

# Issue 13, 2020

Can you imagine a world without energy to:

Experts are working to make sure we don't

This fossil of a fish was

found in Wyoming.

play music, TV and computer games?

run out of usable energy. Perhaps you will be

one of the people who finds a solution to our

animals and plants that lived hundreds of

millions of years ago. These fuels include coal,

When ancient animals and plants died,

they became buried underground and crushed

by heat and pressure for millions of years. This

But these fossil fuels are running out. Once

turned them into liquid or gas — fossil fuels.

they are gone, a new supply can't be made.

Fossil fuels are nonrenewable energy sources.

Unless we come up with some alternative, or

There are other problems with fossil fuels.

other, fuels, most machinery won't run.

When they are burned, they give off gases

such as carbon dioxide. Experts believe these

greenhouse gases are adding to pollution and

# Founded by Betty Debnam

**Mini Fact:** 

gets almost

energy from

Iceland

all of its

hot water

the Earth's

beneath

suface.



Next Week: Rabbits!

# **Energy** for the **Future**

• light and heat our houses?

drive our cars?

energy needs.

Fossil fuels

Most of the

from fossil fuels.

Fossil fuels were

made from fossils,

or the remains of

oil and natural gas.

climate change.

Fossil fuel supply

energy we use comes



## **Energy all around**

Energy sources are found in many places. Different fuels might be used in different environments. For example, in Hawaii, people might get power from heat energy found underground near volcanoes. In coastal areas, ocean waves may provide energy.

#### Hydro power

Hydro means "water." When water falls or flows through a dam, it can be used to turn a machine to create electricity.



## Solar energy

Solar power is energy from the sun. People have used it to dry their clothes or warm their homes for



Solar panels, which store the sun's energy, are made from the same materials that are used to make computer chips. Manufacturing them can create pollution. Also, using lots of solar panels can take up land. But once these panels are in place, they do not cause pollution and are inexpensive to run.

#### **Biofuels**

Biofuels are fuels made from plants. When people burn wood, they are using a biofuel.

**Ethanol** is a car fuel made from plants such as corn. Scientists are experimenting with using different plants such as prairie grasses and algae.

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## Wind energy

As with hydropower, wind energy is captured by a motor called a **turbine**. A turbine works the opposite way a fan does. A fan uses electricity to turn fan blades to make a breeze. In a turbine, the wind (or water) turns the blades and creates electricity.

People are grouping wind turbines together to form wind farms. These farms can create energy for a whole city.

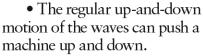
## Geothermal energy

Geothermal means "heat of the Earth." Far below the ground is the very hot outer core, or center, of the Earth. It is so hot that the rock and metals there are molten, or hot liquid.

This heat can boil water, which becomes steam. This steam can be used to work turbines to make electricity.

## Ocean energy

Energy also exists in the



 Incoming and outgoing tides can push water through a turbine to create electricity.

• At the top of the ocean, the water is a lot warmer than it is deep under the surface. This difference in temperature can be used to create electricity.



#### On the Web:

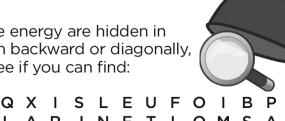
climatekids.nasa.gov/menu/energy

#### At the library:

 "Onion Juice, Poop, and Other Surprising Sources of Alternative Energy" by Mark Andrew Weakland

# Try 'n' Find

Words that remind us of alternative energy are hidden in this puzzle. Some words are hidden backward or diagonally, and some letters are used twice. See if you can find:



ALTERNATIVE, BIOFUELS, G D Q X I COAL, CORE, ENERGY. GAS, GEOTHERMAL, GREENHOUSE, HYDRO, MOLTEN, OCEAN, OIL, RENEWABLE, SOLAR, TURBINE, WAVES, WIND.

OLARJNETLOMS ETHANOL, FARM, FOSSIL, REVITANRETLARR SGEOTHERMA ENERGYED GRENEWABL F O F U MQZAD L S S GGR EENHOUSECOAL

# Cook's Corner

## **Black Bean Salad**

## You'll need:

- 1 (15-ounce) can black beans, drained and rinsed
- 1 cup cherry tomatoes, halved
- 1 cup red bell pepper, chopped
- 2 tablespoons purple onion, minced • 2 tablespoons cilantro, chopped
- 3 tablespoons lemon juice

- vinegar
- 1 teaspoon cumin
- 1/4 teaspoon salt
- 1/4 teaspoon pepper



adult's help with this

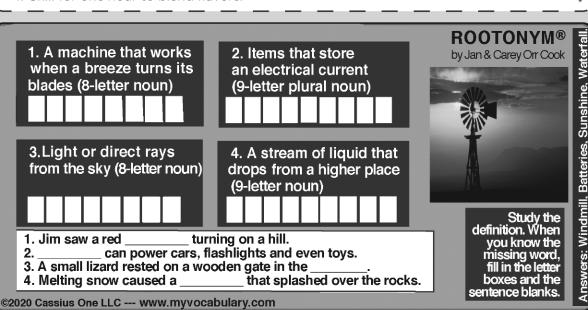
an

You'll need

• 2 tablespoons olive • 2 tablespoons rice

## What to do:

- 1. Combine beans, tomatoes, bell pepper, onion and cilantro in a medium bowl.
- 2. Mix remaining ingredients in a small jar; cover and shake vigorously.
- 3. Pour dressing over bean mixture and stir gently until evenly mixed.
- 4. Chill for one hour to blend flavors.



## **Mini Jokes**

Frank: Where is the ocean the deepest? Frannie: At the bottom!

## **Eco Note**

Nuclear energy is made by splitting atoms of the mineral uranium in a nuclear reactor. This process, called **fission**, does not make greenhouse gases. But it does produce radioactive waste that remains dangerous for centuries. No one has figured out how to dispose of the waste, so it is just buried. Like fossil fuels, stocks of uranium are limited. One day they will run out, so these fuels are considered nonrenewable.

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## For later:

Look in your newspaper for articles or ads about renewable energy sources. Which source would work best in your area?

Teachers: Follow and interact with The Mini Page on Facebook!



