


2nd Grade

Renewable vs. Nonrenewable Resources

Eco-Energy for Schools



Unit Overview	
Unit Title	Renewable vs. Nonrenewable Resources
Unit Summary	Students will explore natural resources through Native American legends.
Subject Area Strands	Science – Earth Math – Measurement & Data ELA – Literature (Native American Legends) Social Studies – Culture
Grade Level	2 nd Grade
Approximate Time	12 Days

Lesson Foundation

	Common Core Standards	
Targeted Content Standards	<div></div> <div>Mathematics</div>	<p>CC 2.MD.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.</p> <p>CC 2.MD.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.</p> <p>CC 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p>
	<div></div> <div>English / Language Arts</div>	<p><u>Reading Strands for Literature</u> Key Ideas and Details:</p> <ul style="list-style-type: none"> • CCSS.ELA-Literacy.RL.2.1 Ask and answer such questions as <i>who</i>, <i>what</i>, <i>where</i>, <i>when</i>, <i>why</i>, and <i>how</i> to demonstrate understanding of key details in a text. • CCSS.ELA-Literacy.RL.2.2 Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral. • CCSS.ELA-Literacy.RL.2.3 Describe how characters in a story respond to major events and challenges. • CCSS.ELA-Literacy.RL.2.5 Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action. <p><u>Writing</u> Text Types and Purposes:</p> <ul style="list-style-type: none"> • CCSS.ELA-Literacy.W.2.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

TN Standards		
	Science	<ul style="list-style-type: none"> GLE 0207.7.3 Differentiate between renewable and non-renewable resources. ✓0207.7.3 Identify and categorize items in the classroom made from renewable or non-renewable resources. ✓0207.7.4 Identify simple methods for reusing the earth's resources.
	Social Studies	<p>Culture encompasses similarities and differences among people, including their beliefs, knowledge, changes, values, and traditions.</p> <ul style="list-style-type: none"> Students will explore these elements of society to develop an appreciation and respect for the variety of human cultures. Learning Expectations: <ul style="list-style-type: none"> Understand the diversity of human cultures. 1.02 Discuss cultures and human patterns of places and regions of the world. 1.03 Recognize the contributions of individuals and people of various ethnic, racial, religious, and socioeconomic groups to the development of civilizations. 2.3.02 Recognize the interaction between human and physical systems around the world. <ul style="list-style-type: none"> a. Analyze how individuals and populations depend upon land resources. b. Describe the importance of physical geographic features on defining communities. d. Understand the rudimentary elements to the hydrologic cycle. e. List earth's natural resources such as minerals, air, water, and land. <p>New Social Studies standards beginning 2014-2015 school year:</p> <ul style="list-style-type: none"> 2.2 Summarize stories from American Indian legends that reflect the cultural history of various regions in Tennessee and the United States to determine their central message, lesson, or culture.

	Next Generation Science Standards	<ul style="list-style-type: none"> ○ Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. ○ Plan and conduct an investigation collaboratively to produce \data to serve as the basis for evidence to answer a question. (2-LS2-1) ○ ESS1.C: The History of Planet Earth Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. (2-ESS1-1) ○ Scientists search for cause and effect relationships to explain natural events. (2-PS1-4)
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Lesson Foundation – Big Ideas & Cross-Curricular Connections

Natural resources are things that come from nature (plants, animals, soil, minerals, energy sources (e.g., sunlight, fossil fuels), air, and water). These natural resources are used to meet the needs of all living things, including people.

Lesson Foundation – Essential Questions

- What are natural resources?
- How can you tell the difference between renewable and nonrenewable resources?
- How can we use our natural resources wisely?

Lesson Foundation – Student Objectives

Going Beyond	<ul style="list-style-type: none"> • I can explain why it is important for people to use non-renewable resources (because they will run out) and renewable resources (because they can be killed off, overused, or polluted to the point of becoming unusable) wisely. • I can give examples of some materials that can be recycled: glass, some plastics, paper, aluminum, cardboard, and steel. • I can give examples of some materials that can be reused: paper bags, plastic jugs, jars, coffee mugs, plastic containers, etc. • I can give examples of renewing resources: replanting, reforestation, and composting.
Mastery	<ul style="list-style-type: none"> • I can identify natural resources, things found in nature. • I can explain that natural resources come from living organisms (plants, animals) or from nonliving things (soil, air, rocks/mineral and water) • I can sort natural resources as renewable and non-renewable based on whether the resource can be replaced by nature in a human lifetime (or a reasonable amount of time). • I can give examples of natural resource that human turn into products. • I can give examples of non-renewable and renewable resources. • I can describe the water cycle using the words evaporation, condensation, and

	<p>precipitation.</p> <ul style="list-style-type: none"> • I can define recycling. (collecting and returning materials to be manufactured into new products) • I can define reusing. (using an item again or finding new uses for them instead of throwing them away) • I can define reducing. (producing less waste by choosing to buy fewer products or buying less wasteful products to conserve natural resources) • I can give examples of recycling (paper, plastic, etc.), reducing (turning out the lights, using less water, riding bikes, carpooling, using mass transportation, buying products in bulk or with less packaging etc.) and reusing (grocery bags, containers, etc.)
Building the Basics	<ul style="list-style-type: none"> • I can define natural resource. • I can give 3 examples of natural resources. • I can tell the difference between living and nonliving things.
Lesson Foundations – Prerequisite Content & Skills	
Content Knowledge	<ul style="list-style-type: none"> • Identify the difference between living and nonliving • Identify needs
Skills	<ul style="list-style-type: none"> • Compare objects or items. • Compare objects or items. • Define a given content concept. • Provide examples that are related to content concepts. • Distinguish between a set of objects or items.
Unit Anchor Text	
Unit Anchor Text	<ul style="list-style-type: none"> • The Legend of the Indian Paintbrush by Tomie dePaola • Legend of the Bluebonnet by Tomie dePaola • Gift of the Sacred Dog by Paul Goble • The Buffalo Bird Girl by S.D. Nelson • When Clay Sings by Byrd Baylor • The Girl Who Loved Wild Horses • <i>“Strong Wind”</i> • Dragonfly’s Tale by Kristina Rodanas • Arrow to the Sun by Gerald McDermott
Unit Companion Texts	
Informational Text(s)	<ul style="list-style-type: none"> • Many Types of Farm Animals • Recycle! A Handbook for Kids by Gail Gibbons • Reading comprehension (nonfiction article) -2nd grade reading level http://www.k12reader.com/reading-comprehension/Gr2_Wk6_Limited_Resources.pdf • Reading comprehension (nonfiction article) -3rd grade reading level http://www.k12reader.com/readingcomprehension/Gr3_Wk13_Competing_for_Resources.pdf

Assessments

Formative Assessments

- Natural resource chart
- Graphs
- Science journal
- Foldable
- Observation of games and activities

Summative Assessments

Natural Resources Test

Name: _____

1. Which of the following is NOT an example of a natural resource?
 - a. Tree
 - b. Air
 - c. Water
 - d. Plastic
2. A _____ is something found in nature that is used to meet living thing's needs.
 - a. Soil
 - b. Rock
 - c. Natural Resource
 - d. Non-renewable Resource
3. Without _____, we would have no oxygen to breathe.
 - a. Trees
 - b. Water
 - c. Soil
 - d. Rocks
4. Which of the following is a good example of taking care of our natural resources?
 - a. Cutting down trees
 - b. Recycling
 - c. Littering
 - d. Polluting streams and Rivers

5. In your own words, what is a renewable resource? _____

6. In your own words, what is a non-renewable resource? _____

7. Complete the chart below:

Ways We Use Natural Resources

<u>Water</u>	<u>Air</u>	<u>Plants</u>	<u>Animals</u>	<u>Sun</u>	<u>Soil, rocks, minerals</u>
1.drink	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.

Extended Response

8. Draw a diagram of the water cycle. Use the words evaporation, condensation, and precipitation in your diagram.
9. Imagine you are in charge of saving the rainforest. In your own words, explain at least two reasons why people should stop cutting down the trees in the rainforest. Use specific examples.

10. Write about 3 ways people can make good use of natural resources.

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Writing Assessments	<ul style="list-style-type: none"> • RAFT • Journal • Poem
Unit Vocabulary	
Term	Definition
Natural Resources	Natural resources which can be replaced naturally within a fairly short time (plants, animals, water, air, sunlight, wind...)
Renewable Non-renewable	Natural resources are ones that have a limited amount and take millions of years to replace (minerals, natural gas, coal, oil...)
Energy	Usable power for doing work
Fuel	Material used to produce heat or power
Solar Power	Conversion of sunlight into electricity
Wind Power	Conversion of wind power into usable energy
Hydropower	Electricity generated using the energy of moving water
Nuclear	Energy produced by an atomic reaction
Coal	A black or dark-brown burnable mineral that can be used as a fuel
Natural Gas	Naturally occurring flammable gas, which is found underground and used as fuel
Oil (Petroleum)	A thick, black liquid that comes from the ground and that is used in making various products like gasoline
Fossil Fuels	A natural fuel such as coal or gas, formed a long time ago from the remains of living organisms
Recycle	Converting waste into reusable material
Reuse	To use an item again after it has been used
Conserve	To use wisely to save or protect
Product	Something produced (made) by humans
Water Cycle	Sunlight evaporates water that condenses to clouds that produce rain that falls back on land, flows to the ocean or lake and then evaporates again.
Legend	Stories that have been orally passed down through the years

Teaching the Unit

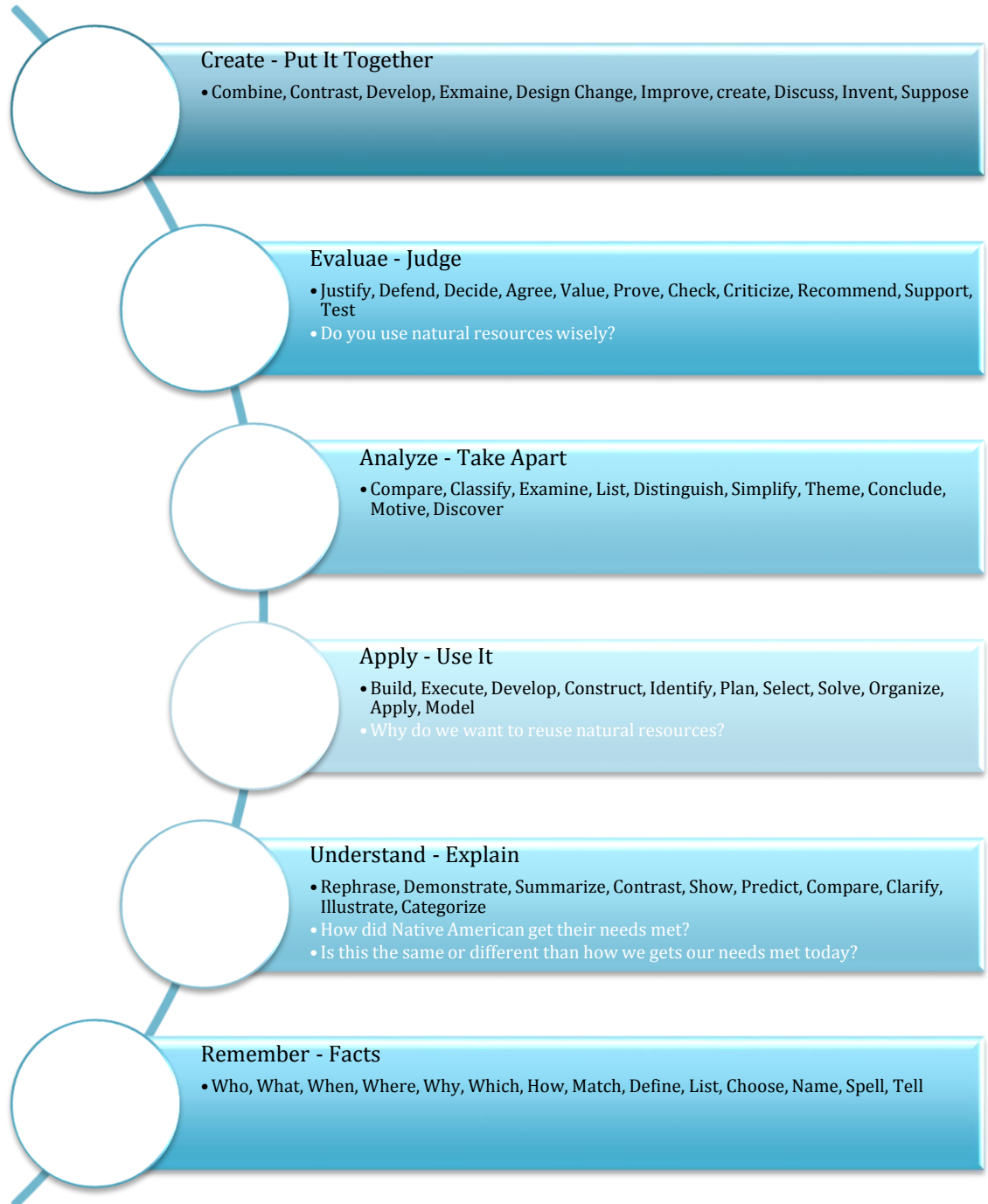
Initial Strategies

Each natural resource will be introduced and discussed in the context of a Native American legend.

Direct Instruction

- Book Talks
- Graphic organizers
- Demonstration
- Hands on
- Peer collaboration
- Projects

Higher-Level Cognitive Function Strategies



Lesson One: Natural Resources

EQ: What are natural resources?

- I can define natural resources, things found in nature.
- I can identify natural resources.
- I can explain that natural resources come from living organisms (plants, animals) or from nonliving things (soil, air, rocks/mineral and water).
- I can explain that humans take natural resources and turn them in products.
- **Introduction Activity/Activating Strategy:**
 - Watch Brainpop Jr video on Natural Resources.
 - <http://www.brainpopjr.com/science/conservation/naturalresources/>
 - As a class, have students “take/discuss” online “easy” quiz.
- **Instruction**
 - In pairs or small groups, have students brainstorm ways they use natural resources from each of the 6 sources.
 - Hand out Natural Resource Use Chart and allow students time to brainstorm.
 - Natural Resources (sample complete)
 - Earth provides people with many **natural resources**.
 - In the boxes below list or draw some ways that you use some basic natural resources.

Water	Air	Soil
Drinking Bathing Brushing teeth Washing clothes Washing dishes Watering plants Animals' drinking water Aquarium	Sail boats Kites With fans to cool off	Growing plants
Rocks/minerals Roads Cement Bricks Oil	Animals Food Clothing (leather) To get work done fertilizer	Plants oxygen Food Clothing Compost Paper Furniture

- Have groups share their brainstormed lists with the class. Students can add to their own list as they hear new ideas.
- Read Aloud: **The Legend of the Indian Paintbrush**
(<http://app.discoveryeducation.com/search?Ntt=legend+of+indian+paintbrush>) (6:26)
- Explain to students that you are going to read a type of story called a legend. Legends are stories that have been orally passed down through the years. This means that stories are told aloud and passed down by word of mouth. Before society had the tools to write and copy books, stories had to be remembered and retold to children. When those

Guided Practice & Activities

children grew up, they would retell the story to their children.

- Legends are told in many cultures. A culture is the food, activities, practices, and beliefs of a group of people. People who come from the same culture might celebrate the same holidays or practice the same religious traditions. They might eat the same foods and wear the same style of clothes. They will also tell each other the same tales or legends from their culture.
- Legends also have a magical or mystical event(s). Create a chart and add to chart during the unit.

Characteristics of a Legend	Story examples
1. Stories have been told orally for many years.	(add after you the story) The Legend of the Indian Paintbrush
2. Have cultural details	The Legend of the Indian Paintbrush Shaman, painting on animal skins,
3. Magic or mystical happenings	

- Read story aloud.
- While reading stop periodically and make predictions about what will happen. Discuss the main character.
- After the read aloud, remind students what sequence means. (Putting things in order. We sequence in math –counting, we can sequence months and years, directions, etc.)
- We are going to put the events from our story today in order. What words would help us talk about order?
- (Brainstorm list with students: first, next, then, last, finally, after, etc.)
- We are only going to use the “big events” from the story. Putting events in order helps us summarize.
- Teacher records students “events” on board or chart paper in order.
- Frozen Statue:
- Put students in pairs and assign each group an event from the story. Students will have 4 minutes to create a “frozen statue” scene of the event.

Little Gopher could not keep up with the other boys in his village
Little Gopher talks to the Shaman
Little Gopher went out to the hills alone and had a dream vision. A young Indian Maiden and a Grandfather spoke to little Gopher and told him he would paint. The Maiden told him to find a pure white buckskin.
Little Gopher made paints from plants and brushes from animal fur.
Little Gopher painting pictures of great hunts and dreams.
Little Gopher found a pure white buckskin.
Little Gopher is not satisfied with the colors in his paintings.
One night Little Gopher hears a voice that tells him where to find what he needs.
Little Gopher goes to the top of the hill and found the colors of the sunset he needed for his painting.
Little gopher paints the colors of the sunset.
Little Gopher leaves the paintbrushes on the ground

In the spring the paintbrushes bloom into beautiful flowers.

- When students are finished, discuss (as a whole class) the order of each frozen scene. It may be helpful to start with beginning, middle, and end categories and then fine tune the order of events as you add to the sequence. Place scenes in order and act out. Point out time and order words when sequencing the story.
- Paper Bag Skin Sequence of Events
- Each student will get a “skin”. (Prepare paper bag skins ahead of time-one per child. Cut the bottom off the paper bag and slit the side, so it becomes a sheet. Cut the border of the paper bag to make it look like a skin.)
- Students will use the skin to draw and write the sequence of events for the story on the “skin”.
- Discuss how the Native Americans used natural resources to meet their needs.
- Little Gopher made his paints from different plants. The buckskin is the skin of an animal. They hunted buffalo for food and clothing.....
- Have students complete the graphic organizer This can be added to throughout the unit):

Needs	Food	Shelter	Clothing	Entertainment
How the Native Americans met their needs				

- Then use the graphic organizer to write about how the Native Americans were able to meet their needs with natural resources.
- Extension: The children could experiment with plants or spices like turmeric, onion skins, dandelion root, red cabbage, sunflower petals, etc. for color/paints.

Lesson Two

Renewable Vs. Nonrenewable

Renewable Resources

The sources of renewable energy are all around, all around us in nature. These renewable resources help to meet the energy needs of the people of the world. Resources

that are renewable are those that can be replaced as they are used up.

We find that the most sources of renewable energy are water, wind, and sun. They are all around us! The water cycle helps to make water a renewable resource. The sun helps to keep our planet warm and is always out in space. Soil and air are also renewable resources.

Other renewable resources are natural garbage, such as manure, sawdust, and tree branches. These things found in nature can be turned into fuels and electricity. These resources are known as biomass.

Benefits of Renewable Energy

The sun has far more energy than the world could ever use. Clean and renewable sources like the sun can use their natural heat to help us produce electricity. At the same time the planet is not hurt. Also, many renewable sources of energy are available to everyone and there is not much cost with them.

Nonrenewable Resources

The use of nonrenewable resources is much more common around the world than using renewable resources. Also, using nonrenewable resources can hurt the environment. We also know that there is a limited supply of these kinds of resources. Because of that, it costs more to use these nonrenewable resources.

Some examples of nonrenewable resources are oil, coal and gas. Once the oil is taken from the ground it is used up. It takes millions of years to replace. The same is true with coal and gas.

Benefits of Nonrenewable Energy

Even though many people in the world are using nonrenewable resources, they are still pretty plentiful in the world. Many countries around the world have large amounts of oil, coal, and other minerals that can be used for commercial and industrial use.

What do these resources give us?

Electricity can be made from renewable or nonrenewable resources. Water can give us electricity and we call that hydroelectric power. The sun can give us electricity and we call that solar energy. When we use electricity from renewable resources gasses that hurt the planet are not created. That is why it is better for the planet to use renewable resources.

Lesson Three: Water

EQ: How do we use water as a natural resource?

- I can identify natural resources, things found in nature.
- I can give examples of how water is used as a natural resource.
- I can describe water cycle using the words evaporation, condensation, and precipitation.
- I can make a model of the water cycle.

Introduction:

- **Read: The Legend of Blue Bonnet**

- Before you read:

This story is based on a true experience of the Native Americans from Texas, who lived through a terrible drought. A drought is when there is not enough rain to help things grow and for people to drink. In the past, there were not grocery stores where you could go to buy water, or a city that provided water for your house. People got their water from the rain or from rivers and lakes. A drought was very deadly because human beings need water to survive

- **After you read:**

- **What is a famine?**
 - **Why is there a famine?**
 - **What natural resource do the people need?**
 - **Give 3 examples of how the people use natural resources.**

Students need to be familiar with a retelling and the elements that make a retelling successful. They should understand the importance of main characters, setting, problems and solutions, important events, and sequence of events in a story. Students should also be able to compare literature to other literature sources and/or make connections to previous experiences.

Ask the following question to help prepare student to complete the graphic organizer and retelling of the story.

- Who was the main character?
- What was the setting of the story?
- Was there a problem in the story?
- What happened first?
- What happened in the middle of the story?
- How was the problem in the story solved?
- What happened last?
- Does this story remind you of another story you have read?

Have students complete the plot graphic organizer.

Discuss “She Who is Alone’s” most precious possession? Reread the section of the story that describes the doll. List the characteristics of the doll. Give students a “paper doll” and have them make the doll. Then give students paper to draw their most prized possession. Complete a Venn diagram comparing the doll and their personal prized possession.

Discuss how important water is as a natural resource. The lack of rain caused a drought in the story. All living things need water.

Where do we get water?

Humans and animals rely on fresh clean water. In fact, we depend on all of our water resources, both fresh and salt, and on the animals that live in them. As our population grows, our water resources are exposed to increasing levels of pollution.

- **River:** A flowing body of water in which water travels from one location, usually a lake, to an ending point called a mouth, which is found where the river meets a larger body of water such as another river, a bay or an ocean. Rivers are resources because they provide people with a way to transport goods, water for drinking, are sources for food, and are used for recreation.

River water is fresh until the river runs close enough to an ocean or bay to be affected by tides. At that point rivers have a mixture of fresh and salt water.

- **Lake** – A body of water that is usually fresh. Some are man-made others are formed by nature. Lakes are considered resources because they provide sources of food, water and recreation.
- **Ocean-** An ocean is a huge body of salt [water](#). Oceans cover nearly 71 percent of Earth's surface. They contain almost 98 percent of all the water on [Earth](#). There are four main oceans on Earth: the [Pacific](#), the [Atlantic](#), the [Indian](#), and the [Arctic](#). These oceans have no real borders, and water flows freely between them. Smaller parts of these oceans are called seas, gulfs, and bays.

- **Where does the rain go?**
During or after a rain, follow runoff from various locations around the school, including wooded area, playing field, and parking lot. Follow runoff as far as is practical. Predict and try to follow path of storm sewers. Research where it goes.
- Video: to show water cycle

<http://www.youtube.com/watch?v=ZzY5-NZSzVw>

<http://www.brainpopjr.com/science/weather/watercycle/preview.weml>

- The water cycle is the movement of water from the ground to the air and back to the ground by evaporation, condensation, and precipitation. The energy that drives this cycle comes from the sun. During the water cycle, liquid is heated and changed to a gas (water vapor) this is called evaporation. The gas (water vapor) is collected in the sky (clouds), is cooled, and changed back to liquid. This process is called condensation. Water as a liquid or solid (snow) that falls to the ground is called precipitation.
- Water cycle experiment (over a 3-7 day time period):
<https://www.cape.k12.mo.us/blanchard/hicks/News%20Pages/Mini%20Water%20Cycle.pdf>

- Have students complete the water cycle craft activity.
- Discuss the ways we use water. Have students brainstorm ways they use water at school and at home. This chart can be used for math word problems:

Shower	20 Gallons
Bath	35 Gallons
Washing hands	5 Gallons
Brushing teeth (with faucet on)	5 Gallons
Brushing teeth (faucet off)	2 Gallons
Flushing toilet	20 Gallons
Dishwasher	10 Gallons
Hand washing dishes	20 Gallons
Leaking faucet	20 Gallons

- Students can keep a water use journal at home as well.
- Poetry: Read poem to students. Have them write their own water is special poem.

WATER IS VERY SPECIAL

Water is in drippy drops,
Water is in soapy mops,
WATER IS VERY SPECIAL.

Water fills swimming pools,
Water fills fishes schools,
WATER IS VERY SPECIAL.

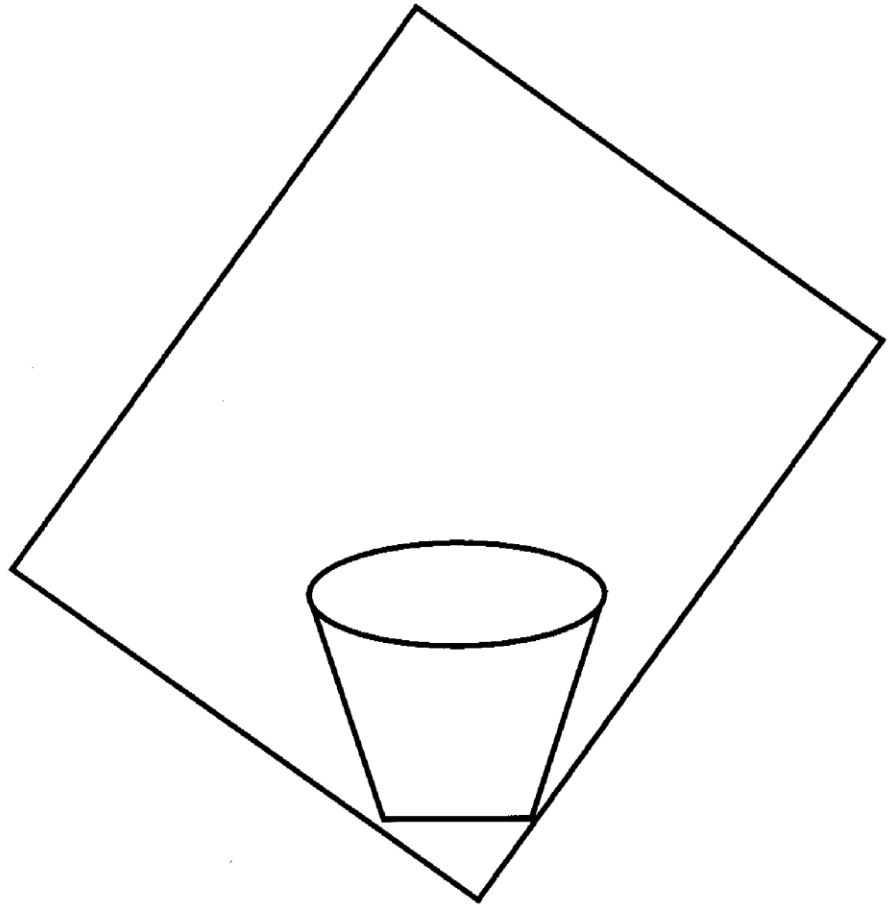
Water makes spaghetti floppy,
Water makes puddles sloppy,
WATER IS VERY SPECIAL.

Water keeps us all alive,
It's necessary to survive,
WATER IS VERY SPECIAL.

- Math: have students keep track of weather and create a bar graph.
- Computer activity:

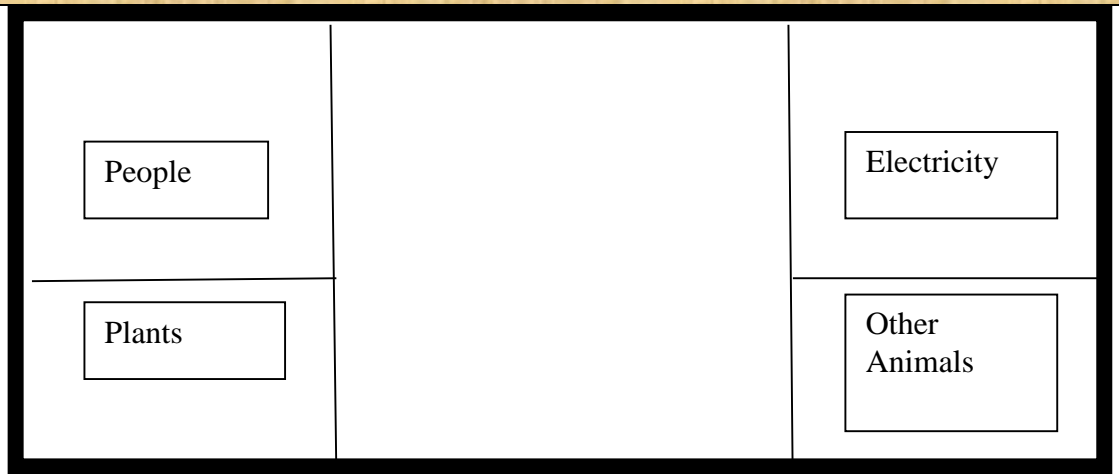
<http://www.turtlediary.com/grade-2-games/science-games/the-water-cycle.html>

On the picture below, color in where the water is at the end of the experiment. This is the **result** of the experiment.



Name the two stages of the water cycle that took place during our experiment.

- **Read Water Natural Resource article.**
- **Create water foldable.**
- **Use a piece of white paper (8 ½ X 11) Landscape. Shutter fold.**
 - **Outside**



○ **Inside**



Lesson Four: Animals

EQ: How do human use animals?

- **I can identify natural resources, things found in nature.**
- **I can give examples of how animals are used as natural resources.**
- Read: The Gift of the Sacred Dog (Other Native American Legends that could be read with this topic: The Buffalo Woman and The Girl Who Loved Wild Horses)
 - Make sure the students understand that the “sacred dogs” were really horses. Discuss the meaning of “sacred” and why the people referred to the horses as “dogs.”
 - Discuss how the introduction of the horse to Plains Indian cultures changed their lives.
 - After reading The Gift of the Sacred Dog discuss story and model a story pyramid. Then have students complete their own story pyramid:
<http://contentreadingwriting.wikispaces.com/file/view/Story+Pyramid.pdf>
 - Ask students how many of them are wearing cows (leather). How many are wearing sheep (wool)?

- Humans use animals for food and clothing and to learn from and to appreciate. The droppings of some domesticated animals are used as fertilizer. Humans also use animal products in medicines.
- Read: Many Types of Farms-Animals article.
 - Have students complete the animal resource product match worksheet.
- Math:
 - Measuring with hands (worksheet)
<http://oklahoma4h.okstate.edu/aitc/lessons/primary/handy.pdf>

Lesson Five: Plants

EQ: How do people use plants?

- **I can identify natural resources, things found in nature.**
- **I can give examples of how plants are used as natural resources.**
- Plants are an important resource for people, animals, and in nature.
- Plant provide oxygen, homes, food for many animals, many useful products, and help reduce erosion.
- Read: Buffalo Bird Girl
 - Discuss the importance of plants to Buffalo Bird Girl and her people. How do we use plants today?
 - **Wild Plants** – They grow naturally and spread naturally. They’re not planted by people. Our main wild plant resource is timber (trees).
 - **Domestic Plants** – These are the ones we grow on purpose, usually on farms for food. Some examples are corn, tobacco, soybeans and apples.
- Trees provide wood for many industries including construction and furniture manufacturing. Wood pulp from ground up trees is used to make paper products. Most of our wood comes from cultivated forests those are ones that have been planted and grown by tree farmers. Some timber is still cut in natural forests, but large areas of natural forest are protected and managed for recreational use.
- Hunt for things in the school and at home that are made from plant products.
- Sort- Provide students with various materials (rubber bands, erasers, toothpicks, spices, fruit soap, cork, tea, etc.) and ask them to classify them as plant products or non-plant products. (All of the products should be plant products, but allow them to try to sort them.)
- After children have had an opportunity to sort them, go through the items with students and explain how all of them are plant products.
- Review Activities:
 - Bingo with related vocabulary
 - Matching game - plant part to plant product

- **Outdoor Activities:**
 - *investigate acorns
 - *in the garden-grow a plant
 - *learn about school yard “weeds”
 - *plant ground cover on eroded site.
 - *observe a snag to see what animals use it
 - *look under a log for organism
- **Discovery Education:**
 - Plants in our Daily Lives [video segment]. (Gr. K-2). Run time: 3:47
 - The Plant Life Cycle and Us [video segment]. (Gr. 3-5). Run time: 2:38
 - Farming and Agriculture - Potatoes. (Gr. K-2). Run time: 1:00:
- **Math:** Use the dates and events in the back of the book to create a timeline.

Lesson Six: Soil, Rocks, and Minerals

I can identify natural resources, things found in nature.

I can give examples of how soil, rocks, and minerals are used as natural resources.

- Watch Brainpop Jr Pueblo video
<http://www.brainpopjr.com/socialstudies/nativeamericans/pueblo/>
- **Native American used soil, rocks, and mineral. Look at soil, rocks, and mineral:**
<http://web.compton.k12.ca.us/pages/departments/Curriculum/PDF/2ndGradeSciUnitC.pdf>
- **Soil and Land**
Fertile, productive land is used by farmers use to produce a wide variety of crops.
- **Mineral Resources**
Some natural resources under the ground:
 - **Coal** is mined in the mountains in the southwestern part of the state and used as fuel to generate electricity.
 - **Limestone** and **Granite** are dug form deep pits called quarries and used as building materials.
 - **Sand** and **gravel** are also dug from pits and used in building materials and in road construction.
- Native American used rocks and minerals for: mortar and pestle, tools, arrow heads-flint and obsidian, tomahawks-iron and obsidian, sharp edge for tools, bowls, pipes, jewelry and decorations, clay to make pots, etc. flint to start fires,
 - Connect -Buffalo Bird Girl. How did Buffalo Bird Girl’s people use soil/ground for housing and storing food?
 - Read: When Clay Sings
 - Discuss the story emphasize that clay cannot actually speak or sing, but the design of pottery can tell us about the person who made the pottery and about that person’s surroundings.
- **Teacher share 3 items or symbols of him/herself in paper bag to share with the**

class. What do three item/symbols tell you about the teacher? If you were going to put three items in a paper bag to represent you, what would they be? Discuss and share. (This could be a homework assignment the day before to introduce the lesson.)

- Students are going to make a clay pot and decorate it with symbols that represent themselves. Choose you symbols wisely.
- Historians (people who study history-the past) uncover stories of the past by asking who, what, when, why, where, and how

Take trip outside:

- Materials
 - Shovel with long straight blade
 - Measuring tape or ruler
 - Data sheet and pencil
 - Water spray bottle
 - Trowels (for those not using shovel)
 - Plastic sandwich bags, markers, and newspaper for desks (if bringing samples inside)
- Procedure
 1. Find a place outside to dig a small pit. Be sure to get permission!
 2. Observe and write down information about the site.
 - Location: What building or road is it near? Whose property is it on?
 - Vegetation: What types of plants are growing or have grown there?
 - Topography: What is the general shape of the land (flat, hilly, etc.)?
 3. Make a table on your data sheet that looks like this:

Horizon	Depth	Color	Texture	Organisms
Topsoil				
Subsoil				

4. Dig carefully until you reach the subsoil. How do you know? Something about the soil will change, most likely the color, and maybe also the texture. Dig into the subsoil for a sample of that too. (The term "subsoil" is used here to mean any soil beneath topsoil. Technically, what is under the topsoil might not be subsoil.)
5. Measure how deep the topsoil is, and write it down in the depth column of the table. Be sure to write down the units (centimeters or inches). Then measure how deep the pit is and write down that depth for the subsoil.
6. Get a good handful of topsoil. (If bringing samples inside, place topsoil in a plastic bag and label it.) Evaluate and write down these properties:
 - Color: Use words like dark brown, light brown, yellowish brown, or reddish brown. Some soil might also be black, gray, yellow, or orange.
 - Texture: Spray water on the soil to help you feel the texture. Pick sandy, clayey, or loamy. Sandy soil feels gritty and does not stick together well. Clayey soil is sticky. Loamy soil is between sandy and clayey. (Loam is not related to amount of organic matter.)
 - Living Organisms: Did you find any worms, ants, or other organisms? Don't

forget plant roots and seeds.

7. Get a good handful of subsoil. (If bringing samples inside, place subsoil in a labeled bag.) Write down subsoil color, texture, and living organisms as you did for topsoil.
8. Consider: How is topsoil different from subsoil? Which one has more organic matter? (Hint: Which one has a darker color?) Which one has more living organisms? How well do you think topsoil and subsoil hold water? How easy do you think it is for air, water, and plant roots to move through topsoil and subsoil? Does this soil get wet for a long time? (Hint: If the subsoil is gray, it probably stays wet for a long time.) And what do you think would be different if you dug somewhere else? Give it a try sometime.

Note for teachers: If you dig a small pit in advance near the school, this approach can work well for a whole class. It's best to have a smooth vertical face on one side of the pit for measuring depths. It is also helpful to pile up some subsoil for student sampling.

- Have students complete foldable. Ways We Use Soil and Rocks.
- Label the outside “petals” soil, rocks, and minerals. Under the petal write how the resource is used.
- <http://www.paperandmore.com/content/pentagon-petal-card-template>
- soil-growing plants
- rocks-jewelry, roads, buildings arrow heads, tools,
- Fossil Fuels—Fossil fuels include crude oil, coal, and natural gas. The fossil fuels we are using now originated from partially decayed plants and animals that lived millions of years ago. In this unit students are introduced to crude oil. The crude oil that we are presently using came from marine plankton that lived millions of years ago. These marine plants died, and through time and tremendous pressure and heat created by layers of rock that trapped the plants, crude oil was formed.

Lesson Seven: Air

EQ: How do we use air?

- Tell the Story of Strong Wind
Strong Wind – a Native American Cinderella story
Posted on July 2, 2011 by The Henry Brothers



- **Strong Wind**

Once there was a great warrior named Strong Wind. He lived with his sister in a tent on the shore of the Atlantic Ocean. Strong Wind had an amazing power. He was able to make himself invisible. His sister could see him, but no one else could. He said he would marry the first woman who could see him as he came home at the end of the day.

Many women came to the tent to watch for him. When his sister saw him coming, she would ask, 'Do you see him?'

Each girl would answer, 'Oh, yes! I see him!'

Then Strong Wind's sister would ask, 'What is he pulling his sled with?'

And the girl would answer, 'with a rope' or 'with a wooden pole.'

Then Strong Wind's sister would know that they were lying, because their guesses were wrong. Many tried and lied and failed. For Strong Wind would not marry anyone who was untruthful.

A chief lived in the village. His wife had died, but he had three daughters. One was much younger than the other two. She was gentle and kind and beautiful, but her sisters were jealous of her and treated her badly. They cut off her long black hair and they made her wear rags. They also burned her face with coals from the fire to make her look ugly. And they lied to their father and said that she had done these things to herself. But she remained kind and gentle and went about her work with a patient heart. The two older sisters also went to try and see Strong Wind. When he was coming Strong Wind's sister asked them, 'Do you see him?'

'Oh, yes! I see him!' each of them answered.

'What is his bow made out of?' asked Strong Wind's sister.

'Out of iron,' answered one. 'Out of strong wood,' answered the other.

'You have not seen him,' said Strong Wind's sister.

Strong Wind himself heard them and knew that they had lied. They went into the tent but still they could not see him. They went home very sad.

One day the youngest daughter went to try and see Strong Wind. She was wearing rags, and her face was covered in burns. As she went along the road, people pointed and laughed at her, but still she continued on her way. When she got to Strong Wind's tent she waited.

When Strong Wind was coming, his sister asked the girl, 'Do you see him?'

'No,' the girl answered. 'I do not see him.'

Strong Wind's sister was surprised because the girl had told the truth. 'Now do you see him?' asked Strong Wind's sister.

'Yes,' answered the girl. 'Now I do see him. He is magnificent.'

'What is his bow made of?' asked Strong Wind's sister.

'The rainbow,' answered the girl.

‘And what is the bowstring made of?’ asked Strong Wind’s sister.

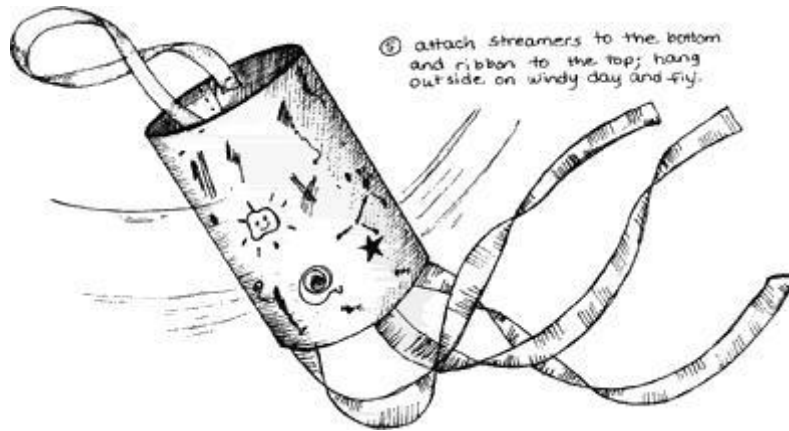
‘Of stars,’ answered the girl.

Then Strong Wind’s sister knew that the girl could really see him. He had let her see him because she had told the truth.

‘You really have seen him,’ said Strong Wind’s sister. Then the sister washed the girl, and all the burns went away. Her hair grew long and black again. The sister dressed the girl in fine clothes. Strong Wind came and the girl became his wife.

The girls’ two older sisters were very angry, but Strong Wind turned them into aspen trees. Ever since that day, the leaves of the aspen tree tremble with fear whenever he comes near, because they know he remembers their lying and their meanness.

+++++



- Make a sequence of events windsock. On a piece of construction paper write the title of the story, draw the main characters, and other symbols that represent the story. Roll the paper into a cylinder and glue (staple). On two inch strips of paper (thin copy paper) write the events of the story and glue (or staple) them in order around the cylinder. Punch hole in cylinder and add string to hang windsock.
- What is wind?
- Video clip: <http://www.youtube.com/watch?v=uBqohRu2RRk> (1:45 min.)
- Air may not seem like anything at all. In fact, we see right through it all the time, but when there is a windstorm, air gets noticed. Wind can blow down trees and power lines, and it can also lift things in the air. Wind is simply air in motion. It is caused by the uneven heating of the Earth's surface by the sun. Because the Earth's surface is made of very different types of land and water, it absorbs the sun's heat at different rates.
- How do people use wind?

<http://science360.gov/obj/video/de111fd3-5fb6-49ae-a02f-11558b417011/green-revolution-wind-power>

<http://energy.gov/energysaver/articles/small-wind-electric-systems>

- Today, wind energy is mainly used to generate electricity, although water pumping windmills were once used throughout the United States. The commercial wind turbine use magnets, we are going to make a wind instrument without a magnet. It will let us

see the wind (“air”), but we won’t be able to store any of its energy.

- Pinwheel

http://www.pbs.org/parents/curiousgeorge/activities/pdf/cc_pinwheel_bw.pdf

http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5193605.pdf

Extension/Advanced project Rocket pinwheel

<http://www.monkeysee.com/play/15476-wind-power-science-project-rocket-pinwheel>

Lesson Eight: Sun

EQ: What is energy?

- I can explain that sunlight is a source of energy and light.
- Natural sources of energy can be classified as renewable and nonrenewable energy resources.
- Background:
 - Energy gives us the ability to do things such as climb a mountain, play soccer, and even think.
 - This energy is stored in our muscles and brain cells.
 - There are other types of energy such as that used to light a street lamp, heat or cool our homes, cook our food, and power buses, planes and cars.
 - You cannot hold energy in your hand because, unlike matter, it has no shape. Matter, like footballs and snowflakes, has shape; energy does not. However, energy can take many forms.
 - Heat waves, electricity, TV waves, dental X-rays, and sunbeams are all different forms of energy.
 - One form of energy can be changed into another form. When gasoline is burned in a school bus engine, the energy contained in gasoline is changed into heat energy. When we stand in the sun, light energy is changed into heat. When you turn on a flashlight, chemical energy stored in the battery is changed into light and heat.
 - Energy is used to do work. We use energy when we climb a mountain with a backpack or we use energy when we eat food and notice that we grow (either upward or outward). We can play tennis for periods of time, and we can think about the story line in a good novel.
 - Energy causes movement. Every time you see something move, energy is being used. A leaf moving in the wind, a pot of boiling water, and a school bus traveling to school are all evidence of energy being used. You know that energy exists because you can see or feel what it does. Energy moves cars, makes machines run, heats ovens, and lights our classrooms.
 - In summary, *to find energy, look for motion, heat, light, sound, chemical reactions, or electricity!*
- Energy from the Sun: Record sheet attached.
- When sunlight hits objects some energy is reflected and some energy is absorbed and

changed into heat. Some colors absorb more solar energy than other.

- **1.** Place 3 thermometers in a sunny place.
 - **2.** Cover the bulb of one thermometer with white paper and the bulb of another with white paper. Leave one thermometer bulb uncovered.
 - **3.** Predict. Which thermometer will get the hottest? Number the thermometers 1-3 (1 is the hottest).
 - **4.** Wait 10 minutes.
 - **5.** Record your results by coloring the tubes of the thermometers.
 - **6.** Look at the results and number the thermometers 1-3 in the result row.
- Ask students:
 - When you are cold, what kinds of things or activities help you to stay warm?
 - What helps you to stay warm when you are indoors? Outdoors?
 - Is it usually warmer during the day or night? Why?
 - Now that students have been led to discover the heating role of the sun, ask questions like these to help them develop their benchmark-based focus and better prepare them for the activities in the body of the lesson:
 - What is the sun? Where is it? (To keep answers simple: The sun is a giant star that is about 4.5 billion years old. It is also the largest object in the solar system.)
 - What kinds of things does the sun do? (Answers will vary. Among other things, the sun provides the earth and its inhabitants the light and heat they need to grow and survive.)
 - What kinds of things does the sun allow you to do every day? (Answers will vary.)

EQ: Where does energy come from?

- The sun is the source of all energy. The sun's energy is stored in coal, petroleum, natural gas, food, water and wind.
- Read: Arrow to the Sun
- This a Caldecott Award winner, but children may need help understanding the story. In this Pueblo tale, a young boy who is actually the son of the sun is teased by other children because he does not have an earthly father. When he is old enough, he goes to search for his father. The arrow maker shapes him and arrow and sends him to the sun. There he has to pass four tests (the kiva of lightning, snakes, bees and lions). Finally, he returns to the village with the power of the sun.
- Preview the vocabulary words from the book: *pueblo* and *kiva*. Show students photos or illustrations of pueblo houses and the *kivas* in them. Discuss the southwest area of the U.S. where Pueblo people are from, focusing on the environment and climate. Explain to students that pueblo houses are made from adobe, a clay-like material that kept the temperature inside the house cool.
- Sequence the story.
- Brainstorm things that we are afraid of. Each child should choose something that scares them to include in a class book. They should write about their fear and illustrate it.

- Brainstorm: Ways the sun gives us energy: food, wood, coal, oil, gas, light, plants, trees, heat,
- *Solar Bead Fun*: Purchase solar beads. (website: <http://www.stevespanglerscience.com/product/1350>) These are ultraviolet sensitive beads that when put in the sun, they change color. Do not tell students ahead of time what will happen. When you go outside, the result should be immediate. Have a few solar beads glued down in a Petri dish cover and then cover them with sunscreen. Note what happens. Allow students to explore how they can keep their bead from changing. You can also see if the windshields on cars allow UV light to pass through by having the students (a few would be enough!) hold their bead up to the windshield of a car while sitting in the front seat. Note the outcomes!
- *Solar cooking*: See the effect of the sun. Place a marshmallow and a square of chocolate between two graham crackers. Wrap the s'more in foil and place in the sun. (The time of exposure will depend on the time of year and warmth of the day. Wait until the chocolate is melted.)
- Sunlight—the energy derived from sunlight is used by green plants for photosynthesis. Sunlight also powers the water cycle by evaporating water from land and surface water.
- Energy collage-use old magazines to create and energy collage.
- Energy Pictionary
Give these instructions to the carnival team:
 1. The name of this game is *Energy Pictionary*. Your artist will be given a pencil, several sheets of scrap paper, and a list of ten energy related words or phrases. Starting with the first word written on this list, he/she will start drawing pictures that relate to that energy word. The artist cannot use any letters or words, and cannot talk or make any gestures.
 2. Your team will have five minutes to guess all ten words. Team members can talk among themselves, but only the spokesperson can give the game leader the team's answer. The spokesperson has only 15 chances to guess the ten energy related words (the game leader should keep track of the number of guesses). For every two correct guesses your team will win one energy buck. If you wish, you can pass and move on to the next picture. You may then return to it later. Remember, you only have 15 guesses for the ten energy words, so use them wisely!
 3. Here is the list of ten energy related words or phrases. When I give the signal, start drawing pictures for the first word. Remember, you can pass and come back to the word later if time remains.
- **Energy Sources Energy Words**

Wind	Coal	Recycle	Sun	Trees
Solar	water	Electricity	Plants	Animals
Oil	Gas	Conservation	soil	Rocks

- In preparation for a trip outside the classroom, ask each pair of students to bring a "Natural Resources Chart," pencil, and a clipboard. (A clipboard can be made out of stiff cardboard.)

- Lead students outside.
 - **Note:** The answers in *italics* are possible students' answers and might not reflect a correct answer.
 - Help students identify things that are part of nature. *Trees, rocks, soil.*
 - Ask them what natural resources they see (or feel, in the case of air). *Plants, animals (people), minerals, crude oil (asphalt), air.*
 - Ask students what they see that people have made from natural resources. For example, "What do you see that is made from a plant?" *A wooden bench is made from wood from a plant.* "What do you see that is made from minerals, such as rocks and steel?" *The building, the road, the poles supporting the swing.*
 - Select one item on the school grounds and help students complete their charts.
 - Lead students on a walk on the school grounds to look for natural resources and help them to complete their charts
-
- Back in the classroom, ask students to write or draw the following in their journals:
 1. I saw _____.
 2. _____ is part of nature.
 3. One thing that I saw that was made by people is _____
 4. The natural resource or resources from which this thing was made is _____
 - Ask students to share their journal entries. Then discuss some ways that natural resources are used by people.
 - **DISCUSSION/QUESTIONS**
 - Have students locate in the classroom objects made from natural resources. Ask students from which category of natural resources this object was made.
 - Ask students to review their original class definition of natural resources and ask whether they wish to change any of the words to make the meaning clearer and more accurate.
 - Discuss with students:
 - Which items that were seen indoors and outdoors were different but came from the same natural resource?

Lesson Nine: Conservation

EQ: How do people's actions affect the survival of plants and animals?

- How can we conserve and renew natural resources?
- I can explain methods of conserving natural resources like water, plants, animals, oil, coal, etc.
- I can explain that resources will last longer if we recycle them, reuse them, or reduce consumption of them.
- I can explain how pollution affects our natural resources.

Conserve Resources Activity

	<ul style="list-style-type: none"> • Each gets a card. There are 4 different cards (child-4th generation, parent-3rd generation, grandparent-2nd generation, great-grandparent-1st generation) • Discuss what it means to be generation. • The teacher has a large bag of popcorn. • The teacher announces that the great-grandparents-1st generation finds a resource! The great-grandparents are allowed to come up to the bag of popcorn and take as much popcorn as they want back to their seats. • The grandparents-2nd generation then is allowed to do the same. • Followed by the parents-3rd generations and the children-4th generations • Discussion <ul style="list-style-type: none"> ○ How did each generation act in “using” using the resource? ○ Was there any waste by any generation (popcorn dropped)? ○ Did anyone think about the students how would come after you? ○ Were there any protests from other students? ○ How was the quality of popcorn? • Read: Dragonfly’s Tale by Kristina Rodanas • Discuss the story. Remind students about cause (the reason why) and the effect (what happened). Complete cause and effect graphic organizer with students. • <i>Discuss connection to natural resources.</i> <ul style="list-style-type: none"> - Was the tribe good at conserving their resources (reduce, reusing, and recycling)? • The Zuni corn celebration included dancing and song. http://www.youtube.com/watch?v=X16JWpr6AVs • Make a “shaker” noise maker for a corn ceremony. • Ideas: http://www.thecrafttrain.com/1/post/2013/08/10-minute-toilet-roll-shakers.html • http://www.freekidscrafts.com/paper-plate-musical-shaker/ • http://craftbox.blogspot.com/2008/11/tambourine.html
STEM Culminating Event	<h2>Lesson Ten: Culminating Activity</h2> <hr/> <p>Students will ...</p> <ul style="list-style-type: none"> • Work together in groups to formulate their best estimate of how long some trash items might last in a landfill. • Learn about environmental consequences of not recycling. Use a graph-making tool to create a graph.

- Write a letter to other students explaining why it is important to conserve natural resources

Keywords:

Trash, recycle, biodegrade, longevity, garbage, landfill
 Materials Needed: aluminum can (soda pop can) banana, cigarette butt, cotton, rag, glass bottle, leather boot, paper bag, plastic 6-pack rings, plastic jug, rubber sole of the leather boot (above), Styrofoam cup, tin can (soup or vegetable can) wool sock

- Write the above list of items on a chalkboard or chart.
- Lesson Plan:
 - Before the Lesson Display for students the materials you have collected (see Materials section above).
 - Provide a chart on which you have written the names of those materials. Draw students' attention to the items you have gathered.
 - You might ask, what do all the items have in common? If your students are too young to figure out the answer to the question, you can share with them that each of the items will likely end up in a landfill one day.
 - Next, ask what will happen to these items when they end up in the landfill? How long do you think they will last there? Do they disappear/disintegrate/degrade immediately? Or will they continue to take up space in the landfill? Let students freely discuss those questions.
 - Draw students' attention to the list on the board or chart.
 - Ask students to copy the list. Then ask them to think on their own about how long each of the items on the list might last when buried in a landfill. Recreate the list by writing each item in order according to how long they think it might last in a landfill. Students should start their lists with the item they think will degrade fastest and end with the one that will last the longest.
 - Next, arrange students into small groups. (Groups of 4 to 5 students will work best.) Let students share their lists and discuss what they believe to be the correct sequence.
 - Ask each group to come to a consensus about the correct order of the items.
 - Now it is time for the groups to share their lists. Call on one group to share their answers first.
 - Have them tell you the sequence they decided on. As they call out "sheet of paper -- number 1," write a number 1 on the chart next to the words sheet of paper. Do the same for the other groups.
 - When that activity is completed, draw students' attention to the discrepancies on the chart. For example, why did some people include the sheet of paper before the banana?
 - At the conclusion of the discussion, reveal to students the best "guess-timates" of scientists, who say the following is the correct sequence: banana, paper bag, cotton rag, wool sock, cigarette butt, leather boot, rubber sole of the boot, tin can (soup or vegetable can), aluminum can (soda pop can), plastic 6-pack rings, plastic jug, Styrofoam cup, and glass bottle.
 - Point out to students that conditions could result in some items degrading more or less quickly than the list indicates. Now, turn the assignment back to students.
 - Now that they know the correct order, ask them to brainstorm in their groups how long (how many weeks, months, or years) each item will last. Repeat the procedure above as groups discuss, then share, their best guesses about how long items will last.

- Then share scientists' approximations listed below:
 - banana -- 3 to 4 weeks
 - paper bag -- 1 month
 - cotton rag -- 5 months
 - wool sock -- 1 year
 - cigarette butt -- 2 to 5 years
 - leather boot -- 40 to 50 years
 - rubber sole (of the boot) -- 50 to 80 years
 - tin can (soup or vegetable can) -- 80 to 100 years
 - aluminum can (soda pop can) -- 200 to 500 years
 - plastic 6-pack rings -- 450 years
 - plastic jug -- 1 million years
 - Styrofoam cup -- unknown? forever? glass bottle -- unknown? forever?
- NOTE: The data above was gathered from sources such as the Oregon Department of Environmental Quality. After you have provided students with data about the longevity of the displayed items, discuss the following questions: What does the data tell you about landfills? Do items continue to degrade and make room for new garbage? Or will those landfills eventually fill up? Do those trash life spans say anything to you about the importance of recycling? Why or why not?

- Read: Recycle! A Handbook for Kids by Gail Gibbons
- Throughout the unit collect items that can be recycled: plastic bottles, can, cardboard boxes, toilet paper rolls, etc.
- Writing assignment: RAFT (**Role**-a concerned second grader, you are to convince/persuade your readers, **Audience**-other second graders, **Format**-a letter and **Topic**-Why is it important to conserve, reuse, and recycle natural resources?)
- Have students create a product from recycled materials: Some examples below



Soda Bottle bird feeder



Tin can holders



Milk jug game. Newspaper ball



Tin can illuminary



catalog/magazine beads

Differentiated Instruction	<ul style="list-style-type: none"> • Flexible grouping/partner work • Tiered instruction • Acceleration
Re-teaching Strategies	<ul style="list-style-type: none"> • Acting out (kinesthetic activities) • Chunking • Cooperative learning/partner activities • Vocabulary instruction/pre teaching • Graphic organizers • Technology
Enrichment Strategies	<ul style="list-style-type: none"> • Technology • Independent project • Blooms high order (analyze, synthesize, and evaluation) questions and activities
Independent Practice Activities	<ul style="list-style-type: none"> • Graphic organizers • Journal
Materials & Resources	<p>Technology Hardware: Lesson One: computer, projector, screen</p> <p>Technology Software: www.discoveryeducation.com http://app.discoveryeducation.com/search?Ntt=legend+of+indian+paintbrush http://www.econedlink.org/interactives/EconEdLink-interactive-tool-player.php?filename=em303_dragndrop.swf&lid=303 http://app.discoveryeducation.com/player/?assetGuid=2C0D0AA6-C2A6-40DE-8143-7E62BE406ECB&fromMyDe=0&isPrinterFriendly=0&provider=&isLessonFromHealth=0&productcode=US&isAssigned=false&includeHeader=YES&homeworkGuid= http://www.paperandmore.com/content/pentagon-petal-card-template </p> <p>Digital Resources: http://www.youtube.com/watch?v=ZzY5-NZSzVw https://www.cape.k12.mo.us/blanchard/hicks/News%20Pages/Mini%20Water%20Cycle.pdf </p>

	http://www.turtlediary.com/grade-2-games/science-games/the-water-cycle.html http://contentreadingwriting.wikispaces.com/file/view/Story+Pyramid.pdf http://oklahoma4h.okstate.edu/aite/lessons/primary/handy.pdf http://web.compton.k12.ca.us/pages/departments/Curriculum/PDF/2ndGradeSciUnitC.pdf http://www.youtube.com/watch?v=uBqohRu2RRk http://science360.gov/obj/video/de111fd3-5fb6-49ae-a02f-11558b417011/green-revolution-wind-power http://energy.gov/energysaver/articles/small-wind-electric-systems http://www.pbs.org/parents/curiousgeorge/activities/pdf/cc_pinwheel_bw.pdf http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5193605.pdf http://www.monkeysee.com/play/15476-wind-power-science-project-rocket-pinwheel http://www.youtube.com/watch?v=X16JWpr6AVs http://www.thecrafttrain.com/1/post/2013/08/10-minute-toilet-roll-shakers.html http://www.freekidscrafts.com/paper-plate-musical-shaker/ http://craftbox.blogspot.com/2008/11/tambourine.html http://www.brainpopjr.com/science/conservation/naturalresources http://www.brainpopjr.com/science/weather/watercycle/preview.weml http://www.brainpopjr.com/socialstudies/nativeamericans/pueblo/
Comments	<p>If you have an questions you may contact: Cathy Bryant at bryantc@btcs.org Jessica Carr at jessicawcarr@hotmail.com</p>