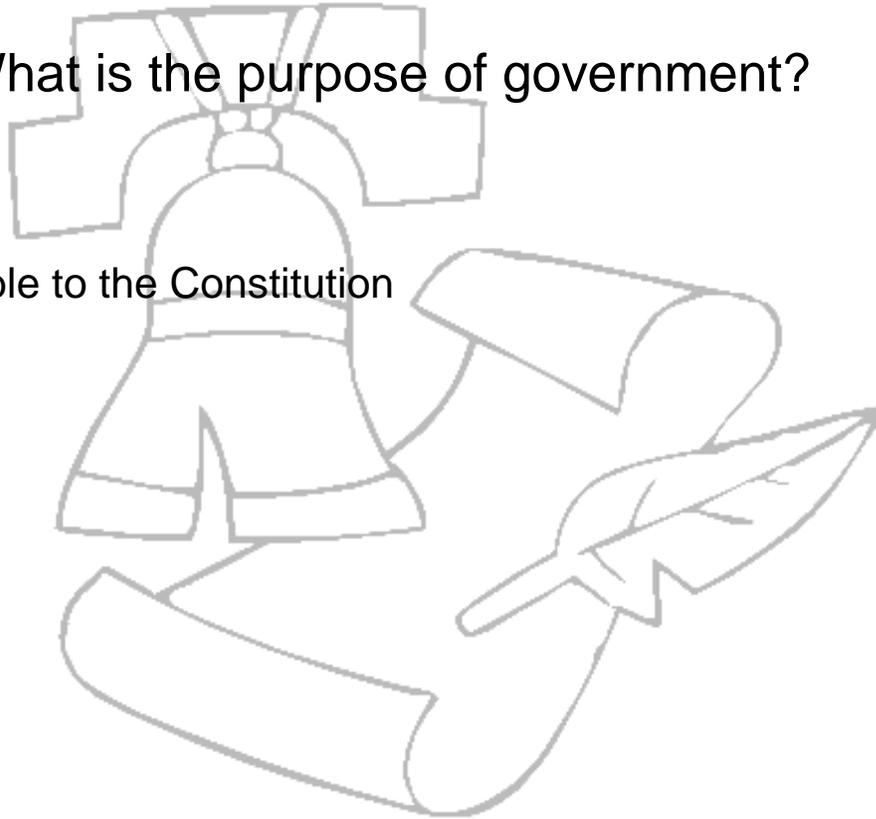
Social Studies language students should know and use: constitution, confederation, preamble, legislative, executive, judicial, amendment, petition, assembly, checks and balances

Essential Question #1:

What is the purpose of government?

Lessons:

- Preamble to the Constitution



Core Standards	
Social Studies	Science
Standard III	
<input type="checkbox"/> 1b analyze goals outlined in the Preamble <input type="checkbox"/> 1f discover the basis for the patriotic and citizenship traditions we have today <u>including</u> Pledge of Allegiance, flag etiquette, voting	





5th Grade
Unit 4: Change over Time: The Growth of Our
Constitutional Government

Essential Question #1: What is the purpose of government?

Lesson Title: Preamble to the Constitution

SS Standard III, Objective 1

Implementation Time: 45 minutes

Media Resources Needed: *We the People: The Citizen & the Constitution*, Center for Civic Education (15 copies), pp. 70-73; dictionaries

Materials Needed: large papers, markers (per group)

Procedure:

1. Pass out *We the People: The Citizen & the Constitution* books. Read and discuss Lesson 11, pages 87-91.
2. Divide the class into six groups and follow the instructions on page 91. Pass out a large paper and marker to each group. Each group will study one of the important parts of the Preamble as listed. Have each group answer the questions and be prepared to explain the group's answers to the rest of the class.
3. Give the groups time to research and prepare.
4. Begin with group one and have them share with the rest of the class. Proceed in order through group six. Display the groups' papers when they finish presenting. **Note:** *It is more important for students to understand the ideas expressed in the Preamble than it is for them to memorize it word for word.*
5. Discuss the ways our patriotic symbols - including Pledge of Allegiance, flag etiquette, and voting – demonstrate our respect for the ideas outlined in the Preamble. Brainstorm other patriotic symbols that help us identify ourselves as “We the People...”



Assessment:

Assign students to rewrite the Preamble to the Constitution in their own words and in modern language.

Extension:

Assign students to write a three-paragraph argument in which they agree/disagree with the following statement, citing specific evidence and examples to support their argument:

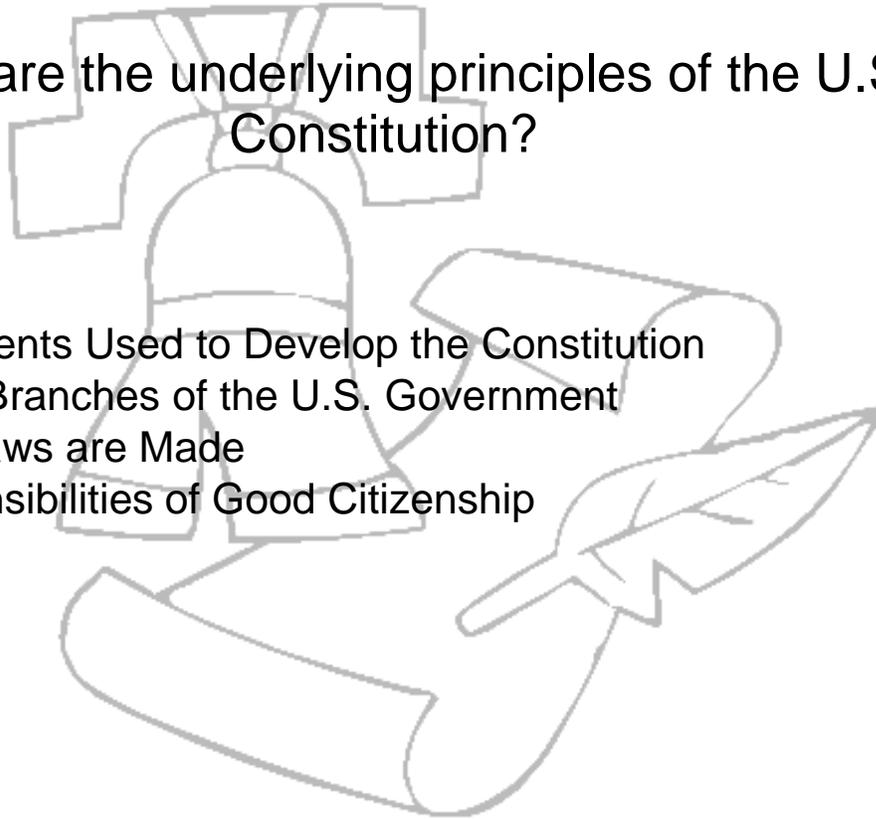
Some claim that the most important words in the U.S. Constitution are the first three words of the Preamble: *We the People*. Do you agree or disagree? Why? If you disagree, what would you consider the most important words in the Constitution/Preamble?

Essential Question #2:

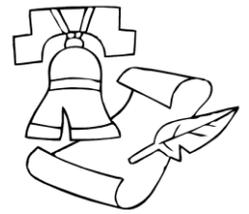
What are the underlying principles of the U.S. Constitution?

Lessons:

- Documents Used to Develop the Constitution
- Three Branches of the U.S. Government
- How Laws are Made
- Responsibilities of Good Citizenship



Core Standards	
Social Studies	Science
Standard III	
<input type="checkbox"/> 1a recognize ideas from documents used to develop the Constitution (examples <i>may include</i> : Magna Carta, Iroquois Confederacy, Articles of Confederation, Virginia Plan)	
<input type="checkbox"/> 1c distinguish between the role of the Legislative, Executive, and Judicial branches of the government	
<input type="checkbox"/> 1d explain the process of passing a law	
<input type="checkbox"/> 1e describe the concept of checks and balances	



5th Grade
Unit 4: Change over Time: The Growth of Our
Constitutional Government

Essential Question #2: What are the underlying principles of the U.S. Constitution?

Lesson Title: Documents Used to Develop the Constitution

SS Standard III, Objective 1

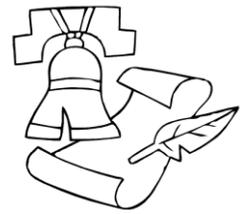
Implementation Time: 45 minutes

Media Resources Needed: encyclopedia; *We the People: The Citizen & the Constitution* (Center for Civic Education) -15 copies

Materials Needed: large piece of butcher paper, markers, paper, pencils

Procedure:

1. Explain to students that they are going to learn about documents used by the framers of the Constitution to design our government. Tell them there were three important documents used.
2. Write “Magna Carta” on the butcher paper. Tell students that you are going to read the information of the Magna Carta from the encyclopedia. Instruct students to listen carefully as they will be asked to summarize the information.
3. Read the information to the class. Discuss as a class and write a summary of the Magna Carta on the butcher paper. (Example: An English document that marked a decisive step forward in the development of constitutional government. It placed the king under the law and granted many rights to the English aristocracy, dividing and sharing power. It did very little for the common man.)
4. Ask students if they remember another document they studied in Unit II (Mayflower Compact). If they don’t recall, give them a hint that it was a compact signed by the Pilgrims. Write “Mayflower Compact” on the butcher paper. Activate students’ background knowledge, reviewing the document as necessary. Discuss as a class and write a summary on the Mayflower Compact on the butcher paper.

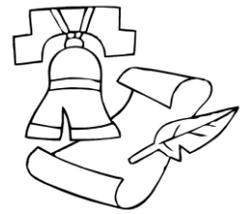


(Example: It was the first framework for self-government in America. Pilgrims agreed to be governed and adhere to laws. It promised fair laws and the right to choose leaders.)

5. Ask students what government the colonies had after they first gained independence from Britain. Write “Articles of Confederation” on the butcher paper.
6. Divide the students into groups. Pass out the *We the People* books and have students turn to page 56. Have students read pages 56-61 as a group and discuss. Have each group write a summary of the Articles of Confederation.
7. Come back together as a class and have each group present their summary. Take the information from the groups and write a summary under “Articles of Confederation.”

Assessment:

Discuss the three documents and the summaries as a class. Ask students which government they would have preferred to live under and what differences there would be. Assign students (in pairs or small groups) to identify two main problems with the Articles of Confederation and brainstorm feasible solutions to these problems. Direct them to consider other problems that result from their solutions. Share with the class.



5th Grade
Unit 4: Change over Time: The Growth of Our
Constitutional Government

Essential Question #2: What are the underlying principles of the U.S. Constitution?

Lesson Title: The Three Branches of Government

SS Standard III, Objective 1

Implementation Time: 45 minutes

Media Resources Needed: *We the People: The Citizen and the Constitution* (Center for Civic Education) – classroom set.

Resources Needed: “Anticipation Guide” handout, “The Three Branches of Government” graphic organizer

Procedure:

1. Distribute an “Anticipation Guide” handout to each student in order to activate students’ background knowledge and assess their prior knowledge. Collect and keep – do not score.
2. Project a photo/copy of the United States Constitution housed in the National Archives in Washington, D.C. at <http://www.archives.gov> . Explain that the U.S. Constitution is a living document in that we use it every day, even though it is over 200 years old. Explain that the Framers were charged with fixing the Articles of Confederation, but found they needed to start over completely. When they worked on the new Constitution in 1787, they were careful to create a government that included balance of power (no one branch is more powerful than the other) and checks and balances (each branch has authority to “check” the behavior/actions of the others so that one does not become more powerful, disrupting the balance). People of the time feared a strong central government because of their experiences with King George III and Great Britain. The Framers came to the Constitutional Convention with ideas to create a government that would divide power between states and national governments (federalism) and further divide power between three different branches of government, no one more powerful than the other.
3. Distribute *We the People: The Citizen and the Constitution* and “The Three Branches of Government” graphic organizer. Divide students into groups of 3 or 6 and have them



read together and discuss the concept of balanced government and checks and balances on pages 95-97. Assign individuals or pairs to read the lessons on one of the branches of government (legislative, executive, judicial) and take notes on one section the graphic organizer. Each group should have 1-2 students working on each of the different branches.

4. Jigsaw (switch members) the groups, instructing students to share the information they uncovered with the rest of their group. Each student should record the information on their own graphic organizer. Discuss as a class, answering questions and clarifying misconceptions.

Assessment:

Return students' "Anticipation Guides" and have them make corrections based on what they now know/understand. Differentiate by allowing students to use their notes as appropriate. Collect and score (if desired).

Extension:

Assign students to find/research examples of the three branches of government and checks and balances and the impact these have on their everyday lives.



Anticipation Guide
THE THREE BRANCHES OF
THE UNITED STATES GOVERNMENT

Directions: Circle the branch(es) **best described** by the statement.

This branch of the government must give a State of the Union Address at the beginning of each legislative session. (EXECUTIVE/JUDICIAL/LEGISLATIVE)

This branch of the government interprets the laws of the country.
(EXECUTIVE/JUDICIAL/LEGISLATIVE)

This branch of the government has the power to veto laws.
(EXECUTIVE/JUDICIAL/LEGISLATIVE)

This branch of the government makes laws. (EXECUTIVE/JUDICIAL/LEGISLATIVE)

People in this branch of government are appointed by the President of the United States. (EXECUTIVE/JUDICIAL/LEGISLATIVE)

This branch of the government can override a veto.
(EXECUTIVE/JUDICIAL/LEGISLATIVE)

People in this branch of the government can be elected for as many terms as they choose to run. (EXECUTIVE/JUDICIAL/LEGISLATIVE)

This branch of government is elected by the people.
(EXECUTIVE/JUDICIAL/LEGISLATIVE)

Some people in this branch of government can choose for themselves how long they serve and don't have to be re-elected. (EXECUTIVE/JUDICIAL/LEGISLATIVE)



Anticipation Guide
THE THREE BRANCHES OF
THE UNITED STATES GOVERNMENT: KEY

Directions: Circle the branch(es) best described by the statement.

This branch of the government must give a State of the Union address at the beginning of each legislative session. (**EXECUTIVE**/JUDICIAL/LEGISLATIVE)

This branch of the government interprets the laws of the country.
(EXECUTIVE/**JUDICIAL**/LEGISLATIVE)

This branch of the government has the power to veto laws.
(**EXECUTIVE**/JUDICIAL/LEGISLATIVE)

This branch of the government makes laws. (EXECUTIVE/JUDICIAL/**LEGISLATIVE**)

Some people in this branch of government are appointed by the President and confirmed by the Senate. (EXECUTIVE/**JUDICIAL**/LEGISLATIVE)

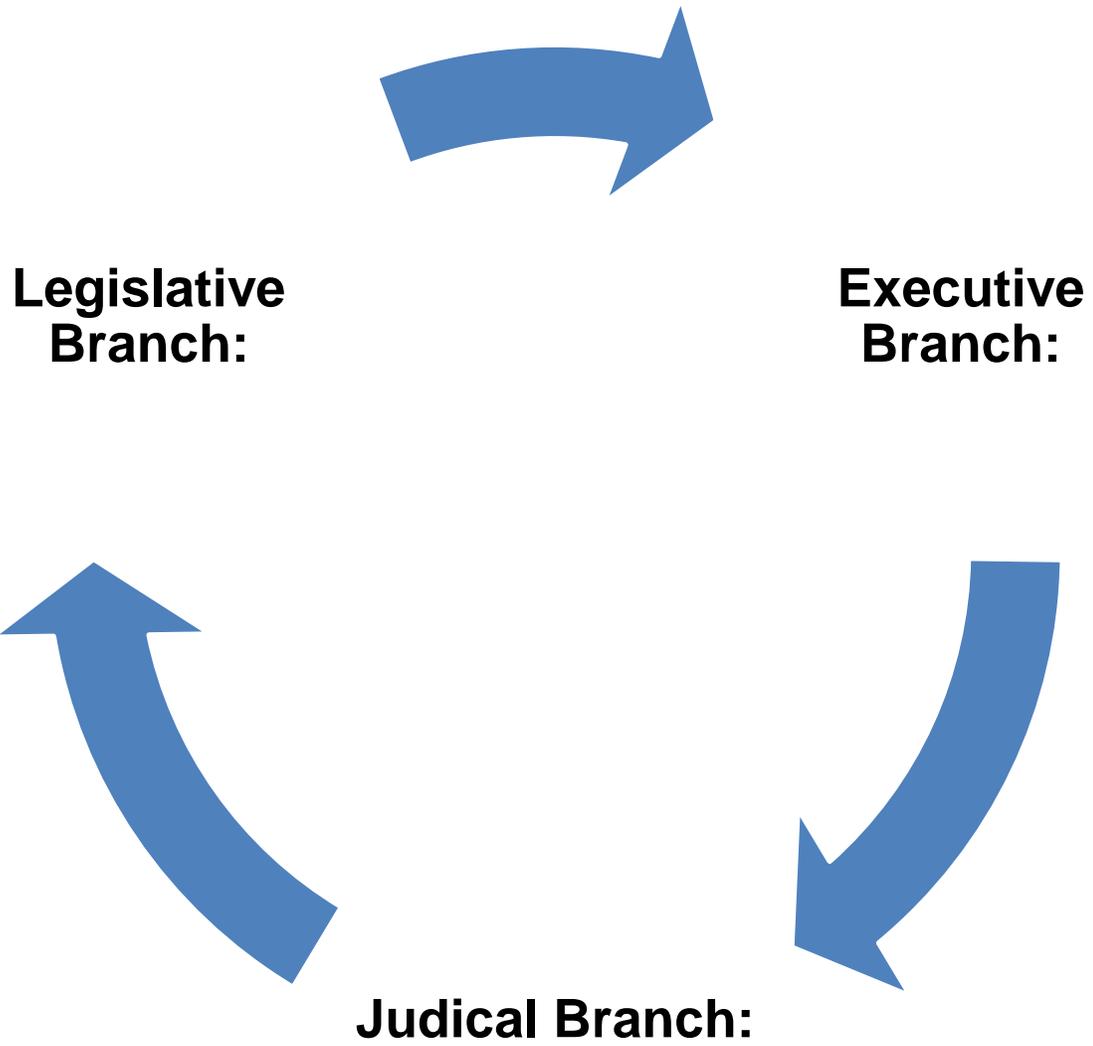
This branch of the government can override a veto.
(EXECUTIVE/JUDICIAL/**LEGISLATIVE**)

People in this branch of the government can be elected for as many terms as they choose to run. (EXECUTIVE/**JUDICIAL/LEGISLATIVE**)

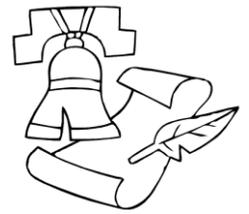
This branch of government is elected by the people. *Exception: The Supreme and Higher Court Justices.* (**EXECUTIVE/JUDICIAL/LEGISLATIVE**)

Some people in this branch of government can choose for themselves how long they serve and don't have to be re-elected. (EXECUTIVE/**JUDICIAL**/LEGISLATIVE)

The Three Branches of Government







5th Grade
Unit 4: Change over Time: The Growth of Our
Constitutional Government

Essential Question #2: What are the underlying principles of the U.S. Constitution?

Lesson Title: How Laws are Made

SS Standard III, Objective 1

Implementation Time: 60 minutes

Media Resources Needed: *How our Laws are Made* – 27 minute emedia video; computer and LCD projector

Resources Needed: “How our Laws are Made” video viewing guide (projected for students to create themselves or 1 copy per student)

Procedure:

1. Distribute/project the viewing guide and review the information that students should look for as they view the emedia video *How our Laws are Made*.
2. Show the video, pausing periodically to model how students should be using their viewing guides.
3. Divide the class into four groups. Assign one group to be the Senate, one group to be the House of Representatives, one group of nine to be the Supreme Court, one group to be the constituency – “the people.” Choose one student to represent the executive branch as the President of the United States.
4. Instruct students in the Senate, House of Representatives, and constituency groups to brainstorm ideas for “bills”. Tell students to think about current laws that should be changed, rules as school that should be in place/should be changed, etc. Have each of these three groups spend 3-5 minutes thinking of an idea for a bill. Constituents have to take their ideas to the House of Representatives where they will be turned into bills.
5. Bills should be exchanged between the Senate and House of Representatives with both making additions and changes as they see fit. Both groups combined (Congress) must vote to pass the bill – if a majority votes in favor, the bill passes and moves on to the President (executive branch). Constituents should continue to pass notes to the



House of Representatives and Senate regarding their feelings on how the bills are taking shape and on whether or not they should become law.

6. The President must read the bills and sign or veto them. If the bills are signed, they become law. If the President vetoes a bill, the bill can go back before Congress for another vote. If 2/3 of the members vote to override the veto, the bill becomes law. If not, the law dies.

7. Once the bill becomes law, constituents who disagree with the law can appeal to the Supreme Court. The Supreme Court determines whether or not laws are constitutional; laws deemed unconstitutional are not enforced.

8. By the end of this short activity, students should gain a sense of the lengthy process of passing laws. Students should also clearly see how the people (constituents) and each branch of government check and balance one another and how no one branch has more power than the other.

Assessment:

Assign students to write an 8-10 sentence summary paragraph of how a bill becomes a law. Students should synthesize information from the video, viewing guide, and the activity to demonstrate their understanding.

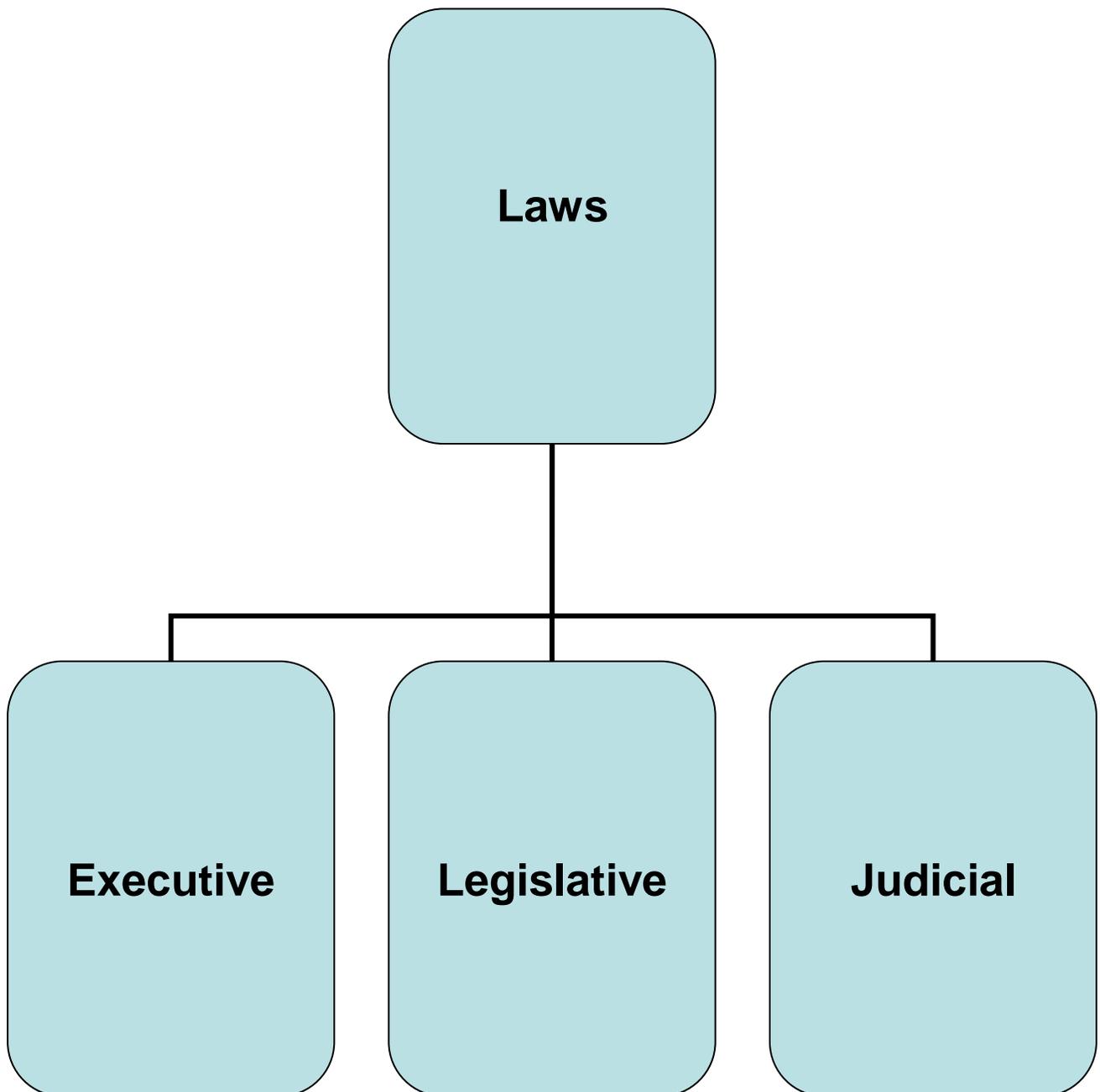
Extension:

Have students create their own documentary (PhotoStory) that clearly illustrates how a bill becomes a law. Students may choose to document the history of how a particular law became a bill.

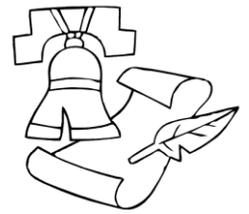


How our Laws are Made Viewing Guide

As you listen and watch the video, write down information about each of the following. Include illustrations that help you remember important ideas







5th Grade
Unit 4: Change over Time: The Growth of Our
Constitutional Government

Essential Question #2: What are the underlying principles of the U.S. Constitution?

Lesson Title: Responsibilities of Good Citizenship

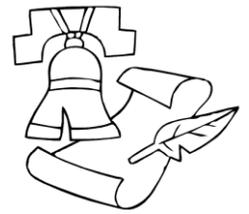
SS Standard III, Objective 1

Implementation Time: 45 minutes

Media Resources Needed: *Uncle Sam and Old Glory: Symbols of America* by Delno C. West and Jean W. West

Procedure:

1. Brainstorm as a class and list attributes of a good citizen. Examples: patriotism, respect for others, taking responsibility, contributing to the community, voting, interest in welfare of the community.
2. Pair students with a partner. Assign each pair to talk about class rules. Each partner will take one minute to share his/her opinions on **what** class rules are important to have and **why** while the other partner listens quietly and attentively.
3. Assign each pair to share one rule they discussed while the whole class listens.
4. Read *Uncle Sam and Old Glory* and discuss. Point out patriotic symbols and behaviors as they come up in the book and talk about national symbols as a reflection of the patriotism that helps us identify ourselves as citizens of the United States. Ask students to think about what each of them could do to be a better, more responsible citizen.
5. Assign each student to write down a personal goal for becoming a more responsible citizen. The goal should include steps the students will take to achieve the goal over time and a timeline of when each step of the goal might be accomplished. The final goal should be on-going, not something the student does just once.



Assessment:

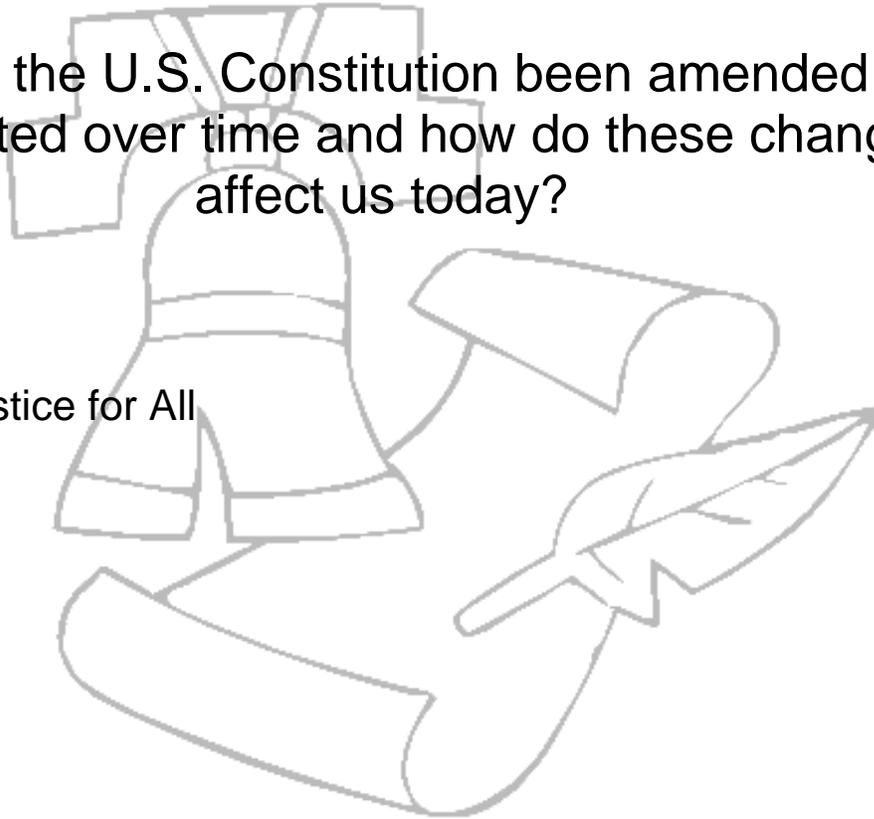
Have students explain **why** they participate in the Pledge of Allegiance to the flag (and why some groups may not). Assign them to explain the lines of the Pledge of Allegiance in their own words. Acknowledge students who are practicing responsible citizenship as you witness it throughout the school year.

Essential Question #3:

How has the U.S. Constitution been amended and interpreted over time and how do these changes affect us today?

Lessons:

- And Justice for All



Core Standards	
Social Studies	Science
Standard III	
<input type="checkbox"/> 2a explain the significance of the Bill of Rights <input type="checkbox"/> 2b identify how the rights of selected groups have changed and how the Constitution reflects those changes (<i>examples may include</i> : women, enslaved people) <input type="checkbox"/> 2c analyze the impact of the Constitution on our lives today (<i>examples may include</i> : freedom of religion, speech, press, assembly, petition)	



5th Grade
Unit 4: Change over Time: The Growth of Our
Constitutional Government

Essential Question #3: How has the U.S. Constitution been amended and interpreted over time and how do these changes impact us today?

Lesson Title: And Justice for All

SS Standard III, Objective 2

Implementation Time: 60 minutes

Media Resources Needed: *We the People: The Citizen & the Constitution*, Center for Civic Education (classroom set), Unit IV

Procedure:

1. Pass out *We the People: The Citizen & the Constitution* books. Explain that the U.S. Constitution has changed over time. In order for states to ratify (agree to) the Constitution, the framers (James Madison, in particular) had to agree to attach a bill of rights. The first ten amendments to the Constitution are called the Bill of Rights. Since the Bill of Rights, the Constitution has been changed or amended 17 more times. These changes have impacted the lives of people who live in the United States.
2. Have students turn to the copy of the Constitution in the back of their books and look at the amendments.
3. Familiarize students with the organization of Unit IV (divided into five different lessons, each lesson addresses a larger question, each section within the lesson answers smaller questions).
4. Divide the class into five groups and assign each group a different lesson within Unit IV. Explain to students that their group will become the “experts” on their lesson topic and will be responsible for sharing information with the rest of the class.
5. Give each student within the group a different section of the lesson to read. The red question headers are good markers within the text, divide readings according to these questions.



6. As each student reads his/her section of the lesson, assign them to write down the three most important ideas from their reading, reducing each idea to 4-5 key words (this prevents students from just copying information from the text).

7. Instruct student groups to reform and share (in order) the ideas from their piece of the text. Each student records the other students' three important ideas. Students must then decide (as a group) on the five most important ideas from the entire lesson and select a spokesperson to present their "most important ideas" to the rest of the class. Their five "most important ideas" must be based on the impact Constitutional changes have on the lives of citizens.

8. Explain that with rights come responsibilities. Citizens must exercise their right to vote in order to protect all their constitutional rights. Brainstorm other responsibilities of citizens in our country.

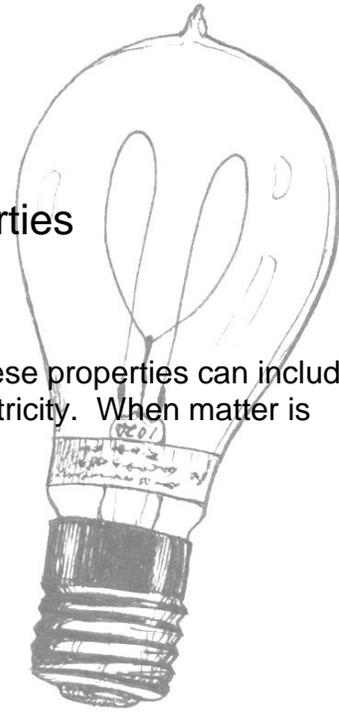
Assessment:

Assign students to determine what they consider to be the most important change (amendment) to the Constitution and argue how the change impacts everyday life in the United States. Have students line up and give each student 30 seconds to share his/her ideas while the rest of the class listens quietly. After each student has shared, allow students to ask questions, debate, and change their minds based on what they hear.

Extension:

Write a story from the point-of-view of an African-American, American Indian, or woman who doesn't have the right to vote. In the story, explain what it would be like to not be able to vote and describe the struggle to obtain the right. Include as much historical detail as possible.

Fifth Grade Interconnections
Unit V
Change: Matter and Its Properties



Enduring Understanding:

Different types of matter have different properties; some of these properties can include magnetism and the ability to conduct or inhibit the flow of electricity. When matter is combined, those properties may change.

Essential Questions

- *How do physical and chemical changes affect matter?*
- *What evidence do you have that Earth has a magnetic field?*
- *How do magnets attract and repel each other?*
- *In what situations/materials will static electricity build up?*
- *How is the flow of electricity dependent on the type of material or the components of a circuit?*

Core Curriculum Concepts/Skills: change, cause and effect, change over time, description, evaluation, investigation, comparison, hypothesize

Core Standards

Science

Standard I: Students will understand that chemical and physical changes occur in matter.

Objective 1: Describe that matter is neither created nor destroyed even though it may undergo change.

Objective 2: Evaluate evidence that indicates a physical change has occurred.

Objective 3: Investigate evidence for changes in matter that occur during a chemical reaction.

Standard III: Students will understand that magnetism can be observed when there is an interaction between the magnetic fields of magnets or between a magnet and materials made of iron.

Objective 1: Investigate and compare the behavior of magnetism using magnets.

Objective 2: Describe how the magnetic field of Earth and a magnet are similar.

Standard IV: Students will understand features of static and current electricity.

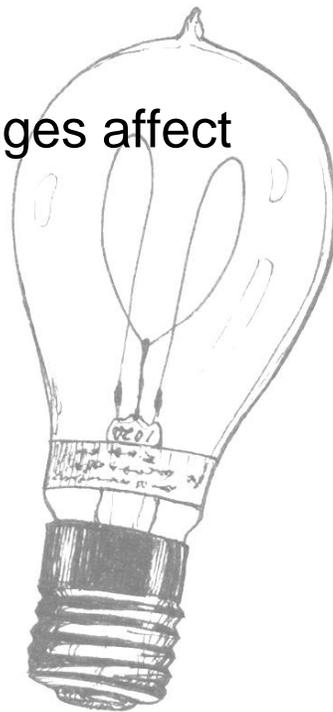
Objective 1: Describe the behavior of static electricity as observed in nature and everyday occurrences.

Objective 2: Analyze the behavior of current electricity.

Science language students should know and use: heat, substance, chemical change, dissolve, physical change, matter, product, reactants, solid, liquid, weight, battery, complete circuit, incomplete circuit, current, conductor, insulator, pathway, power source, attract, compass, electromagnetism, magnetic force, magnetic field, natural magnet, permanent magnet, properties, repel, static electricity, temporary magnet, switch, load

Essential Question #1:

How do physical and chemical changes affect matter?

Lessons:

- What is Matter? Solid, Liquid & Gas
- Conservation of Matter
- Physical Change
- Chromatography
- Chemical Reactions
- The Cookie Caper: A Chemistry Mystery

Core Standards	
Social Studies	Science
	Standard I
	<input type="checkbox"/> 1a compare the total weight of an object to the weight of its individual parts after being disassembled <input type="checkbox"/> 1b compare the weight of a specified quantity of matter before and after it undergoes melting or freezing <input type="checkbox"/> 1c investigate the results of the combined weights of a liquid and a solid after the solid has been dissolved and then recovered from the liquid <input type="checkbox"/> 1d investigate the chemical reactions in which the total weight of the materials before and after reaction is the same <input type="checkbox"/> 2a identify the physical properties of matter <input type="checkbox"/> 2b compare changes in substances that indicate a physical change has occurred <input type="checkbox"/> 2c describe the appearance of a substance before and after a physical change <input type="checkbox"/> 3a identify observable evidence of a chemical reaction <input type="checkbox"/> 3b explain why the measured weight of a remaining product is less than its reactants when a gas is produced <input type="checkbox"/> 3c cite examples of chemical reactions in daily life <input type="checkbox"/> 3d compare a physical change to a chemical change <input type="checkbox"/> 3e hypothesize how changing one of the materials in a chemical reaction will change the results



5th Grade
Unit 5: Change: Matter and its Properties

Essential Question #1: How do physical and chemical changes affect matter?

Lesson Title: What is Matter? Solid, Liquid and Gas

SC Standard 1, Objective 2

Implementation Time: 45 minutes

Media Resources Needed:

Optional: http://chem4kids.com/files/matter_intro.html

Optional: Billy Nye Phases of Matter, online eMedia

Materials Needed:

Assorted solid, liquid or gas items

Misc. solid objects

Pie Tins

Cornstarch

Water

Ice

Hot Pot (heat source)

Optional:

Milk

Sugar

Vanilla

Ice, Rock Salt

Zipper bags, lg & sm

Procedure:

Engage

1. Set up a table of solid objects, a table with various containers filled part way with water and a table with empty (filled with air) containers (leave notes on the empty containers that the student is looking at what is “in” the container, not the container itself. Have students work in groups to move around each of the table. At each station, students should record and sketch the items. Then, they need to create a “rule” that would explain why all those items have been grouped together. Rotate to each of the tables.

Explore

2. Have each group share their “rules” for each set of objects. If you need to, guide the discussion so that each table represents a phase of matter, solid, liquid or gas. Discuss with the class that there are 3 basic phases of matter (Note: there are 2 more phases; plasma and Bose-Einstein condensates, but elementary students don’t need to



know that). Tell students that matter is anything that takes up space and is made of atoms.

Explain

3. Point at each table and ask the students: “What do the items at this table have in common?” (You are trying to get the students to identify that they are solids, liquids and gasses).

4. Use butcher paper or the white board to make posters for SOLID, LIQUID and GAS. Discuss with students the properties that make a solid a solid, a liquid a liquid and a gas a gas. (You could have students do some research on the internet using the website http://chem4kids.com/files/matter_intro.html or use any books or other websites you prefer).

5. Tell students (or a volunteer student) to try and push their pen through their desk (both solid items). Ask if it could be done easily? What about putting a pen through some water? What about through a gas? We can determine from these questions that solids can't go through solids easily (not without some outside force), but solids can go through liquids and gasses.

Teacher Information: Matter is anything made of atoms and molecules and has mass.

Solids: Matter where the atoms and molecules are packed together tightly and do not move around much. Solids tend to have a specific shape and are usually hard.

Liquids: Matter where the atoms and molecules are less tightly packed than in a solid. They take the shape of the container that they are in. Liquids are hard to compress.

Gas: Matter where the atoms and molecules are constantly moving and are far apart from each other. The atoms in a gas will spread out evenly in whatever container they are in.

6. Sometimes we can change the state of matter. Use water as an example. Hold up some crushed ice in a clear container. Put some of the ice in your hand and allow the water to drip off. Ask students what is happening (the heat from your hands is melting the ice and changing it to liquid water). Put some water in a hot pot and bring to a boil. Point out to students that there is a vapor rising from the pot. Ask students what the vapor is? It is water that is in gas form. If you hold a plate or mirror over the vapor, it will condense (because the plate is cooler than the vapor) and will condense back to water.

Elaborate

7. Have students try out the Goop Investigation, which will help students clarify the properties of solids and liquids. Have groups of students make the Goop and give them several minutes to test the mixture to see if they can determine if it is a solid or a liquid. Then have the student groups decide based on their evidence if the mixture is a solid, liquid. Have each group present their findings to the rest of the class and then as a class compare the findings.



Teacher information: Goop is a suspension of cornstarch and water that can behave like a solid or a liquid depending on how much pressure you apply.

Assessment:

- Based on the discussion (and/or internet research) have the students make a foldable defining the properties of SOLID, LIQUID and GAS.
- Check the Object Observation paper
- Check the students completed foldable defining Solids, Liquids, and Gasses.
- Check the Goop Investigation

Extension:

Watch the Bill Nye Matter video.

Ice Cream Phase Changes

Have students do a phase change activity by making ice cream. Have them practice measurement skills and writing down the recipe in their science notebook. Students should make observations of the properties of each ingredient so they can compare it after. They can identify ingredients as solids, liquids and gasses. They can determine that that the mixture starts as a liquid, but will change phases to a solid (although in class, you might only get to a thick liquid stage of ice cream).

Each student needs $\frac{1}{2}$ c. milk, 2 T. sugar and $\frac{1}{2}$ tsp. vanilla. Mix in a sandwich size zipper bag and make sure that it is sealed completely (I usually double bag). Place the smaller bag inside a gallon size bag along with 2-3 cups of ice and 2-3 T of rock salt. Seal the gallon size bag. Have students shake their ice cream (or go outside or to the gym to gently toss it up in the air or between students) for about 20 minutes. Remove the bag and have students write down changes they see have occurred to the phase. Now they can eat if they wish to. Note: Kids may want to bring their winter gloves for this activity.



Name: _____

Object Observation Sheet

In each box, write down observations about the items on each table.

Table 1:	Table 2:	Table 3:

What do the items on table 1 have in common?

What do the items on table 2 have in common?

What do the items on table 3 have in common?



Name: _____

Goop Investigation

Materials Needed

- $\frac{3}{4}$ C. Corn Starch
- $\frac{1}{2}$ C. Water

Mix the ingredients in pie tin with a spoon or your fingers. Once mixed make several observations of the mixture. Press it. Squish it. Pour it. Etc.

Mixture Observations:

I think that this mixture is a solid/liquid. (circle one) Explain





5th Grade

Unit 5: Change: Matter and its Properties

Essential Question #1: How do physical and chemical changes affect matter?

Lesson Title: Conservation of Matter

SC Standard I, Objective 1

Implementation Time: 30 minutes

Materials Needed:

Apple (1 per class)

Clay or Legos or K'nex or blocks

Scale

Knife (for teacher only)

Procedure:

1. Teacher Demonstration: Put the apple on a scale and find out its mass. Cut the apple into pieces. Ask the students to predict if they think the mass of the apple pieces will be the same, more or less mass than the whole apple. Weigh the parts of the apple. You might want to wait until after the students do their own explorations before revealing the answer. Solution: The mass of the whole should match the mass of the pieces.

2. Put students in groups. Give each group some Legos, K'nex, clay or blocks. Have students mass their pieces and record. Then have students build something using all their Legos, K'nex or clay. Have students mass their project and record in their science notebook.

Assessment:

Have students report back after their exploration and check to see that the students discovered that the mass is the same before and after.

Extension:

Try this experiment with water in a cup and then freeze it, then let it melt and weigh again. Changing the phase of the material does not change the mass of the material.

Make homemade "Shrinky Dinks" by using #6 recyclable clear salad bar containers (cut out the flat part and color with Sharpies). Measure the mass of the plastic before placing on a foil lined sheet, bake in a regular oven or toaster oven for 2-3 minutes at 350 (it will start to curl and warp for the first minute, then flatten back out). Measure the mass after the "shrink". The mass will be the same!





5th Grade

Unit 5: Change: Matter and its Properties

Essential Question #1: How do physical and chemical changes affect matter?

Lesson Title: Physical Change

SC Standard I, Objective 1, 2

Implementation Time: 45 minutes

Materials Needed:

Water	Optional:
Ice	Foam cup
Cereal and zipper bag	Scale
Scrap paper	Pressure cooker
	Hot plate or stove
	Safety goggles
	Air popper & popcorn (or microwave w/ popcorn)

Procedure:

Background information for teacher:

In a physical change, the appearance of a substance may change, but what it is made of does not. For example: Paper folded into an airplane is still paper. Water boiling is still water, sugar dissolved in water is still sugar (it is just dissolved), cereal crushed up is still cereal, popped popcorn is still popcorn. SOMETIMES physical changes are reversible, but NOT always.

1. Hold up a zipper bag of cereal. Ask student to describe it to you (taste, smell, shape etc...). Now crush the cereal up in the bag. Again ask students to describe it to you. Ask if they think a change has occurred? (Yes) It is a physical change because it is still cereal.
2. Repeat step one with a sheet of paper and then fold it into an airplane. Repeat with water and ice.
3. Have the students create a definition for a physical change—they can write it in their science notebook.



Optional Activities:

4. Teacher Demonstration. Have students decorate a foam cup with their name (must use permanent marker). Have students find the mass and height of the cup and record the information in their science notebook. Place about 3 inches of water in the bottom of the pressure cooker and then put the foam cups in the pot. Seal up the pressure cooker. Bring the pot to high and leave for about 20 minutes (no longer or the pot could boil dry). Turn off heat and leave pot alone until it cools. Open pot and compare cooked foam cup with an original (find the mass and height again). CAUTION: Only use a pressure cooker with a regulator and follow the instructions—students should not use the heat source or the pressure cooker. (Results: Styrofoam is plastic mixed with air. When you use a pressure cooker, it pushes the air out of the foam, which reduces the size of the cup, leaving you with a mini version of the cup).

5. Popcorn demonstration. Give students each a popcorn kernel and have them describe it in their science notebook. Pop the corn in an air popper (or use microwave popcorn) and show students that it is still popcorn, but it has turned inside-out (Why: The water content inside the kernel turns to steam and causes the kernel to explode, releasing the starch inside). Or, find a video on youtube.com that shows popcorn popping in slow motion (always preview youtube.com videos before showing to the class).

Assessment:

Check student definitions of physical change. See if they can identify other physical changes in everyday life. (try <http://middleschoolscience.com/physical-chemical-change-activity.pdf> for a great flashcard matching game)



5th Grade Unit 5: Change: Matter and its Properties

Essential Question #1: How do physical and chemical changes affect matter?

Lesson Title: Mystery Chromatography

SC Standard I, Objective 2

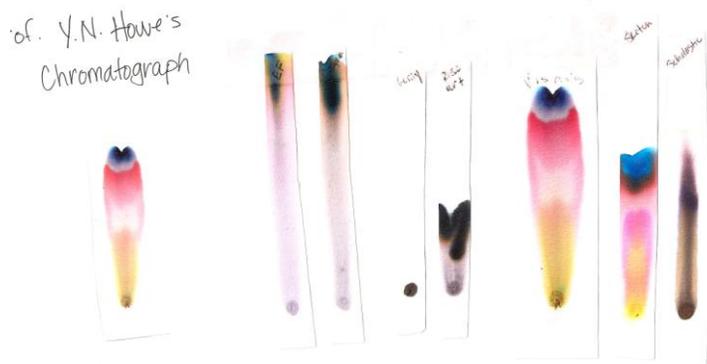
Implementation Time: 45 minutes

Materials Needed: (per group)

Filter paper (warehouse #212339-21, 100/\$3.66) (coffee filter will work, but not as well)
Vis-à-vis black overheard marker
Variety of black markers (Crayola, Mr. Sketch, Foray, Scholastic, Roseart etc..)
2 Clear cups Pencil
Tape Ruler
Water

Procedure:

Teacher Prep: This is for the extension, but it really is a wonderful activity. The teacher will need to choose one of the markers to be the “culprit” and create a chromatograph (do this the day before so that it will be able to dry out—you could then laminate it and save it from year to year). To make a chromatograph, choose a marker (not permanent marker) and make a dot on the filter paper (to make the filter paper go further, cut it into 1” wide strips). Place the dot about 2 cm from the bottom edge of the paper. Hang the strip in a cup of water so that the edge of the filter paper just barely touches the surface of the water. Let the water wick up the paper for about 10-20 minutes. You should see a rainbow of colors appear. Each brand of marker has its own unique rainbow. Also, make a sign using white paper and the “culprit” marker that says “Class Cancelled”



Samples of marker chromatographs. See how Y.N. Howe's sample matches the Victor Vis-à-vis's marker! That means he's the “culprit.”



Background information for teacher: Chromatography is the process of physically separating out the parts of a mixture. In this example, the mixture is the different colors of ink in the black marker. This is a great way to show how a physical change can sometimes be reversed. Scientists use chromatography to determine the makeup of types of scents or colors or flavors. Today you will be using it to solve a “crime.”



1. Engage: Have each group take a round filter paper and use their black marker to draw a 2” diameter circle right in the middle. Now have students fold the filter in $\frac{1}{2}$ then $\frac{1}{2}$ again to make a cone. Have them drop the point of their filter into a cup of water (should only have about $\frac{1}{2}$ cm of water in cup).

2. Questions for the students to look for (and answer in their science notebook)

What do you notice about the water?

What do you notice about the marker circle that you drew?

What colors do you see?

How many colors do you see?

3. After about 5-10 minutes, have the students unfold their filter papers and drape over the cup so that everyone can wander around and see it. Students can answer the question “What is the same or different?” about the filters from the different groups.

4. Tell the students that the kind of experiment that they just did is a chromatography (kro-MA-tography)

5. Have students plan for their own experiment. First have a discussion of questions the students may want to answer such as I wonder if the kind of marker makes a difference? What if we used soda instead of water? What do other color markers do?) Have each group write down their plan and allow them to play with the markers and filter paper. (This is where cutting the filter paper into strips makes them go further)

6. Explain: As water comes in contact with the ink of the marker, the pigments that make up the color are dissolved. Some of the pigments continue to move with the water and others do not (because some pigments dissolve better than others).

Chromatography is a way of physically separating a mixture.

Assessment:

Have students write in their science journals about how a physical changes are ones where you still have the same substance after the change as you did before the change (just may be in a different form). Students should be able to explain that the black marker is still a black marker, just that all the colors inside it are now visible.

Extension:

If you have time, this extension is really lots of fun for the students! Students can solve the “Mystery of the Cancelled Class” using chromatography. Teacher must have already set up the “culprit” and made a chromatograph to compare to the samples.



Student Sheet: The Mystery of the Cancelled Class

Background

Professor Y. N. Howe arrived at work today and found a note taped to his door. It read, "Class is cancelled ". Professor Howe was confused - he had spent several hours the night before preparing a special exam for his class, and he couldn't think of any reason that his class would be cancelled - it wasn't snowing outside and there didn't appear to be any emergencies in the building. "AHA!" he thought "Somebody must be playing a trick on me. I am going to find out who did it! I have a feeling that one of my students didn't want to take the test today, but we can do an experiment to find out which pen was used to write this note.

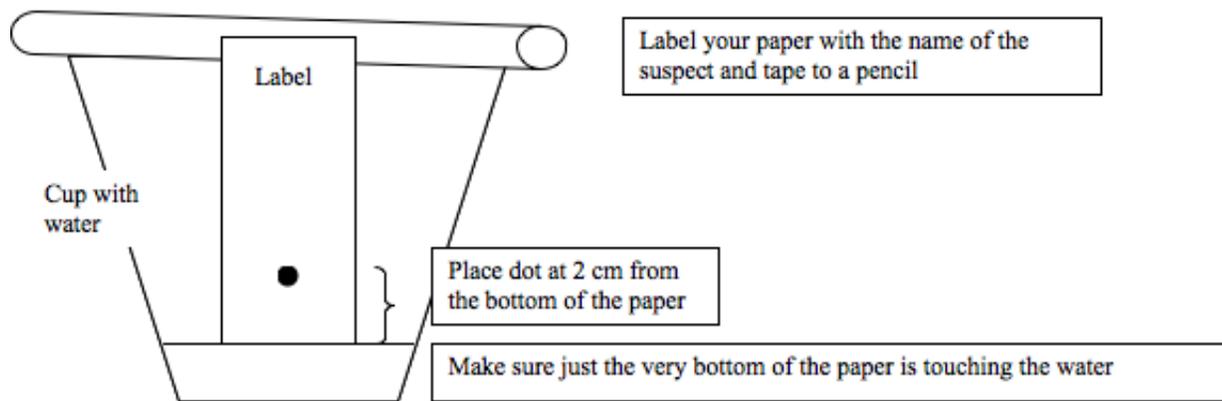
I will make a chromatograph (Kro-MAT-o-graph) with this note and then I will have the students do chromatography with their pens during class. By the end of class I may have a good idea of who wrote this note!"

Instruction: In the center of your table is a sample of the chromatograph that Professor Y. N. Howe got from the note he found on his door this morning. The professor collected a marker from each of his suspects—your job is to test each marker to discover which suspect wrote the note by creating your own chromatograph and comparing it to Professor Y.N. Howe's sample.

Suspects:

Crissy Crayola
Victor Vis-à-vis
Skip Sketch
Frank Foray
Suzie Scholastic

1. Get the materials to make a chromatograph for each suspect (filter paper, marker, tape, cup, water, pencil, tape).





2. Make a dot with your suspect's marker at 2 cm from the bottom edge of the paper. Label the top of your paper with your suspect's name. Tape the paper to a pencil and set in a cup. The bottom of the paper should just touch the water. Set aside for at least 5 minutes.

3. Repeat step #2 with each of the different suspect's markers.

4. Carefully take each of your chromatographs and compare them with Professor Y.N. Howe's sample.

Questions

1. Which suspect do you believe wrote the note placed on the Professor's door?

2. What evidence do you have to support your claim?

3. Do you trust your evidence? Why?



5th Grade

Unit 5: Change: Matter and its Properties

Essential Question #1: How do physical and chemical changes affect matter?

Lesson Title: Chemical Reactions

SC Standard I, Objective 3

Implementation Time: 45 minutes

Media Resources Needed:

Optional: Pancake, Pancake by Eric Carle

Materials Needed: per group

Safety goggles (per student)

Paper cups

Plastic spoons

Dixie cups

Zipper bags

Water

Ice Melt w/ Calcium Chloride*

Thermometers

Chemical Reaction Sheet

*Many brands of ice-melt use calcium chloride, check the label. The GSD Warehouse catalog often carries the ice-melt with calcium chloride (341100-34, a 50lb bag for \$12.75-enough for multiple classrooms for YEARS). This type of ice melt has lightweight, round-shaped pellets rather than heavy crystals.

Procedure:

Teacher background information: In a chemical change, the thing you started with is altered and results in a completely different substance. The physical properties of the new material are different than the original (things such as color, smell, texture, boiling point, melting point etc...) How do you know a chemical reaction has occurred? Evidence could include: 1. A new solid, liquid or gas is formed. 2. An unexpected color change occurs. 3. There is a change in the energy (the substance becomes warm or cold). Any one or a combination of these things could indicate a chemical change. Everyday examples could include: baking bread (gas released during rising and baking), rust forming on a nail (iron and oxygen react to form rust), burning wood, digesting food.



1. Students will be doing a lab today to look for chemical changes. Ask students if they have ever made pancakes? Have them describe the ingredients in pancakes (*describe the colors, textures, smells etc...*). Describe how once the pancake batter is made, ask the students what happens when you pour it on the hot griddle (they see bubbles, the batter gets drier, it turns from a liquid to a solid). Ask the students if the original ingredients are still visible in their original form (No). Tell students that a chemical reaction has occurred, which means that the reactants (ingredients) have combined to make a new product with its own set of properties (new textures, new color, new smells etc...)

2. Tell students that they will be doing a lab today that investigates chemical reactions. Put kids in groups and give them the "Chemical Reactions Sheet." Have students follow the steps on the sheet. *Caution: Students need to wear safety goggles. Students should not use more than 1 tsp. of the calcium chloride so that the bag doesn't get too full and possibly pop (you could place a bag inside a larger zipper bag as a precaution).*

3. After the lab, have a class discussion where each group shares their results. As a class, decide if a chemical reaction has taken place (Yes)

Assessment:

Students should understand that the heat produced during the experiment is evidence of a chemical reaction. Note: The calcium chloride reacts with water (or any liquid with water in it) to create the chemical reaction producing heat-which is why it makes such a great ice-melter for driveways.

Extension:

Let students do an inquiry lab to determine what is causing the heat in the reaction by changing one item in the experiment. Instead of water, they could try soda, juice or milk. Instead of calcium chloride, they could use baking soda, sugar or flour.

Try making pancakes in the class so that kids can see the chemical change occur. Read the book *Pancake, Pancake* by Eric Carle to go with the pancakes.

Chemical Reaction Sheet



1. What do you observe?

BEFORE	Temperature	Appearance
Calcium Chloride		
Water		

2. Put one teaspoon of calcium chloride in the zipper bag.

3. Fill cup $\frac{1}{2}$ full with water and carefully place in the zipper bag without tipping it over. Seal up the zipper bag. Now, tip the cup of water over inside the bag.

Now what do you observe?

AFTER	Temperature	Appearance
Calcium Chloride		
Water		

4. What happened? What is your conclusion?





5th Grade
Unit 5: Change: Matter and its Properties

Essential Question #1: How do physical and chemical changes affect matter?

Lesson Title: The Cookie Caper: A Chemistry Mystery

SC Standard 1, Objective 3

Implementation Time: 30 minutes

Materials Needed: (per group)

12 dixie cups
baking soda
baking powder
flour
Data sheet
Cookies (optional)
purple grape juice
white vinegar
iodine (dilute 10 parts water to 1 part iodine)
3 eye droppers

Procedure:

Teacher Prep: Fill cups with 1 teaspoon of each substance. The “mystery substance” is baking powder, but don’t let kids know that. Note: Iodine and grape juice can stain. Lesson adapted from *Fetch! with Ruff Ruffman*.

1. Students will be helping solve a crime by looking for evidence of chemical reactions between the powders and the liquids. Students should record their results in their data table. Tell kids that when they have completed the 9 cups of known substances, then they can come get 3 cups of “mystery substance” and test them and compare their results to the known powders. Do NOT tell the students this next part-let them figure that part out: If the mystery substance is baking soda (the powder found on Ernie’s shoes) then he’s guilty, if not, he’s innocent!

Assessment: (this is what the completed student chart should look like)

	Baking Powder	Flour	Baking Soda
Grape	Lots of fizzing, turns dark purple/green	No reaction	Fizzing; turns gray/green
Vinegar	Fizzing	No reaction	Fizzing
Iodine	Little foam, turns very dark color	Turns VERY black	No reaction, soaks into powder



Cookie Caper

Someone broke into the Cookie Factory last night leaving a big mess and no cookies! Now the factory can't make its famous cookies for your class party today! The culprit left behind a footprint in white powder that the police are using as evidence—the police lab shows that the footprint was made with baking soda. The police have arrested Ernie the Elf because they found a mysterious white powder on his shoes and he is known to like cookies. Ernie claims he would never steal cookies. Can you help solve the mystery and prove Ernie's innocence?

1. Get organized. Go get your 9 cups, each with a known substance. Set them up on the table in rows just like your data chart.
2. Put 3-5 drops of grape juice in one cup of baking powder. What happens? Record your observation in the data table. Now try the grape juice on the other two powders.
3. Repeat step 2 until you've tested all the liquids with all the powders. Remember to use a clean dropper with each kind of liquid.
4. Once you have finished your 9 cups, go get 3 cups of mystery substance and line them up next to the old cups. Test and record your observations.
5. What is the mystery substance? How do you know? (Hint: the mystery substance is one of the powders you already tested)

So, is Ernie guilty or innocent?

The Cookie Caper

Name _____



Use this chart to write down what you observe happens when you add the liquid to each of the powders.

	Baking Powder	Flour	Baking Soda	Mystery Substance ?
Grape Juice				
Vinegar				
Iodine				

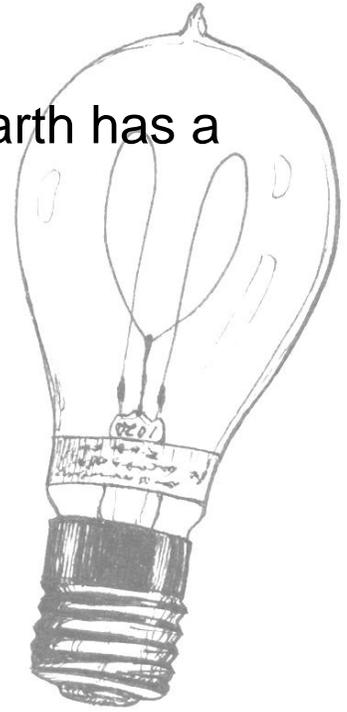


Essential Question #2:

What evidence do you have that Earth has a magnetic field?

Lessons:

- Magnets and Compass Investigation



Core Standards	
Social Studies	Science
	Standard II
	<input type="checkbox"/> 2b compare Earth's magnetic field to the magnetic field of a magnet <input type="checkbox"/> 2c construct a compass and explain how it works <input type="checkbox"/> 2d investigate the effects of magnets on the needle of a of a compass and compare this to the effects of Earth's magnetic field on the needle of a compass (<i>examples may include:</i> magnets effect the needle only at close distances, Earth's magnetic field affects the needle at great distances, magnets close to a compass overrides the Earth's effect on the needle)



5th Grade

Unit 5: Change: Matter and its Properties

Essential Question #2: What evidence do you have that Earth has a magnetic field?

Lesson Title: Magnets and Compass Investigation

SC Standard III, Objective 2

SS Standard I, Objective 1

Implementation Time: Two 45-minute sessions

Materials Needed:

Magna Doodle (1 for demo)

Activity #1 (per group) 2 bar magnets, student worksheet

Activity #2 (per group)

utility knife or scissors

ruler

marker

drinking straw or foam cup

paper clip (about 70mm long)

water

Petri dish

small sticker

bar magnet

Procedure:

This is an inquiry lesson using the BSCS 5E model. During these hands-on, minds-on activities, students will be asked to explore magnets and to build a compass using magnetism. These activities demonstrate the properties of bar magnets, how to magnetize a metal object, how to build a compass, and how to operate this compass. Find more background info at: HowStuffWorks.com (How a Compass Works)

1. Engage: Write the words "Magna Doodle" on the board. Ask students if anyone is familiar with a Magna Doodle and then ask students to describe it. Once students have had time to share, walk around the room showing students a Magna Doodle. Allow students to look at or quickly try the toy and pen. Then ask students to think of a hypothesis for how a Magna Doodle works—allow students to record their thoughts in their science journals.

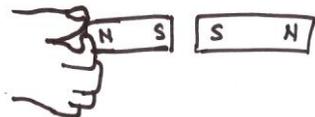
Teacher Info on MagnaDoodle: The MagnaDoodle toy is made of a layer of thick liquid and magnetic particles sandwiched between layers of plastic. The "pen" of the toy has a magnet at its tip and when pressed to the surface of the toy, the particles in the liquid are attracted to the magnet. The liquid is viscous enough that the particles remain suspended until the "eraser" (which is a bar magnet) is slid across the back surface



pulling the particles back to the bottom of the liquid. More detailed info at howstuffworks.com

2. Explore: Activity #1: Properties of Magnets

For the Properties of Bar Magnets Activity you will need 2 bar magnets for each pair of students & the Activity 1 Student Worksheet



1. On a desk or smooth surface, bring the south pole of bar magnet #1 near the south pole of bar magnet #2.
2. Now bring the north pole of magnet #1 near the north pole of magnet #2. Record your results on your worksheet.
3. On the same surface, bring the south pole of bar magnet #1 to the north pole of bar magnet #2.
4. Now bring the north pole of bar magnet #1 to the south pole of bar magnet #2. Record what happens on your worksheet.
5. Explain: Have students report the information they collected during Activity #1 to a poster or chart on the board. After they have created the poster, ask students to create a hypothesis about the attraction/repulsion of magnets.

Students should come up with the idea that like poles repel and opposite poles attract.

Interesting Info: If you break a bar magnet, each piece will have a N and a S pole.

Note: To magnetize a needle, you should only rub the magnet along the needle in the same direction.

6. Elaborate: Activity #2: Building a Compass

Students will apply information about how magnets work in order to make their own compass. Give each group a set of instructions and materials.

**Assessment:**

At the conclusion of the lesson, hold a discussion to determine the level of participant understanding concerning the properties of magnets and the construction and use of a compass. The discussion should encourage students to think critically about the unique behavior of magnets and compasses.

Here is a sample of questions for that discussion:

Why do the same poles of two magnets repel each other?

Why do opposite poles of two magnets attract each other?

What does a compass help us to determine?

Why does the needle of a compass point towards the north? (The north end of the compass points to the south magnetic end of the Earth, which is located at the North Pole. Again, opposites attract!)

Extension:

Social Studies: Tie in exploration and geography by having students use the compass to identify the direction of famous state landmarks or to use a map of your school to do a treasure hunt.

Music/Dance: Students could model attraction/repulsion of North and South Poles on magnets using dance. Put on a song and have each student wear either a sign that says North or South. Have students stand in a circle and call out “south poles”—the south pole student should come together and then “repel” each other by pretending to push away (no body contact needed). Have the south poles then return to the circle. Now call out “North Pole” and repeat the repelling motions. Now have random pairs of kids each labeled north or south come to the center and link arms and twirl around to demonstrate attraction.



Student Sheet: Build a Compass

Materials: (per group)

utility knife or scissors

ruler

marker

bar magnet

Petri dish

drinking straw or foam cup

paper clip (about 70mm long)

water

small sticker

wire cutter (for teacher only)

1. Remove the lid from a Petri dish.
2. Pour water into the Petri dish until it is about half full. This will serve as the body of the compass.
3. Using the metric end of a ruler, measure a straw.
4. Using scissors, cut the straw at the marked line. Keep the 7 cm piece of straw.
5. Take a paperclip and unbend it. Make it as straight as possible. Have your teacher use the wire cutters to cut it to 6.5 cm long. The straight paper clip will be called the "needle" for this experiment.
6. Magnetize the needle by rubbing the needle anywhere on a magnet for 30 seconds. The needle is now a magnet too!
7. Slide the magnetized needle inside the piece of straw.
8. Lay the straw (with the needle inside) onto the surface of the water in the Petri dish. It should not break the surface of the water. If it does sink, dry the straw and needle before placing it back on the surface of the water.
9. Use a bar magnet to determine the north and south poles of your "needle." To do this, place the south pole of your bar magnet near the "needle" of the compass. The end that is attracted to the bar magnet is the North Pole of the "needle" (opposites attract). The other end of the "needle" is the South Pole.
10. Once the North Pole of the "needle" is determined, place a sticker on the straw on the North Pole to distinguish it from the South Pole. Place the lid on the Petri dish and get ready to use your compass!



Either put the "needle" inside the straw and float the straw on the water

OR



Cut a disc of foam and set the "needle" on the disc. then float the disc on the water.

11. The compass that you have just built can help you tell direction. The north pole of your compass will always point towards the direction North. Since the sticker on your compass will always point to the north, you can figure out the other directions from this information. To help remember the other directions, you might want to write the four directions on the lid of your Petri dish.



Activity 1

Student Worksheet

Directions: Use two bar magnets that are the same size.

Magnets	Prediction: What do you think will happen?	Results: What did you observe?	Sketch a picture
Touch a South Pole to a South Pole			
Touch a North Pole to a North Pole			
Touch a South Pole to a North Pole			



South Pole

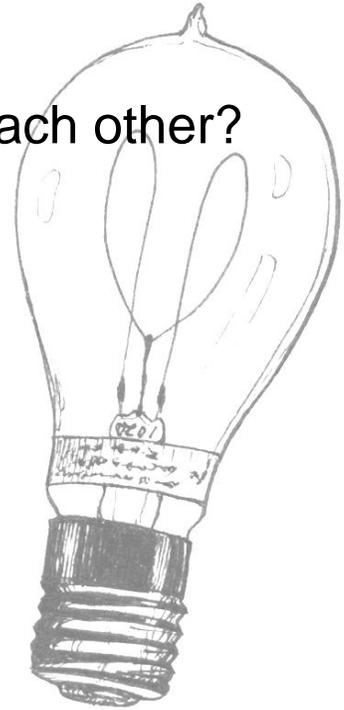
North Pole

Essential Question #3:

How do magnets attract and repel each other?

Lessons:

- Magnet Investigation



Core Standards	
Social Studies	Science
	Standard II
	<input type="checkbox"/> 1a compare various types of magnets and their abilities to push or pull iron objects they are not touching <input type="checkbox"/> 1b investigate how magnets will both attract and repel other magnets <input type="checkbox"/> 1c compare permanent magnets and electromagnets <input type="checkbox"/> 1d research and report the use of magnets that is supported by sound scientific principles <input type="checkbox"/> 2a compare the magnetic fields of various types of magnets

5th Grade
Unit 5: Change: Matter and its Properties



Essential Question #3: How do magnets attract and repel each other?

Lesson Title: Magnet Investigation

SC Standard III, Objective 1

Implementation Time: 60 minutes

Media Resources Needed:

What Makes a Magnet by Frank Branley

Optional: *That Magnetic Dog* by Bruce Whatley (hard to find, check public library)

Materials Needed:

Magnets, different types (horseshoe, bar, circular, disc)

String

Tape

Pencils or dowel

Washers (warehouse catalog)

Assorted items to check for magnetism (foil, penny, paperclips, metallic fabric, cotton ball, plastic/metal spoons, nails, toothpicks, steel wool)

Pendulum Stand (make your own out of PVC, wood or use a ring stand and clamp from a science lab)

Procedure:

Activity 1

1. Using a pencil or wooden dowel, insert two disk magnets over the end of the pencil or dowel and see what happens to them. Do they stick together or are they forced apart?
2. Repeat the experiment by adding several disk magnets to the pencil or dowel. Have the students explain why some attract and some repelled each other. Have the students see if they can make each of the magnets appear to “float ” above each other.”
3. You can try variations of the experiment by adding metal washers between the magnet disks. Do the washers change what is happening to the disks?



Activity 2

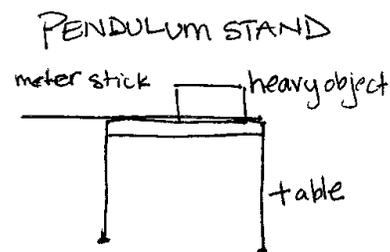
1. Tie a 12-inch piece of string from the middle of a bar magnet and suspend it from the side of a wooden table using a piece of tape.
2. Hold the other bar magnet close to the end of the first magnet and see what happens. Are the two magnets attracted to each other or are they repelled? Now turn around the magnet in your hand and try the experiment again. Have students record observations in their journals.

Activity 3

1. Tie a disc magnet to a 12-inch string.
2. Suspend the magnet over the edge of a desk.
3. Do the same with a second magnet of equal size. As you hang the magnet, make sure it is as close as possible to the first magnet but not touching.
4. Spin one of the magnets a few times to wind the thread and then release it.
5. Using your knowledge of poles and attraction and repulsion, explain the motion of the two magnets. Have the students record their observations in their journals.

Activity 4

1. Using a ring stand and clamp (or an improvised stand made from wood or PVC), suspend one disk magnet from a string or fishing line so that it is a free-swinging pendulum. You can hang the magnet in any orientation.
2. Arrange three piles of two or three disk magnets stacked together in an equilateral triangle, measuring a couple of inches per side, on the ring base stand.
3. Adjust the length of the pendulum so that the free-swinging magnet will come as close as possible to the magnets on the base without hitting them or the base itself.
4. Give the pendulum magnet a push and watch what happens. Have the students record the results in their journals.
5. Vary the locations and poles of the magnets to develop other patterns. You can arrange the magnets so they all have the same pole up, or you can mix them up. Notice that a tiny change in the location of one of the fixed magnets or in the starting position of the pendulum may cause the pendulum to develop a whole new pattern of swinging.



This experiment shows the force of gravity and the simple pushes and pulls of the



magnets as they act together. It is difficult to predict where the pendulum is going to go next, even though you know which magnets are attracting it and which are repelling it. Conclusion: Magnets will both attract and repel other magnets.

Activity 5

1. Read the book *What Makes a Magnet* to the class and have students write down properties of magnets in their journal.

Assessment:

1. Have the students draw the results of Activity #2 above and label the poles on the magnets.

Extension:

1. Have the students create machines or toys that push objects using magnetic repulsion.
2. Read the storybook *That Magnetic Dog* to the class. Have students create their own story about what would happen if they were magnetic. What would they attract? What kinds of problems would this create? What special advantages would this give you?

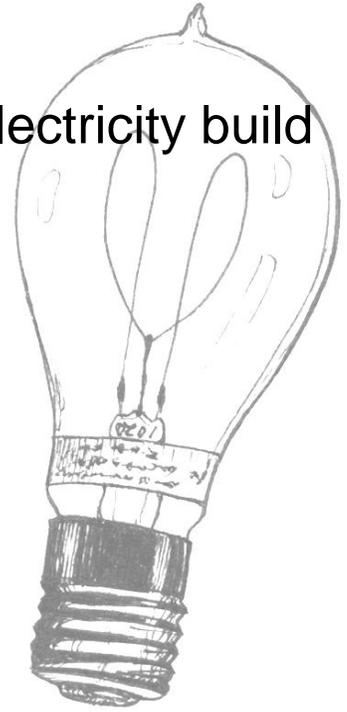


Essential Question #4:

In what situations/materials will static electricity build up?

Lessons:

- Static Electricity
- Static Electricity and Lightning



Core Standards	
Social Studies	Science
	Standard IV
	<input type="checkbox"/> 1a list several occurrences of static electricity that happen in everyday life <input type="checkbox"/> 1b describe the relationship between static electricity and lightning <input type="checkbox"/> 1c describe the behavior of objects charged with static electricity in attracting or repelling without touching <input type="checkbox"/> 1d compare the amount of static charge produced by rubbing various materials together <input type="checkbox"/> 1e investigate how various materials react differently to statically charged objects



5th Grade
Unit 5: Change: Matter and its Properties

Essential Question #4: In what situations/materials will static electricity build up?

Lesson Title: Static Electricity Investigations

SC Standard IV, Objective 1

Implementation Time: 45 minutes

Media Resources Needed:

Optional: <http://www.sciencemadesimple.com/static.html>

Materials Needed: (per group)

Hard rubber comb or balloon

Cheerios

Thread

Small pieces of tissue paper (from hole punch)

Wool fabric or fur

Empty soda can (per student)

Sink with water supply

Procedure:

Engage: Have student rub his/her hair with balloon and show how the hair raises up and is attracted to the balloon.

1. Have small groups of students brainstorm examples of static electricity in everyday life. Share examples with the rest of the class. Some examples:

- laundry sticking together after coming out of the dryer
- hair sticking up after jumping on a trampoline
- combing or brushing clean, dry hair
- getting “shocked ” by someone
- shuffling across carpet and touching a T.V. that is turned on
- lightning (see background explanation and help students make the connection between static electricity and lightning.)
-

2. Students could do Activities 1-3 as stations and each rotate around every 10 minutes. They can record their results in their science notebooks (draw pictures and write explanations).



Static Electricity Activities

Activity 1 - Swinging cereal

Materials: a hard rubber or plastic comb or a balloon, thread, small pieces of dry Cheerios

1. Tie a piece of the cereal to one end of a 12-inch piece of thread. Find a place to attach the other end so that the cereal does not hang close to anything else
2. Wash the comb to remove any oils and dry it well with paper towel.
3. Charge the comb by running it through long, dry hair several times, or vigorously rub the comb on a wool sweater.
4. Slowly bring the comb near the cereal.
5. Now try to touch the comb to the cereal again.

What happened?

Activity 2 - Bending water

Materials: hard rubber or plastic comb or a balloon, hair, wool fabric or fur, a sink and water faucet.

1. Turn on the faucet so that the water runs out in a small, steady stream, about 1/8 inch thick.
2. Charge the comb (or balloon) by running it through long, dry hair several times or rub it vigorously on a wool sweater.
3. Slowly bring the comb (or balloon) near the water and watch what happens.

What happened?

Activity 3-Dancing Paper

Materials: Balloon, hair, wool fabric or fur, small pieces of paper

1. Pile the papers on the desk. Charge your balloon by rubbing with hair, wool or fur.
2. Bring the balloon close to the pile, but don't touch. What happens?

Activity 4- Soda Can Races

Materials: 1 empty soda can and a balloon. Prepare a 4-6 foot course on a hard surface.

1. Each team can choose the type of material they would like to use to charge their balloon (hair, wool etc...)
2. Charge your balloon with static electricity.
3. Without letting the balloon touch the can, get your soda can to cross the finish line before your classmate's can. What are your results?



Assessment:

Answers to Activities

1. Combing your hair moved electrons from your hair to the comb. The comb had a negative static charge. The neutral cereal was attracted to it. When they touched, electrons slowly moved from the comb to the cereal. Now both objects had the same negative charge, and the cereal was repelled.
2. The neutral water was attracted to the charged comb, and moved towards it.
3. The neutral paper was attracted to the charged balloon, and moved towards it.
4. The soda can will be “pulled” because the opposite charges attract and it can be pushed because the same charges repel each other.

Extension:

Write a story about the balloon and the tissue paper from the perspective of the tissue paper. How does it feel? What does it think about its experience? What is its name? How does it get off the balloon? Where does it go and why?





5th Grade
Unit 5: Change: Matter and its Properties

Essential Question #4: In what situations/materials will static electricity build up?

Lesson Title: Static Electricity and Lightning

SC Standard IV, Objective 1

Implementation Time: 60 minutes

Media Resources Needed:

Optional Book: *Ben and Me* by Robert Lawson

Article: "What is Lightning" by Houghton Mifflin (online)

http://www.eduplace.com/science/hmsc/3/f/cricket/cktcontent_3f133.shtml

Materials Needed: (per group)

Activity 1

Crispy rice cereal

Wool fabric

Vinyl record (piece of Plexiglass also works)

Brochure/Foldable

Computers with internet

Paper, colored pencils

Activity 2

Foam plate

Foam cup

Metal pie pans

Tape or hot glue

Activity 3

Fluorescent light bulb

Wool fabric

Balloon

Procedure:

Background: This lesson is an inquiry style lesson that uses the BSCS 5E model.

Students should already have had some experience with static electricity experiments.

This lesson helps make the connection between static electricity and lightning.

1. Engage

Optional: Use a Van de Graaf generator to have students see the results of static electricity. If you don't have access to a Van de Graaf, you could show this short video clip from the How Stuff Works website: <http://videos.howstuffworks.com/hsw/18563-electricity-and-magnetism-the-van-de-graaff-generator-video.htm>



2. Explore

Activity #1: Snap, Crackle, Jump

Crispy rice cereal

Wool fabric

Vinyl record (piece of Plexiglas also works)

Have students rub the record with a piece of wool, then hold over a pile of crispy rice cereal. Have students sketch their observation in their journal. Students can explore to see if more or less rubs of the wool increases or decreases the number of cereal pieces picked up (or the amount of time that the cereal stays stuck to the record)—students could explore with materials other than wool fabric such as cotton, polyester or fur.

Activity #2: Electrophorus

Foam plate

Foam cup

Metal pie pans

Tape or hot glue



Tape or glue the cup to the inside of the pie plate, this will be the “handle”. Set the foam plate upside-down on the table. Rub the pie plate with a wool cloth (or on your hair) for 1 minute. Carefully drop the pie plate onto the foam plate. With the pie plate right side up, touch the edge of the pie pan with your finger. Record what happens in your science journal. If you pick up the pan by the handle, drop it again and see if you can still make a spark. Try it with the lights out.

Students can explore using more than one foam plate stacked together or a material other than wool. Have students bring the newly charged pie pan near their face and see if they can feel the charge (or hold it near their arm and see what their hair does).

Activity #3: Sparking Lights

Fluorescent bulb (tube or compact style)

Balloon

Wool fabric

Charge the balloon by rubbing with the wool cloth (or hair). Hold the charged balloon very near the glass of the bulb. What happens? Record your observations in your journal. Are there other materials you can charge the balloon to get more sparks?



3. Explain

You could read the article “*What is Lightning?*” to the class, or create a jig-saw and have different groups each take a paragraph and then summarize it for the class on poster paper or the white board. Questions for reading “What is Lightning?”: What are two different kinds of lightning? How are they different? *Answer: Two different kinds of lightning are positively charged lightning and negatively charged lightning. Positively charged lightning originates from the top of a storm cloud, and negatively charged lightning originates from the middle or bottom of a storm cloud. Positively charged lightning can strike for many miles beyond the center of a storm, whereas negatively charged lightning tends to strike near the center of a storm.*

You might have noticed that some buildings have a lightning rod on the rooftop. A lightning rod is a metal pole that extends above the height of the roof. What purpose might a lightning rod serve? Write a sentence or two to explain your answer. *Answer: Answers will vary but could include that people use lightning rods to protect buildings. If lightning is going to strike an area, it is better for the lightning to hit a metal pole than the building itself. Students may or may not know that a lightning rod is grounded and therefore diverts the electrical charge of a lightning bolt away from the building and into the ground.*

4. Elaborate

Flash, Crash, Boom: How Does Lightning Work? Foldable brochure. Divide students into groups and assign them to research the answers to the questions and design a brochure (could do it on the computer or by hand). Give groups the student sheet titled: Lightning Safety Brochure.

Brochure Introduction

In class, you have been learning about static and current electricity. Because of your expertise in this field, the lightning safety committee in your town has appointed you to be its newest member. Your expertise is needed because of your understanding of the relationship between electricity and lightning. The committee feels if people understand how lightning works, they can apply their knowledge to lightning safety. To inform the community, the committee is creating a brochure about how lightning works and how to be safe during a lightning storm. As a newly appointed member to this committee, you might be wondering what the connections are between electricity and lightning. *How does lightning work? How does someone stay safe during a lightning storm?*

The Lightning Safety Committee expects you to have answers to these questions for their community brochure.



Assessment:

Evaluate: Students should complete the diagram showing the arrangement of charges in a storm cloud and how lightning strikes the earth.

Students should also complete their foldable product to show what they know about lightning and lightning safety.

Extension:

- Students could do a skit on lightning safety.
- Students could do additional research on Ben Franklin's electricity experiments or the invention of the lightning rod.
- Read from Ben and Me and talk about Ben Franklin's electricity experiments



Student Sheet: The Task, Lightning Safety Brochure

Your task is to create a brochure using foldables that promotes an awareness of how lightning works and provides safety tips that your class and community can follow during a lightning storm. You will research the following questions, and use that information to inform your community:

- How does lightning work?
- What are the roles of static and current electricity in producing lightning?
- How does this knowledge apply to being safe during a lightning storm?

You will need to be prepared to share and discuss your brochures with the rest of the class. You will also educate your school community about lightning safety by visiting younger grades and presenting information from your brochure.

To accomplish this task you will do the following:

1. First, you will be assigned to a team of three or four students.
2. Each team of students will review some web sites about lightning and lightning safety.
3. Please explore the websites listed below. Each group member should explore all of the web sites and take notes. Your teacher may have additional websites.

<http://skydiary.com/kids/lightning.html>

<http://www.nationalgeographic.com/environment/natural-disasters/lightning-interactive>

<http://www.ucar.edu/communications/infopack/lightning/kids.html>

<http://www.uic.edu/labs/lightninginjury/index.htm>

<http://www.usatoday.com/weather/tg/wstroke/wstroke.htm>

4. Identify the answers to the following questions:

- How does lightning work?
- What are the roles of static and current electricity in producing lightning?
- How does this knowledge apply to being safe during a lightning storm?

5. Share your information with your group and work together as you construct your final project.



What Is Lightning?

Many people know the story of Benjamin Franklin flying a kite in a rainstorm. At the tip of his kite, Franklin attached a pointed metal piece. Then at the end of the kite string, he fastened an iron key. Lightning did NOT strike the kite, however, Franklin received an electrical shock when he placed his knuckle near the metal key. This was evidence that there was an electrical charge transferred during the storm. Lightning forms high up in the atmosphere at altitudes of 15,000 to 25,000 feet. At this altitude, as the air rises and descends, some droplets of water stored in clouds freeze into ice. As the particles of ice move past each other, an electrical charge is generated. Particles with a positive charge travel towards the top of the cloud. Particles with a negative charge drop towards the middle and bottom of the cloud. As this cloud travels over the Earth's surface, it can attract positively charged particles on the Earth's surface.

The negatively charged particles stored up in the cloud may eventually travel to the ground in the form of lightning. As the charge travels towards the Earth, it creates a pathway, or channel. The charge traveling along this pathway is what we see as lightning. Sometimes a charge will travel back from the Earth to the cloud through the same channel that it traveled down towards the Earth. In fact, lightning does not just travel between clouds and the Earth. Lightning can travel from cloud to cloud and from cloud to air, as well.

Lightning can also start from the large positive charge near the top of a storm cloud. Positively charged lightning is very dangerous as it can take people by surprise. Negatively charged lightning tends to strike around the center of a storm. Positively charged lightning may strike up to ten miles away from the center of a storm. It may strike areas ahead of the storm's path or behind the storm's path.

Thunder is created by lightning. When an electrical charge large enough to cause lightning travels through the air, it generates a great deal of heat. The air around a bolt of lightning heats up to 50,000°F! When air gets that hot that quickly, it expands rapidly and causes thunder.

Each year, lightning strikes the Earth more than 20 million times. With that much lightning activity, it is important to know how to stay safe when there is lightning in the air. The National Weather Service recommends following the "30/30 rule." Go inside if you see lightning and hear thunder. If you cannot count to 30 between seeing lightning and hearing thunder, remain inside. After you hear the last growl of thunder, wait for 30 minutes before going outside. Take thunderstorms seriously and find shelter.

Source: Houghton Mifflin Science: Cricket Connections

http://www.eduplace.com/science/hmsc/3/f/cricket/cktcontent_3f133.shtml



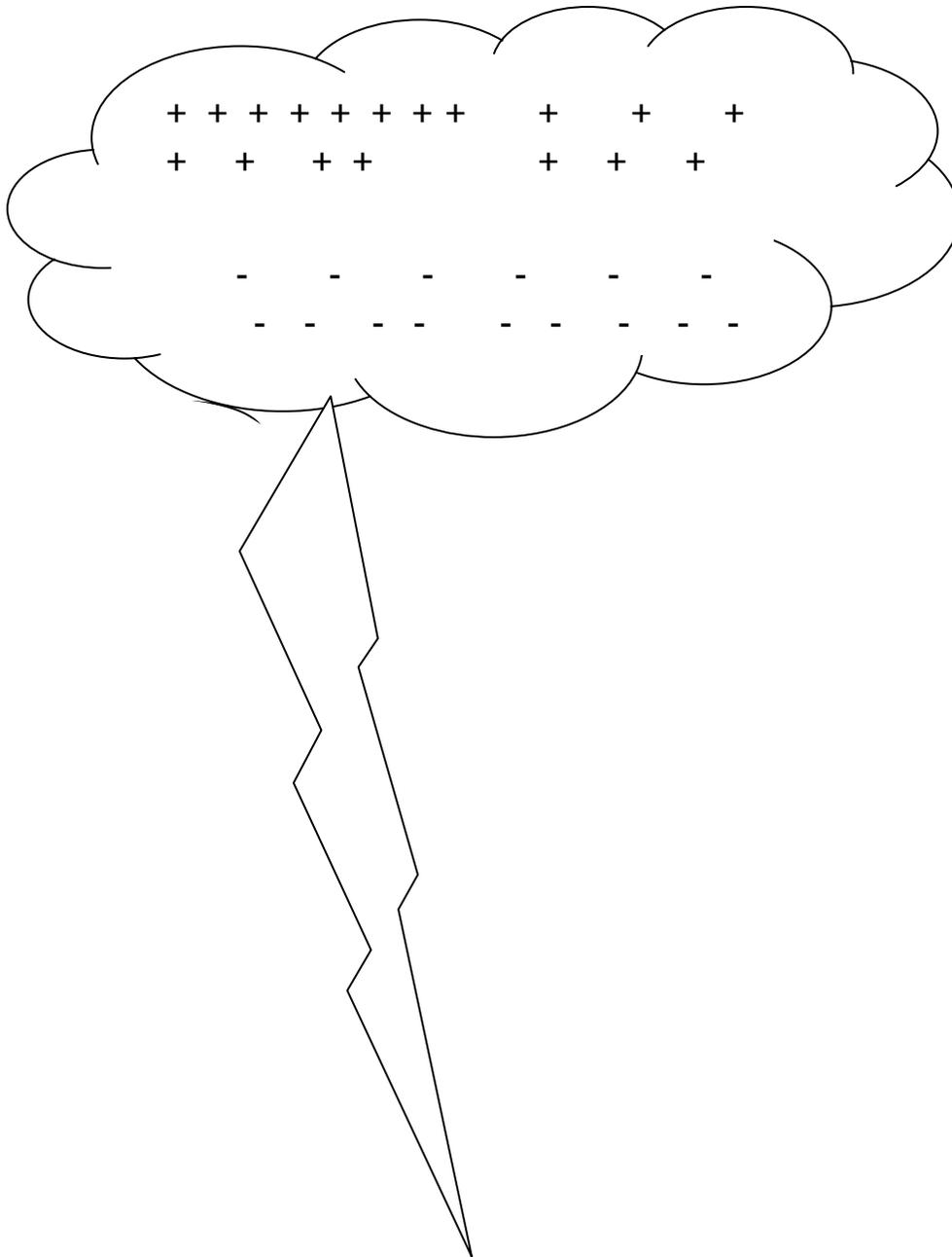
Lightning Diagram

Draw a diagram of a storm cloud. Show how lightning is generated inside a cloud. Show how the top of the cloud is different from the middle and bottom. Diagram a bolt of lightning striking the Earth from the storm cloud.



Lightning Diagram-ANSWER KEY

Draw a diagram of a storm cloud. Show how lightning is generated inside a cloud. Show how the top of the cloud is different from the middle and bottom. Diagram a bolt of lightning striking the Earth from the storm cloud.

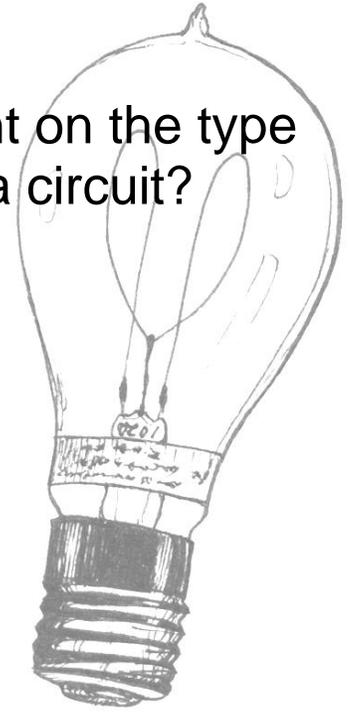


Essential Question #5:

How is the flow of electricity dependent on the type of material or the components of a circuit?

Lessons:

- Insulator or Conductor?
- Simple Circuits
- Circuit Projects



Core Standards	
Social Studies	Science
	Standard IV <input type="checkbox"/> 2a draw and label the components of a complete electrical circuit that includes switches and loads <input type="checkbox"/> 2b predict the effect of changing one or more of the components in an electric circuit <input type="checkbox"/> 2c generalize the properties of materials that carry the flow of electricity using data by testing different materials <input type="checkbox"/> 2d investigate materials that prevent the flow of electricity <input type="checkbox"/> 2e make a working model of a complete circuit using a power source, switch, bell or light, and a conductor for a pathway



5th Grade

Unit 5: Change: Matter and its Properties

Essential Question #5: How is the flow of electricity dependent on the type of material or the components of a circuit?

Lesson Title: Insulator or Conductor

SC Standard IV, Objective 2

Implementation Time: 30 minutes

Materials Needed: (per group)

* D batteries (881152-88)

*3 pieces of wire (212361-21)

*Mini lightbulb (301001-30)

Penny

Pencil

Eraser

Paper clip

Galvanized Nail

Plastic spoon

Straw

Crayon

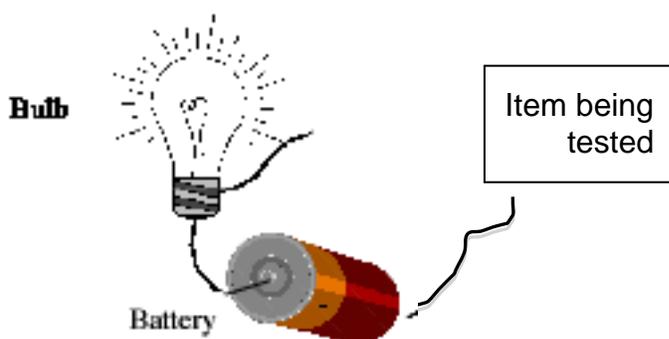
Foil

Data Sheet

*Items can be found in GSD warehouse catalog, item # in parentheses. You can also use these items in Simple Circuits and Circuit Projects lessons. Christmas lights can be cut up to use as bulbs.

Procedure:

1. In groups, have students assemble a circuit with the battery and bulb. Place the item being tested in the gap between the two wires.
2. Take one of the items from the supplies and predict if you think the item will make the light bulb light or not.
3. Continue testing items. Be sure to make a prediction first.





4. After students have completed the testing. Have students fill out the chart on the LCD screen for the whole class. Make a T-chart of things that lit the bulb and those that did not.

5. Tell students that things that complete the circuit and light the bulb are called **CONDUCTORS** because they conduct electricity. The things that did not light the bulb are called **INSULATORS** because they insulate or prevent electrical current from passing through it.

Assessment:

Have students create a definition of what materials are good conductors (metals) and what are insulators (plastics, foam, paper, etc...) They can write this in their science notebook. Have student place their completed data sheet in their science notebook.

Extension:

1. Let students test items at their desks to see if they are conductors or insulators.

Insulator or Conductor Data Sheet



Object	Prediction	Conductor or Insulator?
Penny		
Pencil (wood part)		
Pencil (metal part)		
Eraser		
Paper clip		
Nail		
Plastic spoon		
Straw		
Crayon		
Foil		





5th Grade

Unit 5: Change: Matter and its Properties

Essential Question #5: How is the flow of electricity dependent on the type of material or the components of a circuit?

Lesson Title: Simple Circuits

SC Standard IV, Objective 2

Implementation Time: 45 minutes

Media Resources Needed:

Book: *Dear Mr. Henshaw* by Beverly Cleary

Materials Needed: (per group) *GSD warehouse catalog # in parentheses*

“D” Battery

Simple Circuits worksheet

Copper bell wire, 12” piece (212361-21)

Open or Closed Circuits Sheet

Mini lightbulb (301001-30)

Optional: Potatoes/lemons, LED bulb

Small flashlight

Pennies and Galvanized Nails

Wire cutter (for teacher)

Procedure:

This lesson is an inquiry lesson based on the BSCS 5E model

Engage: Read section of *Dear Mr. Henshaw* by Beverly Cleary where Leigh Botts wants to build a burglar alarm on his lunch box. (Labeled in the book as Journal Entry dates: Jan 9, Jan 10, end of Feb 7, Feb 8, Mar 1, Mar 3, Mar 15)

Ask: “How do you think Leigh might be able to build an alarm for his lunch box?”

Answer: He could use wires and a bell. I think he would also need a battery for power.)

Explore

1. Tell students: “Today we are going to continue our investigation of electricity.” “I am going to distribute to you a package of materials; using the wire, light bulb, and battery I want you to put them together to make the bulb light up.” Have students draw their plan before they start in their science notebook (or piece of paper).

2. The teacher will walk around at this time to observe the students working and asking questions (formative assessment). Some of the questions to ask the students could include: Why did you decide to do it that way? Why do think that works/ does not work?



Can you design another setup that is different and will still work? Is there anything special that you should know about the light bulb to make it light?

Explain: Have students share successes and failures by diagramming them on the board. Have students explain why they work. Discuss the similarities of each model that worked. Introduce the term "circuit" and define as the pathway from the energy source through the wire to the bulb and back to the battery. Emphasize that it is a complete pathway without any breaks in it. The teacher will then trace some of the successful diagrams to demonstrate.

3. Next, identify this as a simple circuit and label the parts (energy source, pathway, load).

4. Then, examine the diagrams of those that did not work. Guide the students determine why they did not work. Here are some guiding questions to ask: Is part of the circuit missing? (No) Are they all connected? (Yes) Then why isn't the bulb lit? (It is not in the correct order.) How can we fix that?

5. Suggest that they take a look inside a light bulb and to see if they can understand it a little better. Show transparency of light bulb paying particular attention to the filament. Point out that the filament is connected at the bottom and the side; therefore the wires must be touching those two areas. Why does the wire have to touch these areas? (It must touch here to form a complete circuit for the energy to move through.) Optional: Bring a very large, clear light bulb as a demonstration bulb.

6. Explain that a complete circuit that delivers energy to an appliance is called a closed circuit; use the analogy of a closed circle.

7. Explain that there are switches used to turn on and off electricity without having to disconnect the wires. Show the students a flashlight. Then turn it on and off a few times. Ask the students if they have ever stopped to think how a flashlight works?

Elaborate: Have students work with their group to determine how it works and be able to explain it using the terms we have just learned.

8. Distribute flashlights and allow groups to investigate how they work.

Assessment:

The teacher will take note of the students who were successful in constructing a working simple circuit.

Evaluate

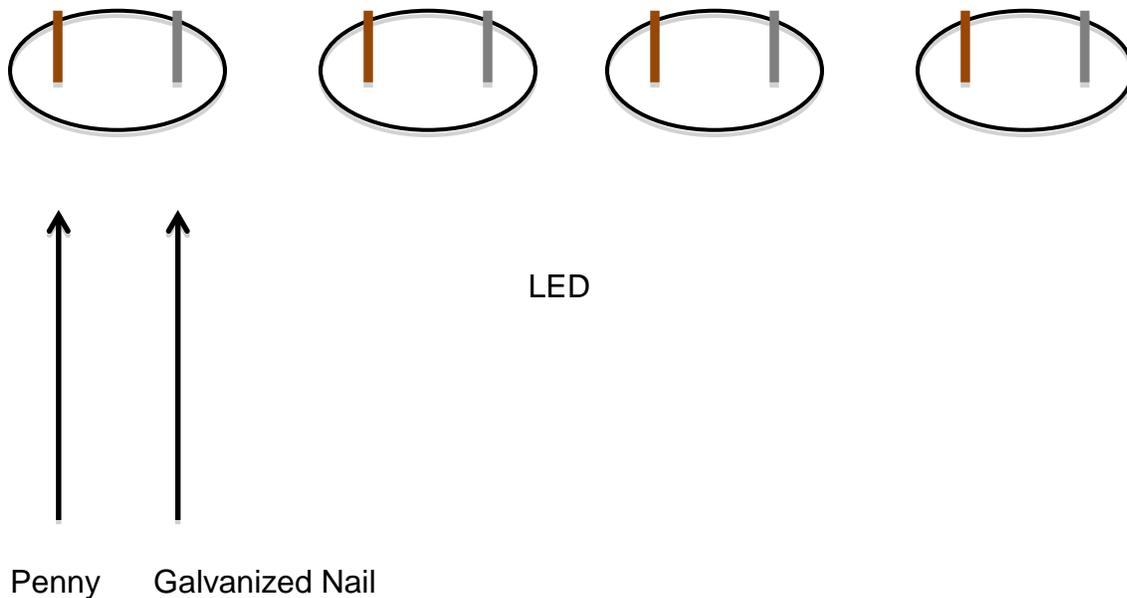
Review the main points of the lesson. Have students define open and closed circuit. (An open circuit does not provide a complete pathway for the energy; therefore the



appliance will not work. A closed circuit provides complete pathway for the energy, therefore the appliance will work.)

Extension

1. Build your own battery circuit out of potatoes or lemons. You will need to link several together in order to get enough voltage and amps. Place a copper penny and a galvanized nail in each potato. Clip together with alligator clips and wire. LEDs are available at Radio Shack for about \$2 (if you want to light a regular mini bulb, you will need to link many more potatoes/lemons).



Activity: Simple Circuits

Name:



1. Obtain one battery, one light bulb, and one wire. Connect these in as many ways as you can. Sketch each arrangement below using the symbols on the board. On the left side of the page, list at least 2 arrangements in which the bulb lights. On the right side, list at least 2 arrangements in which the bulb does not light.

Ways that light the bulb

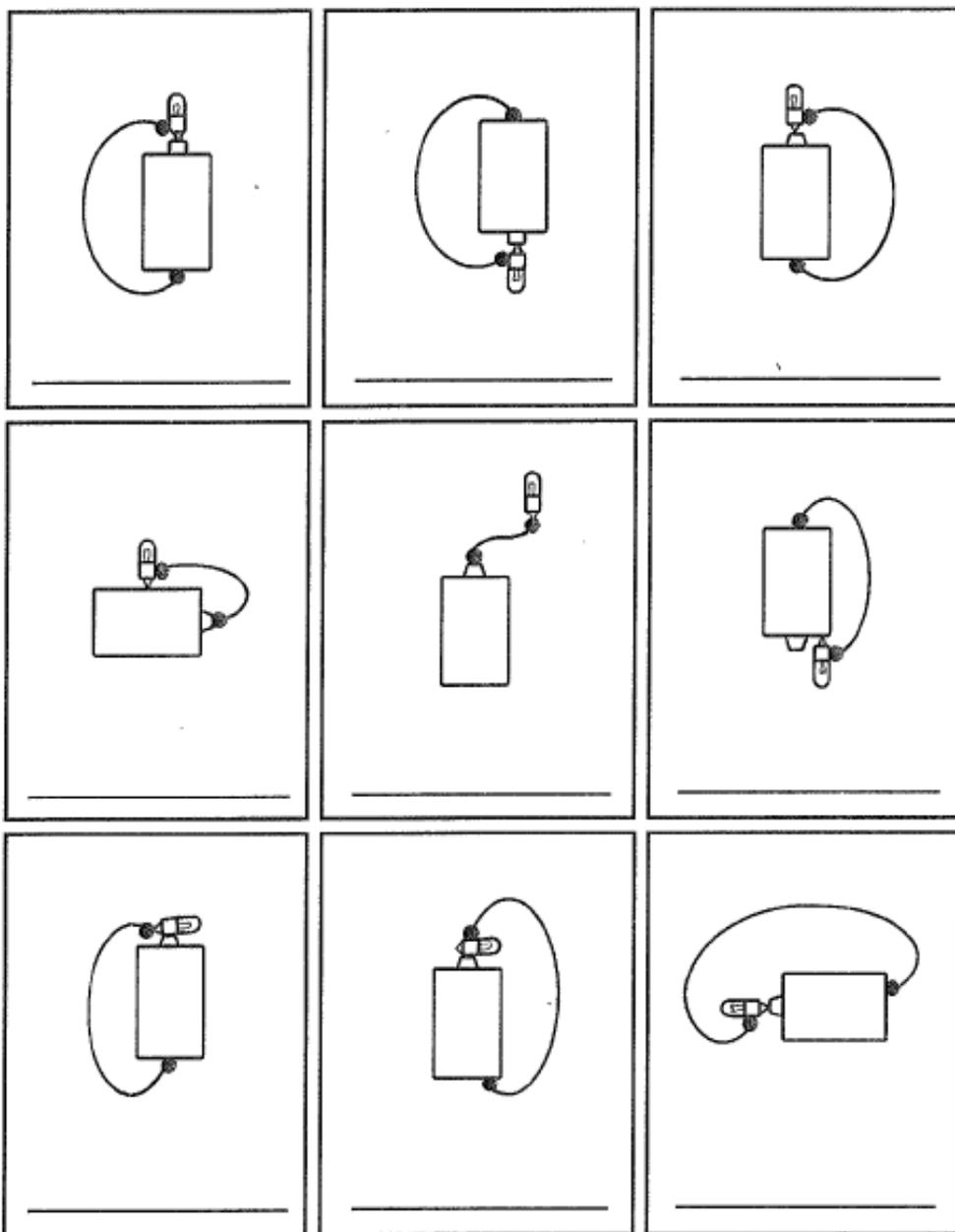
Ways that do not light the bulb

2. Write 2 questions that you would like to investigate using the materials at your table.
 - a.
 - b.
3. Examine a flashlight.
 - a. Make a sketch of the flashlight showing the circuit that exists when the bulb is lit.
 - b. How many wires are used to make this circuit?



Open or Closed Circuits?

Which of these circuits will light the bulb? Stuck? Try building the circuit to check your answer.





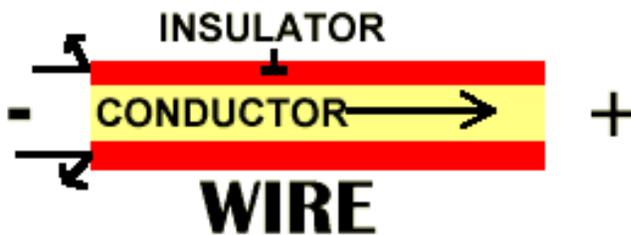
Background Information for teacher

Circuit A circuit is a path for electrons to flow through. The path is from a power source's negative terminal, through the various components and on to the positive terminal.

Think of it as a circle. The paths may split off here and there but they always form a line from the negative to positive.

NOTE: Negatively charged electrons in a conductor are attracted to the positive side of the power source.

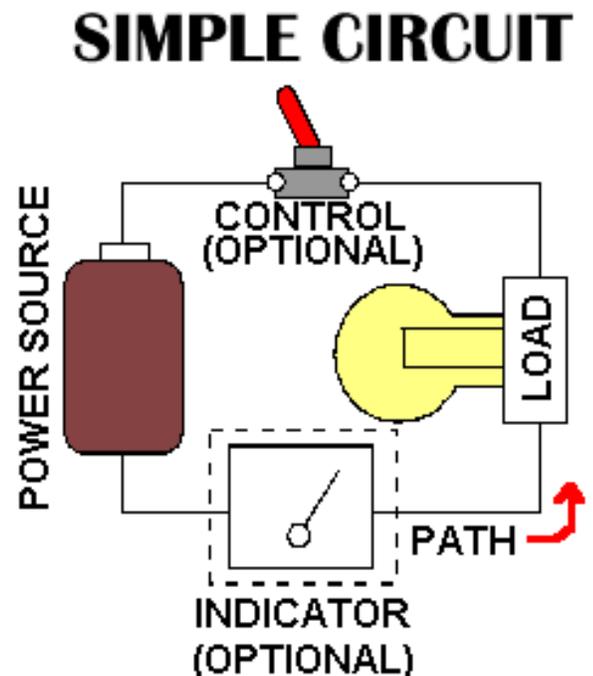
Conductor A conductor is a material (usually a metal such as copper) that allows electrical current to pass easily through. The current is made up of electrons. This is opposed to an insulator which prevents the flow of **electricity** through it.



Simple Circuit

If we break a circuit down to its elementary blocks we get:

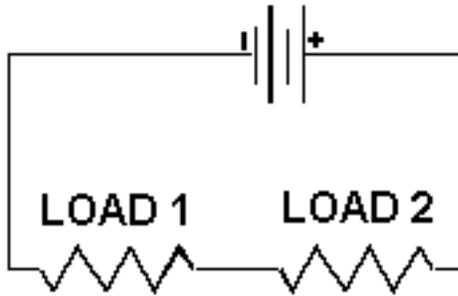
- 1) A Power Source -- eg: **battery**
- 2) A Path -- eg: a wire
- 3) A Load -- eg: a lamp
- 4) A Control -- eg: **switch** (Optional)
- 5) An indicator -- eg: Meter (Optional)





SERIES CIRCUIT

POWER SOURCE



Series Circuit

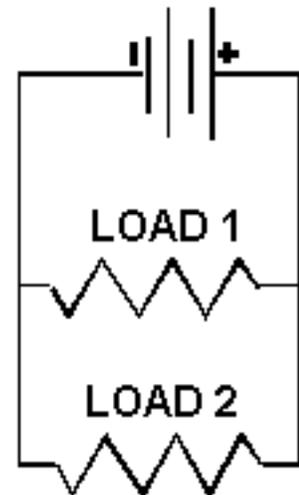
A series circuit is one with all the loads in a row. Like links in a chain. There is only ONE path for the electricity to flow. If this circuit was a string of **light bulbs**, and one blew out, the remaining bulbs would turn off. There is specific properties to this circuit that will be described in another section.

NOTE: The squiggly lines in the diagram are the symbol for **Resistors**. The parallel lines are the symbol for a battery.

Parallel Circuit

A parallel circuit is one that has two or more paths for the electricity to flow. In other words, the loads are parallel to each other. If the loads in this circuit were light bulbs and one blew out there is still current flowing to the others as they are still in a direct path from the negative to positive terminals of the battery. There are also specific properties a parallel this circuit that will be described in another section.

PARALLEL CIRCUIT







5th Grade
Unit 5: Change: Matter and its Properties

Essential Question #5: How is the flow of electricity dependent on the type of material or the components of a circuit?

Lesson Title: Circuit Projects

SC Standard IV, Objective 2

Implementation Time: 45 minutes

Media Resources Needed:

Optional book: *Batteries, Bulbs and Wires* by David Glover

Materials Needed:

There are 4 possible projects that can be built. If you don't have the materials for all of them, choose the one(s) that you can. Mini-light bulbs can substitute for buzzers (avail at Radio Shack). This is the culminating activity for the electrical circuits unit. The GSD Warehouse carries mini-bulbs (301001-30) Christmas lights can be cut apart instead of mini bulbs.

Burglar Alarm Materials

9-Volt battery(881154-88)	2 Plastic straws	Wire
Cardboard	Foil	Mini buzzer or light bulb
Tape (electrical or masking)	Hole punch	

Morse Code Machine

9-Volt battery	mini-buzzer or mini light bulb (w/ holder)
3 Paper clips	2 flat thumbtacks
3" Block of balsa wood (253003-25)	3 pieces of wire

Loop Game

8" board with a screw on each end (teacher prepare in advance)	
Metal coat hanger	Paper clips (may not need)
Sandpaper	Mini buzzer or mini light bulb (w/ holder)
Wire cutters	Pliers

Quiz Board

Mini light bulb or buzzer		
9-Volt battery	Hole punch	A "Matching Quiz" you have made
Wire	File folder	Foil
Masking tape	Scissors	Construction paper



Procedure:

Teacher note: This is the culminating activity for the electrical circuits unit. The students should already know that a circuit must be complete for it to work. The students will be able to apply their knowledge in building one of four simple projects. Students should work in groups. These projects use either mini-buzzers or mini light bulbs. The buzzers can be found at Radio Shack (mini buzzer or a Piezo 12VDC buzzer each about \$3.50 and can be reused over and over). The mini light bulbs are much less expensive and you can use them instead of buzzers, but it tends to be more fun for kids to hear a buzz sound instead of seeing the light bulb (although, you may enjoy the silence of light bulbs over the buzzing of buzzers). You can also use old Christmas lights that cut apart as the mini light bulbs.

Assessment:

If the student's project works, they understand how circuits work. Check to see if you can hear the buzzer or see the lights light up.

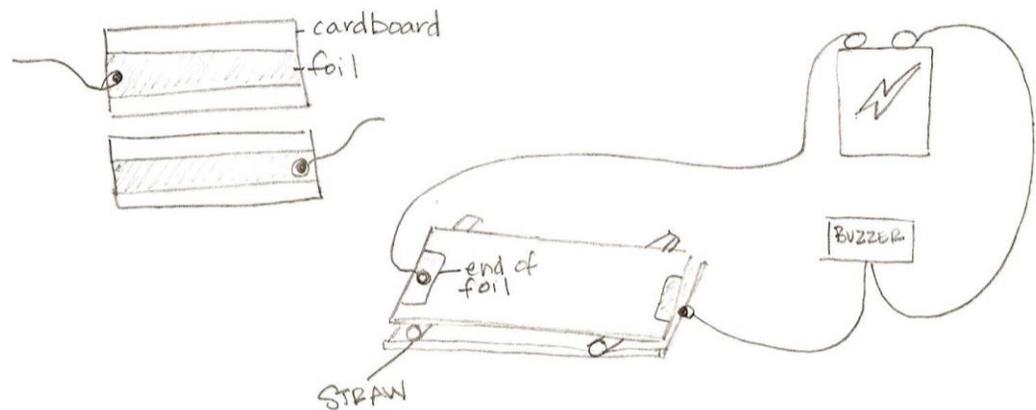
Extension:

For even more circuit project ideas, check out <http://www.msm.cam.ac.uk/SeeK/themes.htm>



Burglar Alarm

1. Cut two pieces of cardboard, 5"x 8" each.
2. Cut two pieces of foil, 3"x 10" each.
3. Tape the foil along each piece of cardboard and let the ends wrap around the back of the cardboard. Tape the foil ends on the back. Punch one hole on the end of each piece about 1" from the end.
4. Put one piece of cardboard, right foil side up on the desk. Put a straw at each end and then put the other piece of cardboard foil side down on top. Tape it all together so that the straws don't roll out.
5. Attach a wire to each of the holes. Create a circuit using the wires, a battery and a buzzer or light bulb.
6. Put your burglar alarm on the floor. When someone steps on it, the foil-covered cardboard pieces touch, completing the circuit and setting off the alarm! You could hide your alarm under a rug and keep an eye out!

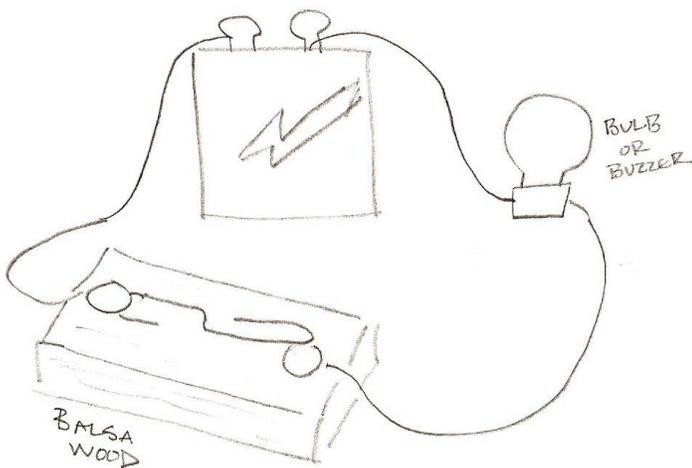




Morse Code Machine

Before phones and internet, electric messages were tapped out in Morse code.

1. Open a paper clip and bend one end up
2. Pin the paperclip to one end of the wood block. Push another thumbtack into the other end of the block and wrap a wire around it.
3. Built a circuit that will make the buzzer or light bulb work.
4. Try sending a message to your partner.



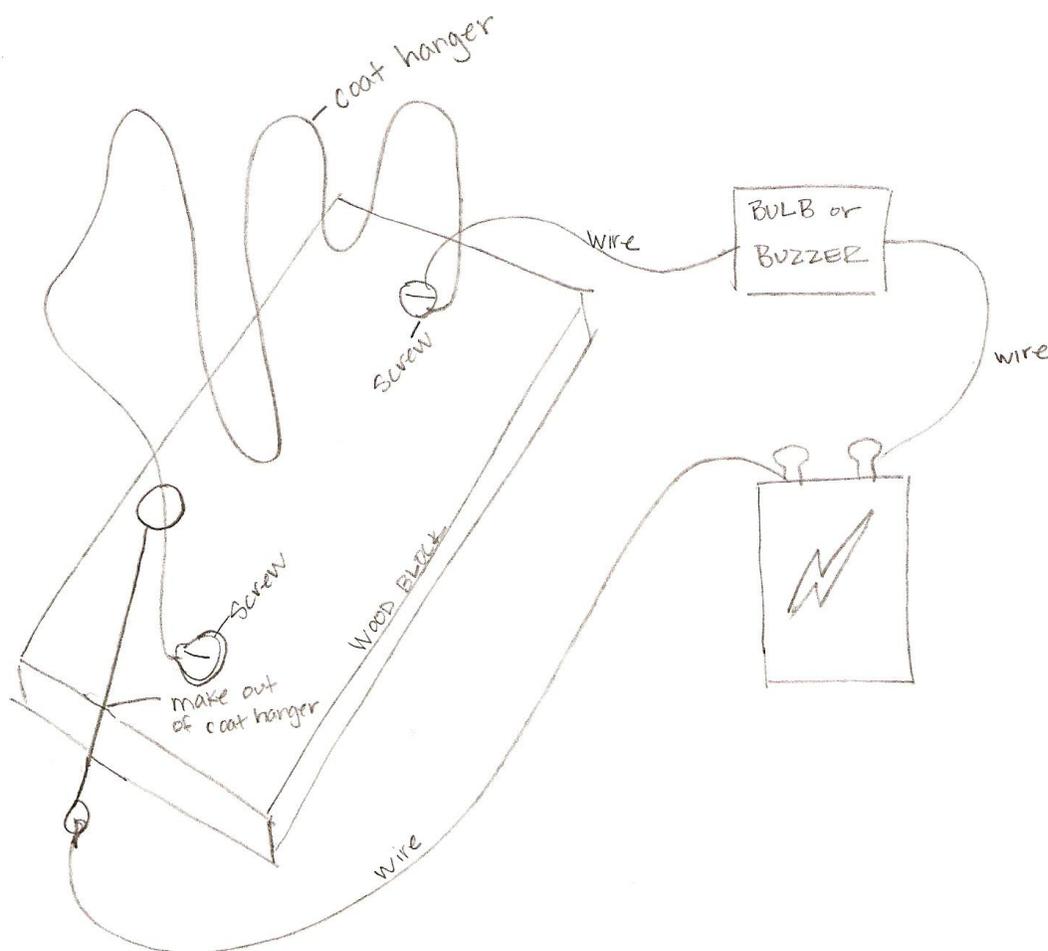
A	• —	U	• • —
B	— • • •	V	• • • —
C	— • — •	W	• — —
D	— • •	X	— • • —
E	•	Y	— • — —
F	• • — •	Z	— — • •
G	— — •		
H	• • • •		
I	• •		
J	• — — —		
K	— • —	1	• — — — —
L	• — • •	2	• • — — —
M	— —	3	• • • — —
N	— •	4	• • • • —
O	— — —	5	• • • • •
P	• — — •	6	— • • • •
Q	— — • —	7	— — • • •
R	• — •	8	— — — • •
S	• • •	9	— — — — •
T	—	0	— — — — —



Loop Game

This game is similar to the old "Operation" game, where if you touch the wand to the sides of the game, the buzzer will go off!

1. Have an adult help you un-bend a metal coat hanger. Use the sandpaper to rub all along the whole wire to remove any coatings.
2. Have the adult help you bend the coat hanger into an interesting curved shape and screw it to the board.
3. Make a wand with a loop on the end out of another coat hanger. Form the loop end around the wire you already attached to the board.
4. Make the circuit so that if the wand hits the side of the game, the buzzer or light will go off.

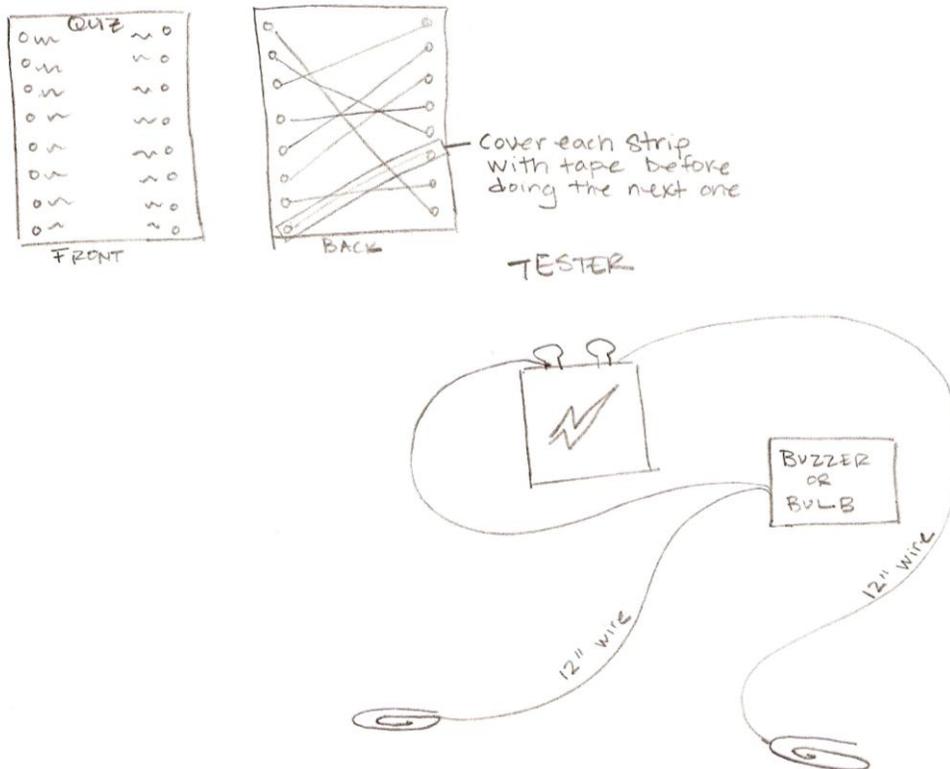




Quiz Board

You can make your own review board to trade with a partner.

1. Write your matching quiz with 8 questions (any subject)
2. Cut a file folder into an 8X10 rectangle.
3. Punch 8 holes down each side of the file folder.
4. Write the questions down one side of the folder and the answers down the other (make sure that the answers are not in the same order as the questions).
5. Flip the quiz over and draw a pencil line from the question to the correct answer.
6. Take a strip of foil and fold it 3 times to make a thin strip. Place the strip along the line from question to answer. Make sure the foil shows through the hole. Use masking tape to completely cover the foil strip and tape it to the file folder.
7. Repeat step 6 for each of the questions.
8. Put construction paper on the back of your quiz to hide the strips.
9. Make the tester/pointer and then give the quiz and the pointer to a friend to try out. If they get the answer right, the light bulb will light up. If they get it wrong, no light!



Fifth Grade Interconnections
Unit VI

Times of Change: The United States in the 19th & 20th Centuries

Enduring Understanding:

The 19th and 20th centuries were times of great change in the United States. Those changes continue to have an impact on our nation today.

Essential Questions

- *What role did people and events play in America's expansion during the 19th century?*
- *How did division and conflict lead to Civil War in the 19th century?*
- *How did the events of the 19th century impact people, places, and ideas?*
- *How did World War I, the Great Depression, and World War II change the United States in the 20th century?*
- *Why is the United States considered a world power and how does this status impact our role in the world?*

Core Curriculum Concepts/Skills: change, cause and effect, change over time, expansion, division, conflict, compromise

Core Standards

Social Studies

Standard IV: Students will understand that the 19th century was a time of incredible change for the United States, including geographic expansion, constitutional crisis, and economic growth.

Objective 1: Investigate the significant events during America's expansion and the roles people played.

Objective 2: Assess the geographic, cultural, political, and economic divisions between regions that contributed to the Civil War.

Objective 3: Evaluate the course of events of the Civil War and its impact both immediate and long-term.

Objective 4: Understand the impact of major economic forces at work in the post-Civil War.

Standard V: Students will address the causes, consequences and implications of the emergence of the United States as a world power.

Objective 1: Describe the role of the United States during World War I, The Great Depression, and World War II.

Objective 2: Assess the impact of social and political movements in recent United States history.

Objective 3: Evaluate the role of the United States as a world power.

Social Studies language students should know and use: expansion, Civil War, abolition, Underground Railroad, compromise, emancipation, reconciliation, free-market system, industrial revolution, depression, migration, superpower, democracy, rule of law, human rights, suffrage, genocide

Essential Question #1:

What role did people and events play in America’s expansion during the 19th century?

Lessons:

- The United States Expands



Core Standards	
Social Studies	Science
Standard IV	
<input type="checkbox"/> 1a identify key reasons why people move and the traits necessary for survival <input type="checkbox"/> 1b examine causes and consequences of important events in the United States expansion (<i>examples may include</i> : Louisiana Purchase, Lewis and Clark expedition, treaties with American Indians, Homestead Act, Trail of Tears, California Gold Rush) <input type="checkbox"/> 1c compare the trails that were important during westward expansion <input type="checkbox"/> 1d assess the impact of expansion on native inhabitants of the west	



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #1: What role did people and events play in America's expansion during the 19th century?

Lesson Title: The United States Expands

SS Standard IV, Objective 1
Art Standard III, Objective 1, 2

Implementation Time: two 45-minute sessions

Media Resources Needed: Nystrom *Atlas of our Country's History* (classroom set); student computers/lab; computer and LCD projector

Resources Needed: "The United States Expands" handout (1 per student); classroom timeline

Procedure:

Day One:

1. Distribute an atlas and a handout to each student. Divide students into groups of six and assign two students to complete the first column on the handout, two students to complete the second column, and two students to complete the third column. Explain that they should look for the information on the page numbers indicated under their column heading.
2. Allow students to work in pairs for 12-15 minutes. Students should work together to find/explore information, but each student should fill out his/her own handout.
3. Reassemble groups. Assign each pair to divide and share their information with the rest of the group as the other students take notes. Once each pair has had a turn to share, each student in the group should have a complete set of information.
4. Discuss as a class, answering questions and clarifying misconceptions. Decide as a class which events should be added to the classroom timeline. Add events to the class timeline.



Day Two:

1. Assign each group to choose one event from each of the three time periods and create a “New Frontiers” newsletter that highlights and illustrates the three events. Assign each group member one of the following tasks: illustrator, editor, staff writers (3), and printer. Each member of the “staff” works together to create a digital (Microsoft Publisher) or hand-written publication. While the illustrator, editor, and staff writers are working on the articles, the printer should research 19th century newspapers (<http://www.archives.gov> or <http://www.loc.gov> to get a feel for what the format should look like and for ideas for advertisements.
2. “Publish” newsletters for the rest of the class by displaying them on a bulletin board.

Assessment:

Project the image *Westward the Course of Empire Takes its Way* (below) from your *Interconnections* CD. Have students write down all the different details they observe in the painting and then make inferences about the events/people/transportation the artist is depicting. Assign students to write a response (at least one well-developed paragraph) that explains their thoughts and reactions to the painting and connecting what they see to what they learned from the atlas activity. Pose the questions: *Who is not represented in this painting? Who might have a different opinion of expansion and American “progress”?* Allow students to use their handout to help them formulate ideas and make connections.

Extension:

Assign students to research other paintings and portraits that depict strong emotion (positive or negative) regarding the concept of Manifest Destiny. Share their findings and opinions.

Music Extension:

Teach/sing the “Map Rap” (attached). If time allows, have students re-write the lyrics or add verses using information from their atlas activity.



The United States Expands

Late 1700s (pages 38-40)	Early 1800s (pages 39-45)	Mid-1800s (pages 45-49)
<i>Why did people move?</i>		
<i>Causes/events:</i>		
<i>Important trails/transportation:</i>		
<i>Impact on people:</i>		
<i>New territory/states:</i>		
<i>Land use in new territory/states:</i>		
<i>Explorers/important people:</i>		



Westward the Course of Empire Takes Its Way,
Emanuel Gottlieb Leutze



The artist combined pioneer men and women, mountain guides, wagons, and mules to suggest a divinely ordained pilgrimage to the “Promised Land” of the western frontier. Within the left half of the picture is a depiction of the San Francisco bay which is being pointed to by the pilgrim seated atop the rock in the foreground. Within the right hemisphere of the painting is a depiction of a valley, representing the “Valley of Darkness” and symbolic of the troubles faced by explorers. The original painting belongs to the Smithsonian American Art Museum and hangs in the House of Representatives at the United States Capitol.



U.S. Expansion “Changing Map Rap”

(Chorus)

Dig this changing map! Listen to my rap!

Dig this changing map! Listen to my rap!

When the U.S. fought the Revolutionary War
Thirteen colonies bordered our eastern shore
We won that war in 1783
And the English gave up land to the Mississippi

(Chorus)

We made a deal with France in 1803
They let us buy all the Louisiana Territory
We took land from Spain in 1810
And in 1813, we did it again

(Chorus)

The 49th parallel's where the boundary was planned
So in 1818 England owed us more land
The very next year we signed a treaty with Spain
The rest of Florida was the prize we gained

(Chorus)

In 1842 there was something new
More land from England that all the States were due
In 1845 we annexed Texas as a state
And war with Mexico was soon our fate

(Chorus)

Meanwhile, up in Oregon Country
Another chapter was added to our nation's story
Out to claim the land from shore to shore
In 1846 we added some more

(Chorus)

In 1848 the war with Mexico ended
We won the war and the land we defended
With the Mexican Cession we gained western land
And our southwest border reached the Rio Grande



(Chorus)

The Gadsden Purchase was made in 1853
And then the country stretched from sea to shining sea
Then Russia had land that she wanted to sell
A place called Alaska that few people knew well

So I guess with that my changing map rap is through
We've gone from coast to coast and to Alaska, too!

Dig this changing map! Now you've heard my rap!
Dig this changing map! Now you've heard my rap!

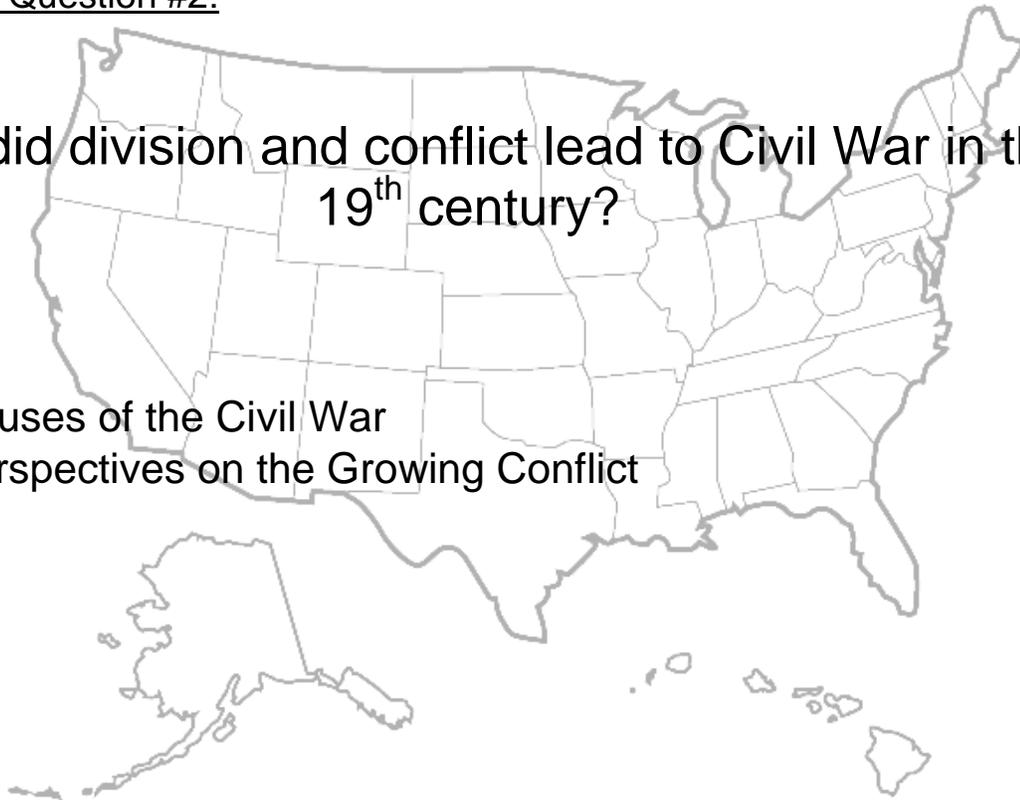
Permission to use/copy from GTV – National Geographic Society

Essential Question #2:

How did division and conflict lead to Civil War in the 19th century?

Lessons:

- Causes of the Civil War
- Perspectives on the Growing Conflict



Core Standards	
Social Studies	Science
Standard IV	
<input type="checkbox"/> 2a describe the impact of physical geography on the cultures of the northern and southern regions (<i>examples may include:</i> industrial resources, agriculture, climate)	
<input type="checkbox"/> 2b compare how cultural and economic differences of the North and South led to tensions	
<input type="checkbox"/> 2c identify the range of individual responses to the growing political conflicts between the North and South (<i>examples may include:</i> states' rights advocates, abolitionists, slaveholders, enslaved people)	



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #2: How did division and conflict lead to Civil War in the 19th century?

Lesson Title: Causes of the Civil War

SS Standard IV, Objective 2

Implementation Time: 60 minutes

Media Resources Needed: eMedia video The Causes of the Civil War (13 minutes); Nystrom *Atlas of our Country's History* (classroom set); computer and LCD projector

Resources Needed: four signs with “Politics,” “Economics,” “Slavery,” and “All Three Equally” written or typed on them (for best results, laminate for future use and find an appropriate graphic to illustrate the topic)

Procedure:

1. Build students' background knowledge of the topic by immersing them in the topic of the Civil War. Create a table/space/bulletin board in the classroom on which you display a variety of Civil War-related items (teacher choice) which may include: maps, photographs, books on the topic, artifacts, flags, etc.
2. Ask students to think of a time they had an argument with someone who was close to them –friend, family member, sibling. What causes conflict between people? What happens when people can't find a way to resolve their conflicts? Allow students to share their examples.
3. Relate student examples to the American Civil War in which two regions of the same country became so different from one another that they could not longer agree on politics, economics, and the issue of slavery. Because they couldn't find a way to resolve their differences, the southern states (Confederate States) decided to break away from the rest of the country and leave the United States.
4. Write the words **politics**, **economics**, and slavery on the board. Tell students that they are going to watch a short film and that while they watch the film, they need to look



and listen for evidence that politics, economics, and slavery were the causes of the civil war. Pause the film periodically to model.

5. Pass out/project Nystrom *Atlas of our Country's History*. Demonstrate how to create a Venn diagram (two over-lapping circles) and have students create one on their own paper. Label one circle "Northern States" and the other circle "Southern States." Direct students' attention to pages 50-52. Assign them to find as much information as they can that illustrates the similarities and differences between the two regions at the time of the Civil War. Record their findings on the Venn diagram (similarities should be listed in the overlap between the two circles).

6. Allow students to include information they learned from the video on their Venn diagram. Discuss as a class.

Assessment:

Designate (with signs) four different corners of your room: "Politics," "Economics," "Slavery," and "All Three Equally." Assign students to write a one-sentence statement about which of the topics was the greatest cause of the civil war. Explain that whatever cause they choose students must be able to support their argument with evidence from today's lesson. Have students stand in the corner that corresponds to their opinion. Move from each corner, allowing students 30 seconds to explain their reasoning/read their statement. If students are swayed by an argument/evidence they hear from another student, they can move to a different corner at any time (but must be prepared to explain what convinced them to change their mind).



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #2: How did division and conflict lead to Civil War in the 19th century?

Lesson Title: Perspectives on the Growing Conflict

SS Standard IV, Objective 2

Implementation Time: 60 minutes

Media Resources Needed: *A History of Us – Liberty for All* by Joy Hakim; *A History of Us – War, Terrible War* by Joy Hakim; website <http://pioneer.uen.org>

Resources Needed: “Perspectives on the Growing Conflict” handout; classroom timeline

Procedure:

1. Explain to students that different groups of people responded very differently to the growing political conflicts between the North and South. Just like people today who have different opinions on the government’s actions and Supreme Court decisions, people who lived before and during the Civil War had different reactions to what was happening at the time. Some of the groups with strong opinions were: **states’ rights advocates** (those who believed states had the authority to make decisions for themselves, even if it meant going against the federal government); **abolitionists** (northern and southern social activists working to abolish slavery in the United States); **slaveholders** (the few wealthy Americans, primarily in the middle and southern states, who relied economically on slave labor); **enslaved people** (those who were owned as slaves).
2. Divide students into cooperative groups of four students.
3. Assign each group member a letter (A-D). Instruct students to gather with the other students in the class with the same letter.
4. Give each group (A-D) a compromise or debate to research.



Group A: Compromise of 1850 (*Liberty for All*, pg. 164-165)

Group B: Kansas-Nebraska Act of 1854 (*Liberty for All*, pgs. 167-169)

Group C: Dred-Scott Decision of 1857 (*Liberty for All*, pgs. 172-173)

Group D: Lincoln-Douglas Debate of 1858 (*War, Terrible War* pgs 41-43)

5. Explain to the class that they must learn about these political debates and compromises in order to understand the Civil War and some of the issues that led to it. They can research using the books or the pioneer web site on the internet.
6. Give students 30 minutes to read, research, and fill out the “Perspectives on the Growing Conflict” handout.
7. Instruct students to return to their original groups and share the information they learned with the other group members. Each student should have a completed handout after listening to and gaining information from original group members.

Assessment:

List the compromises and the debates on the chalkboard. Have students come up one by one to write down one thing they learned about one of the political conflicts under the appropriate heading on the chalkboard; i.e., under the heading “Compromise of 1850” a student might write, “California was a free state.” Students must write something original and not repeat/rewrite what has already been listed. Add the most significant events to the classroom timeline.

Extension:

Assign students to find and read the original primary source document for each of the debates and compromises listed above. Report on interesting insights, facts, consequences and findings.



Perspectives on the Growing Conflict

Directions: Evaluate the perspectives different groups of people may have had on the political compromises and decisions that tried to keep the nation from civil war. Record your ideas in the appropriate boxes.

Document Perspective → ↓	Compromise of 1850	Kansas-Nebraska Act of 1854	Dred-Scott	Lincoln-Douglas Debate of 1858
States' rights advocates				
Abolitionists				
Slave holders				
Enslaved people				



Perspectives on the Growing Conflict – KEY (Possible Answers)

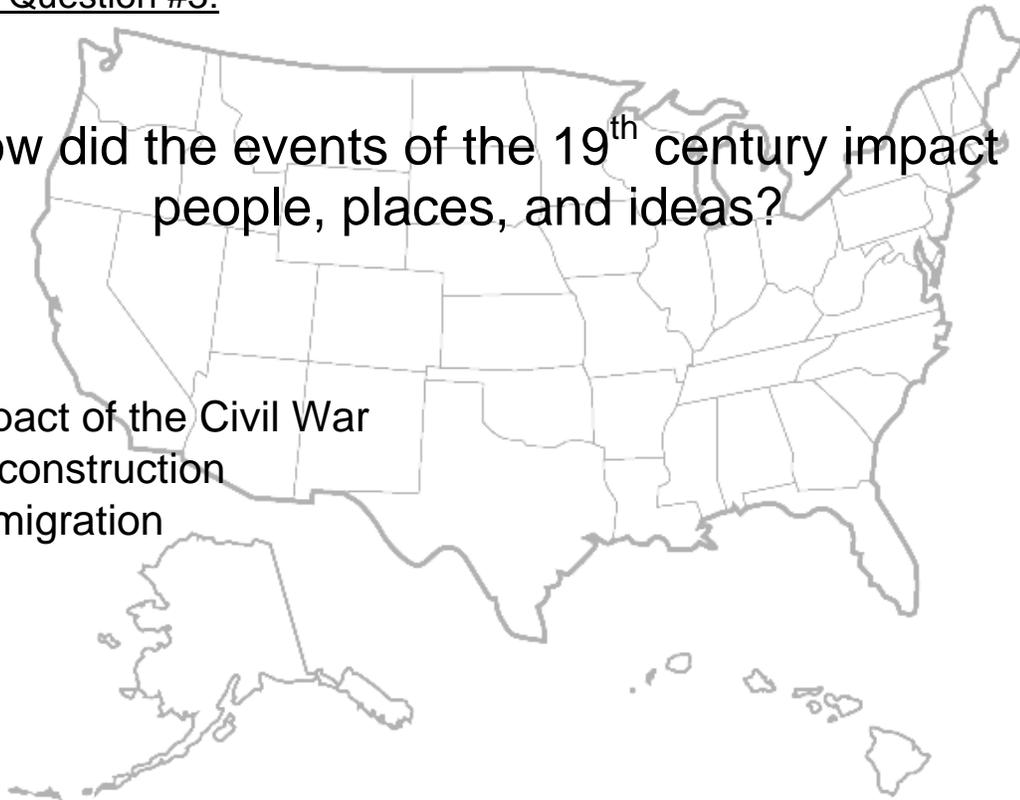
Document Perspective → ↓	Compromise of 1850	Kansas-Nebraska Act of 1854	Dred-Scott Decision of 1857	Lincoln-Douglas Debate of 1858
States' rights advocates	Positive – issues of slavery decided by popular sovereignty.	Positive – allowed slavery to be voted on by people in new territories. Voided Missouri Compromise of 1820; new states were not automatically free states.	Positive – didn't prohibit slavery in the North.	Positive – Douglas claimed the nation could be divided between slave and free states. Made it clear how divided nation was on slavery.
Abolitionists	Positive – California was a free state, no slavery. Slave trade (but not slavery) abolished in D.C.	Negative – allowed the opportunity for slavery to spread to new territories. Hastened the coming of the Civil War.	Negative – outraged abolitionists and their allies, strengthened their resolve and the Republican Party.	Negative – especially for southern abolitionists who wanted to end slavery in the entire country.
Slave holders	Positive – new territories could decide issue of slavery for themselves.	Positive – slave holders could move, expand into new territories.	Positive – Congress could not prohibit slavery in the territories.	Positive – allowed for the possibility that slavery could remain.
Enslaved people	Positive/Negative: The Fugitive Slave Act was strengthened (negative); slavery did not spread to all new territories.	Negative – allowed slavery and slaves to be moved into new territories.	Negative – declared no slave or descendent of a slave could ever be a citizen.	Negative – allowed for the possibility that slavery could remain.

Essential Question #3:

How did the events of the 19th century impact people, places, and ideas?

Lessons:

- Impact of the Civil War
- Reconstruction
- Immigration



Core Standards	
Social Studies	Science
Standard IV	
<input type="checkbox"/> 3a identify the key ideas, events, and leaders of the Civil War using primary sources (<i>examples may include:</i> Gettysburg Address, Emancipation Proclamation, news accounts, photograph records, diaries)	
<input type="checkbox"/> 3b contrast the impact of the war on individuals in various regions	
<input type="checkbox"/> 3c explain how the Civil War helped forged ideas of national identity	
<input type="checkbox"/> 3d examine the difficulties of reconciliation within the nation	
<input type="checkbox"/> 4a assess how the free-market system in the United States serves as an engine of change and innovation	
<input type="checkbox"/> 4b describe the wide-ranging impact of the Industrial Revolution (<i>examples may include:</i> inventions, industries, innovations)	
<input type="checkbox"/> 4c evaluate the roles new immigrants played in the economy of this time	



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #3: How did the events of the 19th century impact people, places, and ideas?

Lesson Title: Impact of the Civil War

SS Standard IV, Objective 3

Implementation Time: 45 minutes

Media Resources Needed: *Nystrom Atlas of Our Country's History*; *Pink and Say* by Patricia Polacco

Materials Needed: five poster-sized pieces of white butcher paper; markers, crayons, pencils

Procedure:

1. Activate students' background knowledge of the impact of war (Civil War) on people by reading *Pink and Say* by Patricia Polacco. Pause to discuss aspects of the book that discuss the various ways the war impacts the characters' lives (people, places, ideas). Clarify any questions students may have.
2. Divide the class into five groups. Assign each group one year of the Civil War: 1861, 1862, 1863, 1864, 1865. Write "Emancipation Proclamation (1863)," "Gettysburg Address (1863)," Lincoln's Second Inaugural Address (1865), and "the assassination of Abraham Lincoln (1865)" on the board. Explain that for the first two years of the war, the Confederacy (South) had the advantage. The turning point was 1863, after which the Union (North) was winning the war.
3. Using pages 52-55 of their atlas as a resource, assign each group to find as much information as they can about people, events, places and ideas pertaining to their assigned year. Students should read maps, timelines, charts, graphs, and captions to find information. Make a group list. Groups with 1863 and 1865 should include the information from above on their list.
4. Assign students to create a poster for their year. The year should be the title and the poster should include an illustration and a 3-5 word description of each event.



Assessment:

Direct students to prepare a 3-minute presentation of their information. Each student in the group must take part in the presentation and students must answer three questions from the audience. (Students watching the presentations should listen carefully and formulate authentic questions. Reward good questions from the audience that demonstrate good listening and thinking.)

Extension:

Assign students to find and read the primary sources of the Emancipation Proclamation and Gettysburg Address (<http://www.archives.gov>).

Assign students to find an age and content-appropriate historical fiction book on the topic of the Civil War (Granite School District Complimentary Classroom Reading Materials list and school librarians are an excellent resource) and share what they learned about the impact of the Civil War on people, places, and ideas.

Assign 5-6 students to read the same piece of historical fiction and create literature circles in which students discuss the book and then jigsaw to share with others who didn't read the same titles. Note: Students should have a during-reading assignment while reading independently. This will engage and guide their reading as well as prepare them to participate in literature circles.



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #3: How did the events of the 19th century impact people, places, and ideas?

Lesson Title: Reconstruction

SS Standard IV, Objective 3, 4

Implementation Time: 45 minutes

Media Resources Needed: *If You Lived at the Time of the Civil War* by Kay Moore

Resources Needed: “Finding Evidence” graphic organizer (1 per student); computer and LCD projector; classroom timeline

Materials Needed: paper, scissors, brown paper bags

Procedure:

1. Activate students’ background knowledge regarding the impact of the Civil War on people and places. Ask them to imagine how difficult it was for the United States to act as one nation after being split apart by war. Explain that the period after the Civil War (1865-1877) when the nation was rebuilding itself and its identity as one country is known as “Reconstruction.” Add dates to the classroom timeline.

2. Introduce vocabulary associated with Reconstruction:

Freedman’s Bureau: the agency to help former slaves learn a new way of life; gave out clothing and goods.

Black Codes: laws that restricted freed slaves from doing certain things in some states, including: voting, serving on juries, carrying guns.

Reconstruction: the rebuilding of the nation after the Civil War.

Carpetbagger: a derogatory term used for northerners who moved to the South after the Civil War.



Scalawag: a derogatory name given to southern whites who supported Reconstruction efforts.

Segregation: the separation of people by race.

Booker T. Washington: a black leader who established a vocational school to train blacks for practical jobs; author of the book *Up From Slavery*.

3. Read pages 60-64 of *If You Lived at the Time of the Civil War* by Kay Moore and discuss as a class both the good and bad economic and social conditions that existed during Reconstruction. Complete the graphic organizer as a class, with students recording ideas on their own copy.

Assessment:

Assign students to write the vocabulary words on small words strips and place them in a brown paper bag. Working in pairs, have students quiz one another by drawing a word out of the bag and giving clues as to what word they have. The student giving clues may not say the actual word or part of the word as his/her partner tries to guess.

Assign students to write an 8-10 sentence paragraph that compares one economic or social issue in the north and south during Reconstruction.

Extension:

Check out the *Civil War Primary Source Kit* from the GSD Teacher Media Lab and conduct primary source activities with students.

Assign students to find, research, and read President Abraham Lincoln's Second Inaugural Address. Address the following questions: *What was Abraham Lincoln's attitude toward the South at the end of the war? How did he think the defeated Confederacy should be treated by the North? How might Reconstruction have been different if Abraham Lincoln had not been assassinated?*

Finding Evidence



**Evidence of good and bad economic and social conditions after the Civil War:
NORTH**

Four empty circles arranged horizontally, intended for students to write evidence for the North.

**Evidence of good and bad economic and social conditions after the Civil War:
SOUTH**

Four empty circles arranged horizontally, intended for students to write evidence for the South.

Finding Evidence - KEY



Evidence of good and bad economic and social conditions after the Civil War: NORTH

There were more factories and immigrants. Crowded cities, poor working

There were more jobs available.

Newly invented machines made work easier and faster.

Low-pay workers could strike for more money, better working conditions.

Evidence of good and bad economic and social conditions after the Civil War: SOUTH

Cities and towns had to be rebuilt.

Farmland had to be reworked and planted without slaves; sharecropping for freed slaves

People had little or no money.

Freed slaves had no education, political recourse, or resources.



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #3: How did the events of the 19th century impact people, places, and ideas?

Lesson Title: 19th Century Immigration

SS Standard IV, Objective 4

Implementation Time: 45 minutes

Media Resources Needed: *If Your Name was Changed at Ellis Island* by Ellen Levine; *Nystrom Atlas of Our Country's History*

Resources Needed: Reading Guide (attached); classroom timeline; computer and LCD projector

Procedure:

1. Activate students' background knowledge about immigration. Ask them to brainstorm all the immigrant groups represented in the United States today. Project the graph on page 62 of the atlas and discuss the largest immigrant groups from 1890-1918. Note that the people in this immigrant group may have been the ancestors of some of the students in the class! Explain that we are a nation of immigrants, and that while the groups change with time, we have always been a nation of diverse people from different places in the world. Refer students to the beginning of the timeline, indicating the origins of some of the early settlers and explorers to illustrate the point.
2. Pass out/project the reading guide for *If Your Name Was Changed at Ellis Island* to each student. Review the information that students will be listening for as you read the book. Note: *Depending on your students, you may want to divide the questions, having some students listen for certain answers and then allow the class to share responses and complete guides during the discussion.*
3. Read the book aloud, allowing time for students to answer the questions. Remind students to be attentive as you read the book. Model the first two or three questions for the class.



4. Discuss with the class the questions as well as interesting facts or information they learned about immigrants. Discuss the reasons why immigrants came to the United States at the turn of the century, the role they played in the economy of the time, and why some immigrants had their names/spelling of their names changed when they came to the United States.

Assessment:

Class discussion and worksheet filled out correctly and turn in.

Reading Guide
IF YOUR NAME WAS CHANGED AT ELLIS ISLAND



1. What was Ellis Island?
2. Did all immigrants come through Ellis Island?
3. Why did people leave their homeland?
4. Why did people come to America?
5. What did people bring with them?
6. Were immigrants examined before they left Ellis Island?
7. How long would the ocean voyage to the U.S. take?
8. Would immigrants go straight to Ellis Island when they arrived in New York Harbor?
9. Where would you go when you landed on Ellis Island?
10. Who examined you at Ellis Island?



11. What happened if the doctors found something wrong with immigrants?
12. What kinds of mental tests were given to immigrants?
13. What did the legal inspectors do?
14. Did immigrants have to have any money when they arrived?
15. Did they have to have a job waiting for them?
16. Did they have to be able to read English?
17. What happened if they were detained?
18. How long would they stay at Ellis Island?
19. What was the “staircase of separation”?
20. Were there any special groups to help immigrants?
21. What impressions did immigrants have of Ellis Island?
22. How did people learn English?
23. Did immigrants ever return to the “old country”?
24. What did Americans think about the new immigrants?



25. What contributions have immigrants made **–then and now?**

26. Did some immigrants change their names when they came to America? Why?

27. When and why did Ellis Island close?



IMMIGRATION FACTS – Teacher Resource

Country	Number of People	Approx. Date	Reason
Russia	1,893-542	Early 1900s	Most were Jewish, left because they were seeking a home where they could work and worship in peace.
Ireland	420,904	Late 1800s/Early 1900/s	Escaping a potato famine in North Eastern cities.
Italy	2,502,310		Seeking jobs, many worked here for a period of time to get money and then returned. (New York)
Poland	153,444	After 1917 (End of WW II)	Escape political oppression, trying to find work. Many settled in Chicago.
Czechoslovakia	44,140	1918	Looking for work and leaving overcrowded cities and poor rural areas. Most settled in Midwest.
Denmark	99,414	Early 1900s	Wanted promise of independence and social mobility. Wages were extremely low. Many came to join the Mormon church. (Settled in Utah)
Germany	633,148	1892	Escape political unrest and poverty. Greater prosperity. Many settle in the Midwest.

Essential Question #4:

How did World War I, the Great Depression, and World War II change the United States in the 20th century?

Lessons:

- Social and Political Movements in the Early 20th Century
- The Great Depression
- World War II
- Civil Rights Movement

Core Standards	
Social Studies	Science
Standard V	
<input type="checkbox"/> 1a review the impact of World War I on the United States	
<input type="checkbox"/> 1b summarize the consequences of the Great Depression on the United States (<i>examples may include:</i> mass migration, the New Deal)	
<input type="checkbox"/> 1c analyze how the United States' involvement in World War II led to its emergence as a superpower	
<input type="checkbox"/> 2a identify major social movements of the 20 th century (<i>examples may include:</i> the women's movement, the civil rights movement, child labor reforms)	
<input type="checkbox"/> 2b identify leaders of social and political movements	



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #4: How did World War I, the Great Depression, and World War II change the United States in the 20th century?

Lesson Title: Social and Political Movements in the Early 20th Century

SS Standard V, Objective 1, 2

Implementation Time: 60 minutes

Media Resources Needed: *In Flanders Fields* by Norman Jorgensen and Brian Harrison-Lever; *A History of the US: War, Peace, and All That Jazz* (“War’s End,” “Fourteen Points,” “Another Kind of War,” and “Mom, Did You Vote?”) by Joy Hakim

Resources Needed: classroom timeline

Materials Needed: paper, pencils

Procedure:

1. Explain to students that you are going to read/show them a book and that you would like them to use details/evidence from the book to decide what war the book is about. Read *In Flanders Fields* aloud to students, stopping to point out details in the pictures that give clues to the context (bayonets, barbed wire, trenches, uniforms, technology, what the soldiers are doing to pass the time, etc.)
2. Explain that World War I was called “The War to End All Wars” and was a bloody war that engulfed Europe and the United States. World War I set the stage for World War II only twenty years later. World War II was a direct result of World War I.
3. Divide the class into four groups and assign each group one of the readings from *A History of the US: War, Peace, and All That Jazz* (titles notes above). Each student should choose 3-5 main ideas from their selection and one visual (photograph, political cartoon, picture, map, graph) that helps summarize their reading.



4. Jigsaw students into groups of four, with one student from each of the reading groups. Give students three minutes each to summarize the main points of the selection they read and to answer questions from their new group members.
5. Assign each group to determine which event had the most impact on the United States. Students must reach their decision by consensus and be prepared to share their reasoning with the class.
6. As each group shares, add events to the classroom timeline.

Assessment:

Using examples of political cartoons from the Hakim reading selections (page 32 is especially powerful), explain that political cartoons are meant to provoke emotion and thought on a particular topic through the use of humor or strong feeling. Assign students (alone or in their groups) to create a political cartoon on the event selected by their group for the classroom timeline. Political cartoons should be illustrated and should demonstrate understanding of the event's impact on the United States.



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #4: How did World War I, the Great Depression, and World War II change the United States in the 20th century?

Lesson Title: The Great Depression

SS Standard V, Objective 1, 2

Implementation Time: 45 minutes

Resources Needed: classroom timeline; copies of letters to Mrs. Roosevelt (1 letter per student)

Procedure:

1. Ask students to think about the word “depression.” What images come to mind? Explain (without alarming students) that an **economic depression** is a time of severe economic turmoil when unemployment is very high and people do not have money for the basic necessities of life. Explain that on October 29, 1929, the stock market crashed and suddenly people had to pay back all the money they owed the banks. Most people and businesses did not have the money to pay the banks back. Businesses close and people lost their jobs and homes. There was **mass migration** of people moving in search of jobs and better lives. When **Franklin Delano Roosevelt** became president in 1933, he created programs that helped people through these tough times. His plan was known as the **New Deal** and included programs such as social security and work projects that created jobs. This period known as the Great Depression lasted from 1929-1941 (approximately, World War II helped revive the economy). Point out this period on the classroom timeline. Draw comparisons between the Great Depression and the “Great Recession” of the 21st century.
2. Divide students into groups of four. Give each student a different letter from The Eleanor Roosevelt Papers. Explain that, during the Great Depression, people would write letters to the First Lady, Mrs. Eleanor Roosevelt, asking for her help. Often the letters (like these) were from children asking Mrs. Roosevelt to help them with the basic necessities of life.



3. Assign students to read their letter to Mrs. Roosevelt and identify the following: **age of the person writing the letter; where the person is from; reason for writing to Mrs. Roosevelt; what you can tell about the author from their letter; Mrs. Roosevelt's (or her personal secretary's) response, if any; and what the letters tell you about life during the Great Depression.** Explain that the letters appear as they did on the originals, including spelling errors.
4. Give students time to share their letters and responses with one another. Discuss as a class.
5. Explain that President Roosevelt also reached out to the American people during the Great Depression. He hosted weekly "Fireside Chats" in which he addressed the American people via radio (television had not yet been invented). Have the students sit together on the floor, simulating how children during the Great Depression would have sat around the radio to listen to the president speak. Play a recording of a fireside chat at <http://www.archive.org/details/fdrfiresidechat> - number 18 has relevance to modern economics. Let students listen as long as their attention allows; discuss what they heard and how the President's voice and words would have been a reassuring presence in difficult times. Compare this to President Barack Obama's weekly video addresses.

Assessment:

Assign students to write a letter to the current First Lady, addressing a social concern in modern American society. Brainstorm a list of relevant topics on which students may write, and require them to follow the formal letter-writing format. Mail letters to the White House in Washington, D.C. at:

1600 Pennsylvania Avenue NW
Washington, D.C.
20500



Dear Mrs. Roosevelt: Children's Letters to Eleanor Roosevelt

LETTER #1

Granette, Ark.
Nov. 6, 1936

Dear Mrs. Roosevelt

I am writing to you for some of your old soiled dresses if you have any. As I am a poor girl who has to stay out of school. On account of dresses & slips and a coat. I am in the seventh grade but I have to stay out of school because I have no books or clothes to ware. I am in need of dresses & slips and a coat very bad. If you have any soiled clothes that you don't want to ware I would be very glad to get them. But please do not let the news paper reporters get hold of this in any way and I will keep it from geting out here so there will be no one else to get hold of it. But do not let my name get out in the paper. I am thirteen years old.

Yours Truly,
Miss L. H.
Gravette, Ark.
R #3
c/o A. H.

Reply to the letter:

November 13, 1936

My dear Miss H:

Mrs. Roosevelt and her Secretary are away and in their absence I have been asked to acknowledge their mail.

I know Mrs. Roosevelt would be very sorry to hear of your difficulties. However, she would be unable to comply with your request as there are certain persons to whom she sends the clothing for which she has no further use.

Very sincerely yours,
[no signature]

LETTER #2

Centerdale R.I
April 17, 1938



Dear Mrs. Roosevelt

I am writing to you to ask a big favor, the biggest favor anybody can ask. I would like to know if you would pay my way to Hollywood. You may think me crazy but I not. I mean every word I say. I know you may write back and say, lots of people ask you to pay their way to Hollywood or for some other reason, but this is different honest it is you've just got to believe in me your the only one that can help. Or you may say what can I do child. Well you could tell them that you sent me and you know I can act, I'm sure they would believe you, because you tell no fibes. Just think wouldn't you be proud if I became a great movie Star and you would say to your friends, She's the little girl who wrote to me and asked if she could go to Hollywood. And I've helped to make her a great Star. I would like to tell you all this in person and then you could see me, but I have no money for carfare and I don't want you to bother to give it to me. My Little mother is a sickly lady, she is lovely so small and sweet I love my little mother dearly and I want to help her all I can so this is why I am writing to you, It will also give me a future and bring proudness to my relatives. My Little mother has something wrong with her heart which these small Doctors dont know although they do try their best. So I thought if I went to Hollywood and earned enough money I would be able to give my Little mother the best Doctors and proper care. I am not writing this letter to Mr. Roosevelt because men don't understand things like us laides do, so I am writing to you because I know you understand. I have read and heard so many nice [missing text]

I know I can act because I make little plays which I get out of story books and act them out. Please tell Mr. Roosevelt that I'm terribly sorry he lost that Bill. I think Mr. Roosevelt is doing wonders. Please be sure and tell him this, it will make him feel much better. I told some of my friends about my Idea but they only laugh at me, and I get discouraged but when I look at my Little mother I run upstairs in my room and cry. I have Mr. Roosevelt's picture in my room and his name in big read and blue letters. And when I looked at his picture it gave me an Idea and my Idea was writing to you. Please Mrs. Roosevelt answer my letter, and please oh please say yes that you'll try your hardest. God will never forget you in the next world. And what you do for your father and mother will never be forgotton. My father is also a sickly man, he had two nervous breakdowns but never got over the second one. But I am a healthy child. I am fourteen years old. blue eyes, about sixty in. tall, weigh 105 1/2 pds, hair is long and curly sort of natural the color is light brown my complexion is very white. I have big eyes. Please trust in me with all your heart and I will trust in you with all my heart. Please just for my Little mother. (That's what I call her because she



is so small.)

If you the Secretary should open this letter Before Mrs. Roosevelt please give it to her. Thank you.

A Little Girl who is still Unknown and Just Became Your Friend
J. I. A.

Reply to the letter:

April 25, 1938

My dear J. I. A.:

Mrs. Roosevelt asks me to acknowledge your letter to her. She is very sorry indeed that she cannot comply with your wishes, but owing to the large number of similar requests it is impossible for her to do as you ask.

Assuring you of her regret, I am

Very sincerely yours,
Malvina T. Scheider
Secretary to
Mrs. Roosevelt



LETTER #3

Metheun, Mass.
Mar. 31, 1935

Dear President and Mrs. Roosevelt.

The favor I am about to ask you is one which I consider a great one. I am asking if you could possibly send me a girl's bicycle. The school which I attend is very far and I am not very healthy I often get pains in my sides. My father only works two days a week and there are six in my family, it is impossible in almost every way that I can get a bicycle! I am in the eighth grade and am very fond of school. Sometimes I have to miss school on account of the walk so far. I have often thought things would pick up and father might be able to get me a bicycle, but instead they have grown worse. I assure you that the bicycle shall not be used as a pleasure but as a necessity.

I shall be waiting patiently, for my greatest wish to be granted, as I feel sure that you cannot and will not turn me down. Please try to send it to me.

I shall remain

Sincerely yours,
M. B.

Reply to the letter:

April 3, 1935

My dear Miss B.:

Mrs. Roosevelt has asked me to acknowledge your letter for her. She is very sorry indeed that she cannot comply with your wishes, but owing to the large number of similar requests, it is impossible for her to do as you ask.

Assuring you of her regret, I am

Very sincerely yours,
Secretary to
Mrs. Roosevelt
(M. L. T.)



LETTER #4

42-06 159 Street
Flushing, New York
Mar. 22, 1934

Dear Mrs. Roosevelt,

Please excuse the paper. I have never asked anybody for anything before and I feel kind of awkward writing this so please excuse any mistakes.

I am in the second term in Flushing High School and have managed to buy notebooks and pad so far. This being the spring term spring football is in session. This being my favorite sport I am trying out for the team. I managed to loan from a boy friend shoulder pad, helmet, and football pants but he didn't have any luck in securing a pair of football shoes. Practise started yesterday. I wore sneakers and had my ankle cut by a fellow with shoe's on. I came home last night and spoke to my parents about getting a pair of shoes.

I'm sure they would like me to have these but my father, who works three days a week makes only \$13.44 on the Long Island State Park Commission said we could not afford them.

I thought one of your sons may have an old pair of football shoes they do not use now. I wear size eight.

Please answer even if you can't do anything for me.

Thanking you in advance,
C. K.

[No reply available.]

Used with permission from The Eleanor Roosevelt Papers project at George Washington University,
www.gwe.edu/~erpapers





5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #4: How did World War I, the Great Depression, and World War II change the United States in the 20th century?

Lesson Title: World War II

SS Standard V, Objective 1

Implementation Time: 60 minutes

Media Resources Needed: Nystrom *Atlas of Our Country's History*; eMedia video *Freedom: A History of US – Depression and War* (Episode 12) – 25 minutes; encyclopedias, Internet, other resource books; computer and LCD projector

Resources Needed: classroom timeline

Materials Needed: paper, pencils, posters, student computers/computer lab (optional)

Procedure:

1. Activate students' background knowledge about World War I – “The War to End All Wars.” Explain that World War I paved the way for another global conflict only 20 years later, World War II, and the second world war helped end the Great Depression in the United States.
2. Show the 25 minute eMedia video *Freedom: A History of US – Depression and War*, stopping periodically to reiterate key ideas and address student questions. Highlight important dates on the classroom timeline.
3. Discuss the effects of the war and stress these key points:
 - Established the United States as a superpower
 - The war pulled America out of the Great Depression.
 - Japanese Americans were placed in internment camps.
 - New workplace opportunities for American women
 - Thousands of U.S. soldiers were killed.
 - Unleashed the terror of global destruction (the atomic bomb)



- The United Nations was formed. It is an international organization to keep the peace.
- The Cold War began.

4. Pass out the Nystrom *Atlases of Our Country's History*, turn to page 64. Read and discuss events and study the maps, graphs, and illustrations on pages 64-66.

5. Discuss the advances and changes in communication, transportation, technology, economics and medicine following World War II and stress these key points:

- Television – Instant global communication
- Satellite communication – aided spying during the Cold War
- Atomic/Nuclear Weapons
- Computers
- Jets
- Nuclear Submarines
- War Technology
- Military Installations
- Economy
- Health issues: polio vaccine, penicillin, new surgical techniques

Assessment:

Assign students to research the effects of World War II on the United States and its role as a world power. Give each student or pairs of students one of the bullets above and have them use the Internet, encyclopedias, atlases, and other resources to research information about their topic. Direct students to write a paragraph, make a poster, or show information on an overhead, power point, etc. to present to the class.

Extension:

Compare the American attitude toward entering World War II with modern attitudes regarding America's responsibility to protect and defend democracy outside the United States. Is war justified if it protects/promotes American interests? When is war not justifiable?

Evaluate the impact World War II had on the American home front. How did the war change attitudes toward: women in the workplace, minorities, national identity, America as a world leader? Visit the Library of Congress and National Archives websites to view primary source documents and war propaganda that helped influence American attitudes.



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #4: How did World War I, the Great Depression, and World War II change the United States in the 20th century?

Lesson Title: Civil Rights Movement

SS Standard V, Objective 2

Implementation Time: 45 minutes

Media Resources Needed: *Nystrom Atlas of Our Country's History*; *If A Bus Could Talk* by Faith Ringgold; *The Story of Ruby Bridges* by Robert Coles; *Civil Rights Movement* by Kevin Supples (extension only); *A History of US: All the People* by Joy Hakim (extension only)

Resources Needed: classroom timeline

Materials Needed: chart paper, markers

Procedure:

1. Explain to students that America's involvement in fighting the Nazis during World War II highlighted the inequalities that existed on our own home front. Many people began to wonder why we would fight in a world war to defend people from persecution in Europe, yet still allow segregation and persecution in the United States.
2. Project/direct students' attention to pages 68-69 in the atlas. Examine the geography and the events of the Civil Rights Movement from 1954-1968 (point out these dates on the classroom timeline). Ask students to share information/events/important places and people as teacher writes them on the board. As a class, decide on the most important events to include on the classroom timeline.
3. Read *If A Bus Could Talk* and discuss as a class.
4. Share the pictures from *The Story of Ruby Bridges* and ask students to make connections to the child's experience (text-to-self, text-to-world, text-to-text). Discuss.



Assessment:

Ask students to look at the classroom timeline you've been creating together all year and think about how much our nation and our democracy has grown and changed. Assign students to choose five events from the timeline that, in their opinion, have improved our democracy and explain their rationale.

Extension:

Using *Civil Rights Movement*, excerpts from *A History of US: All the People*, short media video clips and other subject-related texts and resources, assign students to create "stations" that follow the chronology of the Civil Rights Movement. Require each student/group to create an activity that accompanies their station and give the class time to visit each of the station.

Essential Question #5:

Why is the United States considered a world power and how does this status impact our role in the world?

Lessons:

- On the World Stage – the Power & Influence of the U.S.



Core Standards	
Social Studies	Science
Standard V	
<input type="checkbox"/> 3a assess differing points of view on the role of the U.S. as a world power (<i>examples may include</i> : influencing the spread of democracy, supporting the rule of law, advocating human rights, promoting environmental stewardship)	
<input type="checkbox"/> 3b identify a current issue facing the world and propose a role the United States could play in being part of a solution (<i>examples may include</i> : genocide, child labor, civil rights, education, public health, environmental protections, suffrage, economic disparities)	



5th Grade
Unit 6: Times of Change: The United States in the 19th &
20th Centuries

Essential Question #5: Why is the United States considered a world power and how does this status impact our role in the world?

Lesson Title: On the World Stage – the Power & Influence of the U.S.

SS Standard V, Objective 3

Implementation Time: 60 minutes

Resources Needed: variety of newspapers, news magazines, internet news articles

Resources Needed: classroom timeline

Procedure:

1. Activate students' background knowledge regarding the United States' rise to a world power. Remind students that World War II and its aftermath showcased America's wealth, strength, and influence. Today, the United States is a dominate world power with tremendous influence across the globe. With such power and influence comes great responsibility and not everyone likes the decisions and policies of the United States. Ask students to think of examples of when/how other countries or governments disagree with the United States.
2. In groups or pairs, have students search for articles and headlines that illustrate differing points of view on the role of the United States as a world power such as: **influencing the spread of democracy, advocating for human rights, promoting environmental/economic policies, economic/trade policies**, etc. Reference the classroom timeline to help students contextualize events and see relationships (cause and effect).
3. Discuss students' findings in a whole class discussion. Due to the politically sensitive nature of this subject matter, establish procedures for ensuring both sides of the issue and all perspectives receive equal time and attention. This may require the teacher to pose questions that provoke questions and highlight different points-of-view.



4. In small groups, have students identify one current issue facing the world today and problem-solve what role the United States could/should play in being part of the solution.

5. Assign students to create a three-minute “public service announcement” that highlights the issue and the role the United States and its citizens could/should play in the solution. Perform for the class.

Assessment:

Assign students to write an editorial to the local newspaper(s) explaining their view of the United States’ role in a current world issue OR assign students to write a letter to their representative(s) in Congress explaining the steps the student would like to see taken by the United States in regards to a current world issue. Mail the letters.

Extension:

Have students research one of the following topics and give an “update” on what role the United States is playing in the solution to the problem. Updates should be in the form of a news broadcast/news story and may address one of the following topics as appropriate to students: genocide, child labor, civil rights, education, public health, environmental protections, suffrage, economic disparities.