

Writing & Reading About Renewable Energy!

Grade Level:	Time Frame:
1st Grade 2nd Grade	50 Minutes
Standards (ALCOS English Language Arts):	
<p>Production and Distribution of Writing: 27) With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. [W.1.5]</p> <p>Presentation of Knowledge and Ideas: 35) Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. [SL.1.5]</p> <p>Conventions of Standard English: 37) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.1.1] c. Use singular and plural nouns with matching verbs in basic sentences (e.g., He hops; We hop). [L.1.1c] f. Use frequently occurring adjectives. [L.1.1f]</p> <p>Production and Distribution of Writing: 25) With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. [W.2.5]</p> <p>Presentation of Knowledge and Ideas: 34) Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. [SL.2.6]</p> <p>Conventions of Standard English: 35) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.2.1] e. Use adjectives and adverbs, and choose between them depending on what is to be modified. [L.2.1e]</p>	
Objectives:	

Made Possible By:



<http://alcse.org/education>

Students will use appropriate grammar and writing skills to produce a book about renewable energy sources.

Students will use visual displays and descriptions according to topic to illustrate the pages of their book.

Background Information:

Renewable Energy- energy that comes from resources that are naturally replenished on a human timescale; these include wind, solar, geothermal, biofuel, and hydro.

Sustainable-refers to the concept that renewable energy resources will always be around and never be depleted

The sources of non-renewable energy most commonly used today, like coal and natural gas, may meet our needs now, but at the rate we're using them, we'll burn through them and leave none behind for future generations. These resources are secured through mining and drilling and when we use them up we have to dig and drill into the earth for more.

Renewable energy resources such as wind, solar, geothermal, and hydro can never be depleted, and that means they're fully sustainable—both for today and tomorrow. These can be remade or restored to be used again in the same way.

There are situations that affect our use of solar energy like the position of the sun (daily and seasonally), clouds, smoke and smog, trees, buildings, and land surfaces. We need sunlight to keep us healthy and happy, but too much can give us sunburn. The sun is renewable energy; it is abundant, convenient, nonpolluting, and affordable. It is the ultimate energy source.

Materials:

- FOR EACH STUDENT:
 - Printed pages from "(1st/2nd) Renewable Energy Booklet" file (4 pages single or print as booklet for 2 pages and fold in half)
 - Markers and/or crayons
 - 3-hole puncher (or staple pages of booklet)
 - 3 pieces of string to tie booklet together (or staple pages of booklet)

Engage (10 minutes):

1. Discuss types of renewable energy resources and how they are sustainable (see "[Background Information](#)"). You might also present images of each type of resource.
2. **Make it active!** Ask students to stand up and stretch without moving out of their "space".
3. Students will then exhibit their own body language for each of the following:
 - a. Wind (ex. wave arms around as though wind is blowing)
 - b. Water (ex. create a wave pattern with their neighbors)
 - c. Sun (ex. hold up fingers and wiggle like rays of sunlight)

*see “Extend” for more topics and hand motions!

Explore (35 minutes):

1. **Write about it!** Use the printed “(1st/2nd) Renewable Energy Booklet” file to give each student the un-filled pages of their booklet.
2. Students will write their name on the first page identifying them as the author of their book. (They can decorate the cover now or at the end.)
3. Page 1: Wind
 - a. Students will discuss details with their partner/group/class about wind including adjectives and verbs associated with the noun.
 - b. Students will complete each sentence about wind on their page using their selected details. (**1st grade** uses a one-word description and **2nd grade** uses multiple-words)
 - c. Students will complete a drawing to visually display their details about wind on their page in the box.
4. Page 2: Water
 - a. Students will discuss details with their partner/group/class about water including adjectives and verbs associated with the noun.
 - b. Students will complete each sentence about water on their page using their selected details. (**1st grade** uses a one-word description and **2nd grade** uses multiple-words)
 - c. Students will complete a drawing to visually display their details about water on their page in the box.
5. Page 3: The Sun
 - a. Students will discuss details with their partner/group/class about the sun including adjectives and verbs associated with the noun.
 - b. Students will complete each sentence about the sun on their page using their selected details. (**1st grade** uses a one-word description and **2nd grade** uses multiple-words)
 - c. Students will complete a drawing to visually display their details about the sun on their page in the box.

Evaluate (5 minutes):

1. **Share it!** Students will share their work by reading their booklet to a partner (make it active and more collaborative by having students stand up and find another partner on the other side of the room!)

Extend (optional use):

Chants and Hand Motions
(from NEED.org)

Renewable Chants and Hand Motions

BIOMASS: Garbage, wood, landfill gas...it's all BIOMASS!

Hold your nose while chanting, "Garbage, wood, landfill gas." During "It's All Biomass," shake your hands near your shoulders.

GEOHERMAL: Geo-Earth, Thermal-heat—GEOHERMAL—Earth-heat!

Hold arms in a circle in front of you during "Geo-Earth." Cross arms and hug yourself for "Thermal-heat." Shout "GEOHERMAL," then repeat the motions quickly for "Earth-heat."

HYDROPOWER: Falling water, HYDROPOWER, HYDROPOWER!

With your finger tips touching, hold your hands under your chin and glide your hands down like a waterfall during "Falling water." For "HYDROPOWER, HYDROPOWER" spin your hands like a turbine.

SOLAR: SOLAR ENERGY—sun shine bright, SOLAR ENERGY—give me light!

Begin with arms over head in a big circle, swaying from side to side during "SOLAR ENERGY." Spread arms out wide during "sun shine bright." Repeat motions for second part of the chant.

WIND: Energy is flowin' in the WIND!

Make big arm circles, mimicking a wind turbine, as you say this chant.

Nonrenewable Chants and Hand Motions

COAL: COAL in the hole—makes light in the night!

During "COAL in the hole," point down with thumbs, hands in fists. During "makes light in the night," point thumbs upward in rhythm with the cadence of the chant.

NATURAL GAS: Burn clean, burn fast—NATURAL GAS!

During "Burn clean," bring one hand up in front of you, palm facing inward. During "burn fast," bring the other hand up to the first hand. During "NATURAL GAS," move hands upward together to make the shape of a flame.

PETROLEUM: Pump, pump—PETROLEUM!

Place hands together in fists in front of you. During "Pump, pump," partially extend fingers twice and return them to a fist. During "PETROLEUM," fully extend hands and move them upward, representing oil shooting from a well.

PROPANE: Put a little pressure on me—PROPANE!

Begin with hands wide apart and bring palms closer together at each word of the chant.

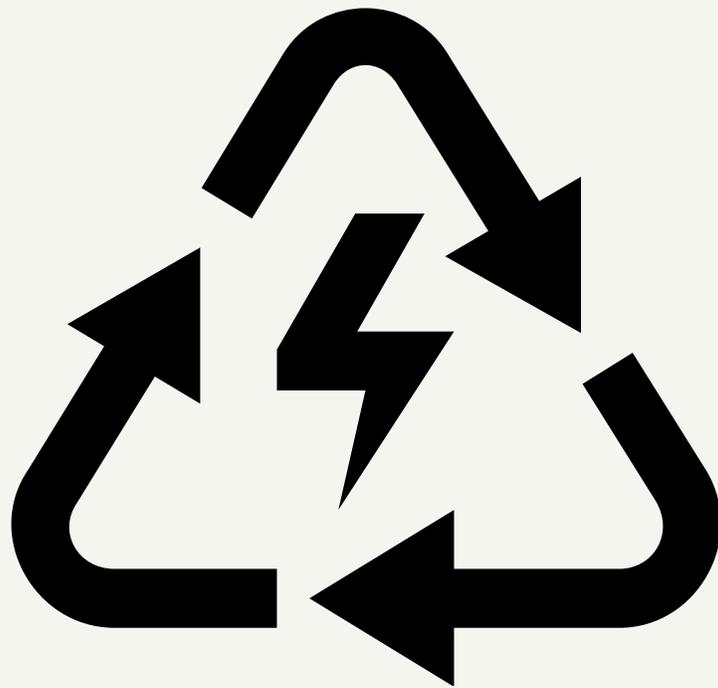
URANIUM: URANIUM, URANIUM—split goes the atom!

Clap twice during "URANIUM, URANIUM." During "split goes the atom," clap and bring hands out and up, representing the splitting atom.

References:

The National Energy Education Development Project – <http://need.org>

Read about Types of Renewable Energy with Me!



by:

Name: _____

Wind is _____.

Wind can _____.

Wind will _____.

Draw a picture of wind.

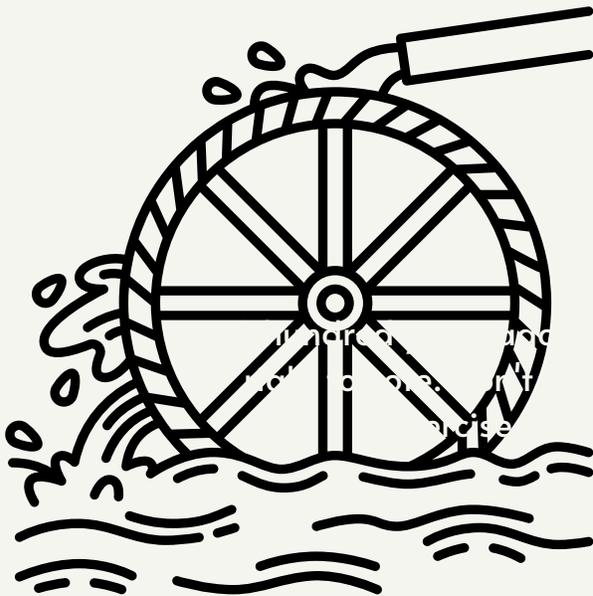


Water is _____.

Water can _____.

Water will _____.

Draw a picture of water.



The sun is _____.

The sun can _____.

The sun will _____.

Draw a picture of the sun.

