



Submit a Lesson to Energy Kids

Title: Energy Sources Roll

Grade-level: 4th-7th

Concepts/Goals:

- Reinforce energy source retention

Class Time Required: 15 – 30 minutes

Materials Needed:

- Long cloth strips
- Rubber bands
- CD player & CD
- Energy Sources posters (attached)
- Toys to represent energy sources
 - Pinwheel = wind
 - Coal = coal
 - Drill bit = oil
 - Radioactive symbol = uranium
 - Sunglasses = solar

Whoopie cushion = natural gas
Water bottle = hydropower
Sticks = biomass
Propane tank picture = propane
Globe = geothermal

Procedure

1. Before class, use the rubber bands to attach the toys at varying lengths along the cloth strips. The roll up the cloth strips with toys attached into a big ball.
2. Have the kids sit in a big circle.
3. Turn on the CD player and have the kids hand (not throw) the ball around the circle.
4. When you stop the music, the one who is holding the ball at the time unrolls enough cloth strip to find the first toy. He/she tries to guess which energy source it represents using the posters for reference if necessary.
5. Have him/her hand the toy to you and sit in the middle of the circle (no longer in the game). Continue the game until all of the energy source toys are identified.
6. Repeat the game with another prepared roll, if desired, to reinforce the concepts and to give more children a turn in the game.

Attachment: Energy Sources posters

Name of Submitter: Kathy Larsen and Jenny Young

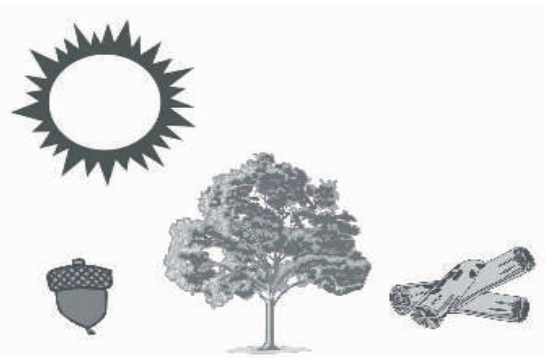
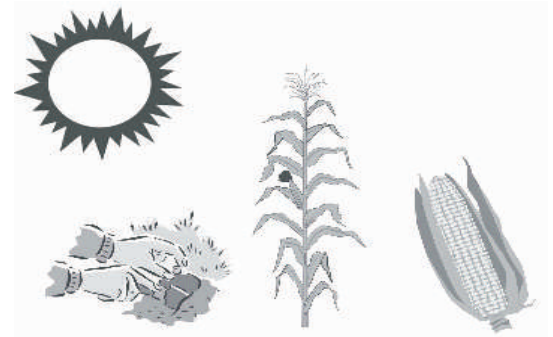
School or Organization/City/State: Science Central, Fort Wayne, IN

Biomass



Biomass is anything that was once alive.
Biomass is wood, plants, and garbage.

The energy in biomass comes from the sun.

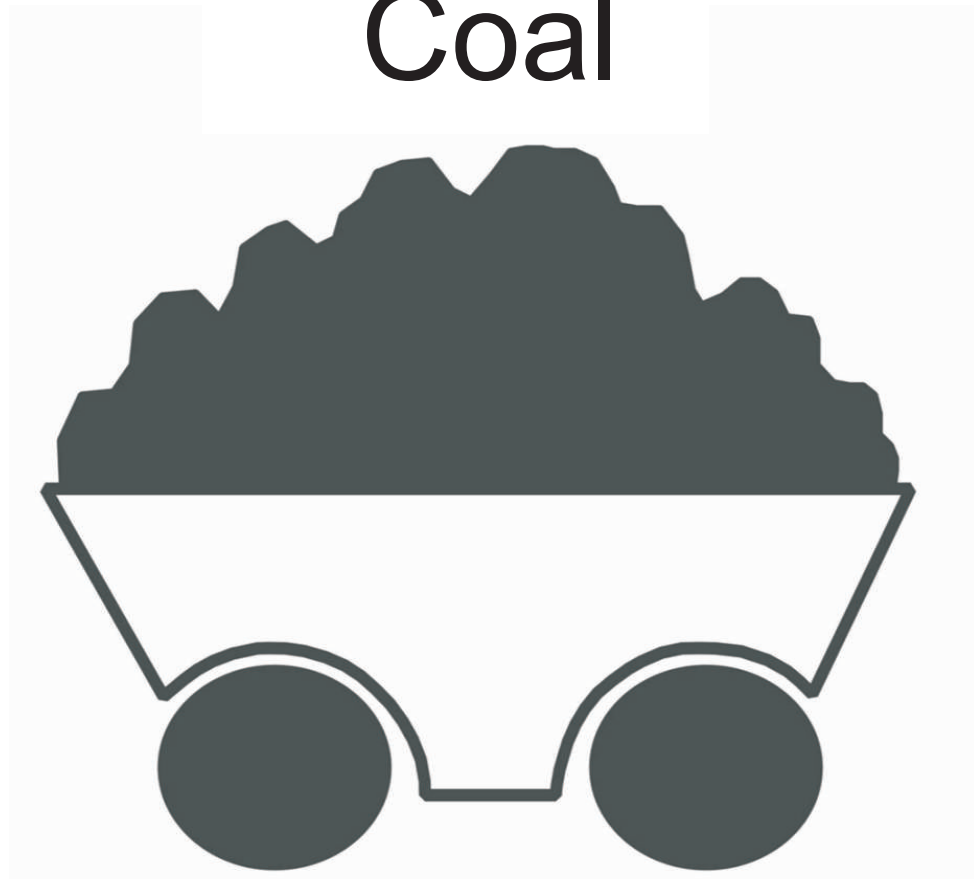


Biomass is renewable.
You can grow more plants.

We can turn biomass into a fuel called ethanol.
Ethanol can be used in many types of vehicles.

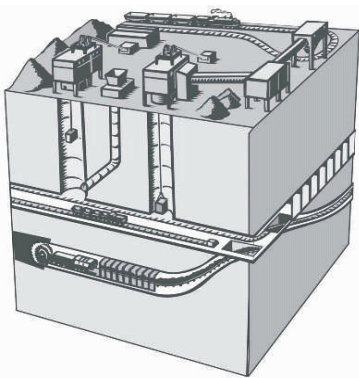
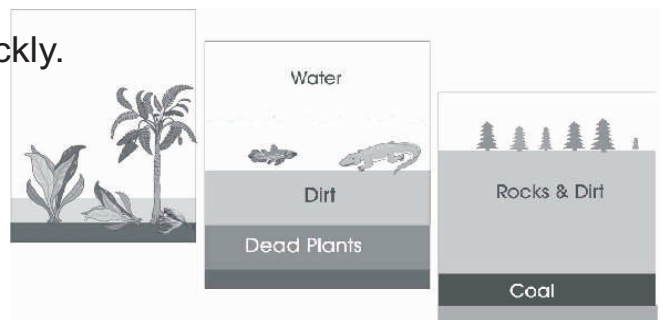


Coal



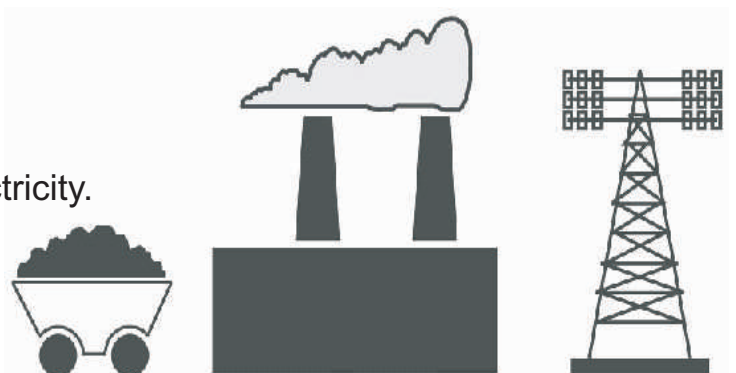
Coal is shiny black rock with energy.

Coal is nonrenewable.
We can't make more coal quickly.



We dig tunnels under the ground
to get coal.

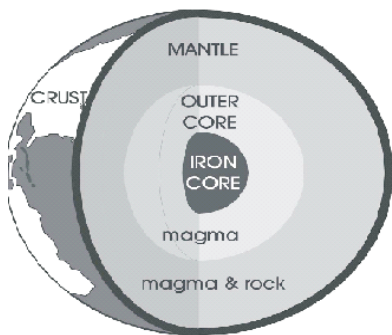
We burn coal to maket electricity.



Geothermal Energy

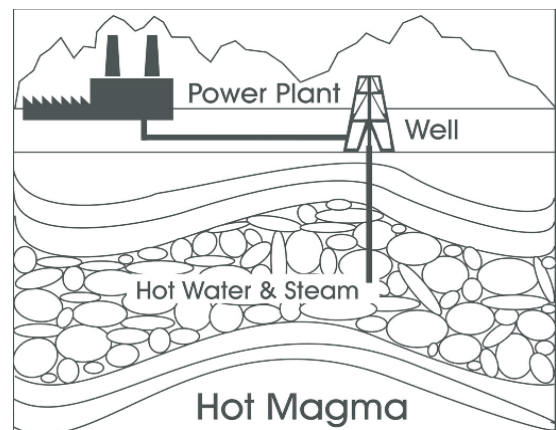


Geothermal energy is heat inside the earth.



The earth is made of layers.

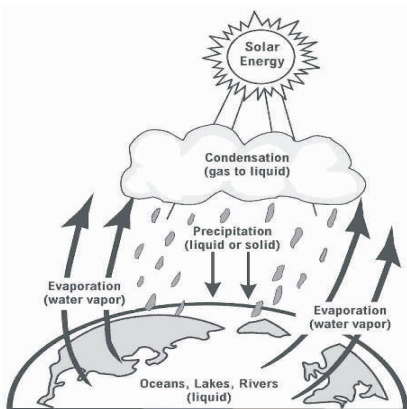
Geothermal power plants make electricity.



Hydropower

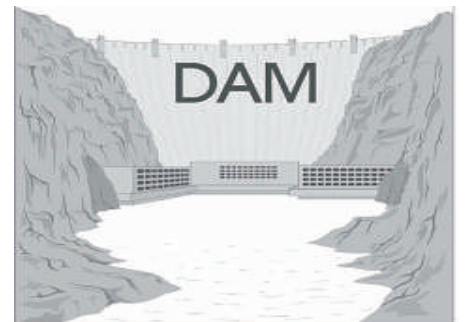


Moving water has energy.

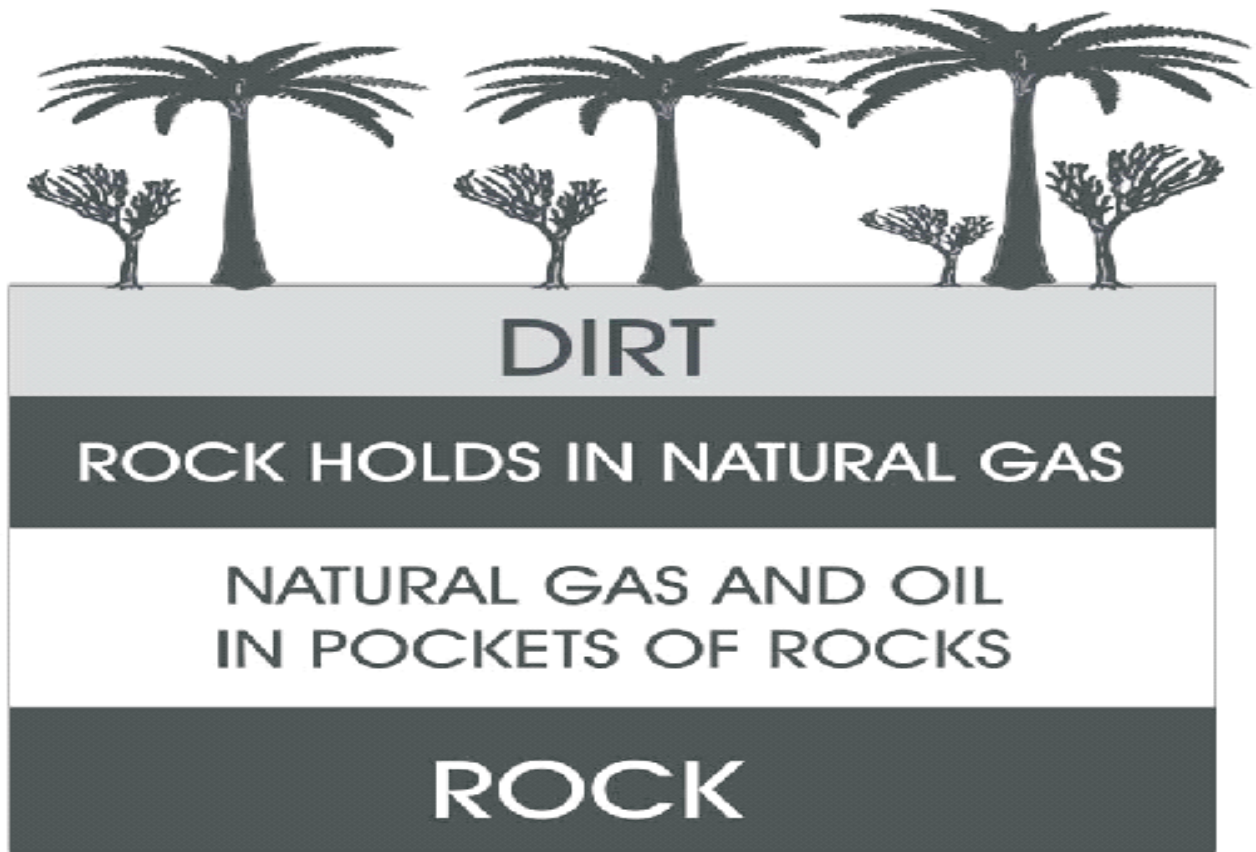


The Water Cycle

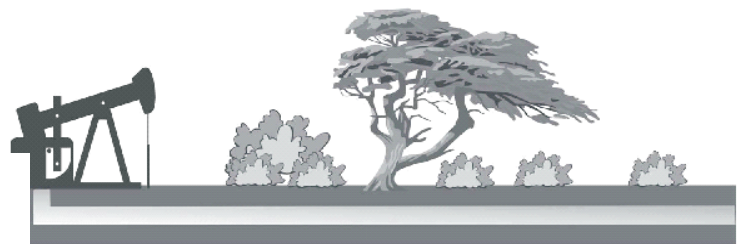
A hydropower plant makes electricity.



Natural Gas

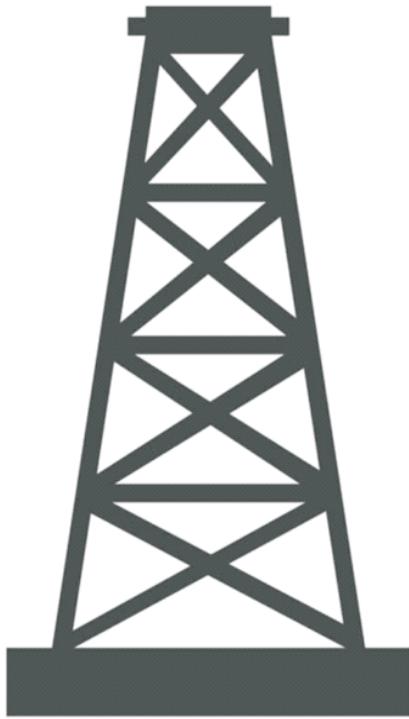


We move natural gas in pipes under the ground.



We burn natural gas for heat.
We can cook our food and warm our homes.

Petroleum

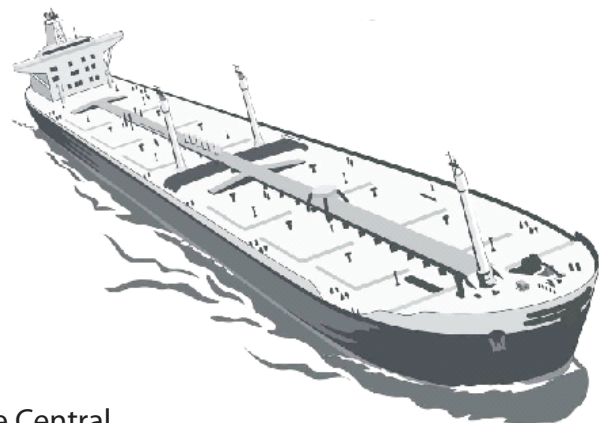


Oil is also called petroleum.
It is a liquid when it comes from the ground.

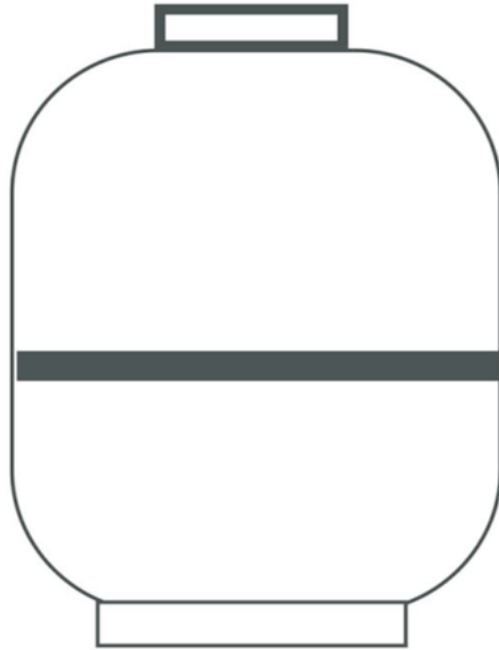


We drill wells to get the oil from the ground. Some wells are on land and some are in the ocean.

We move oil in big ships called tankers. Sometimes we move oil in pipes underground.



Propane

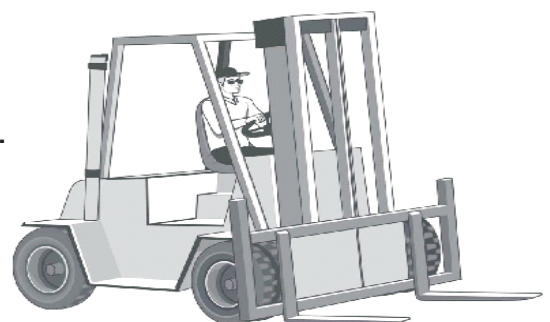


Propane is a gas.
It comes from oil and natural gas.

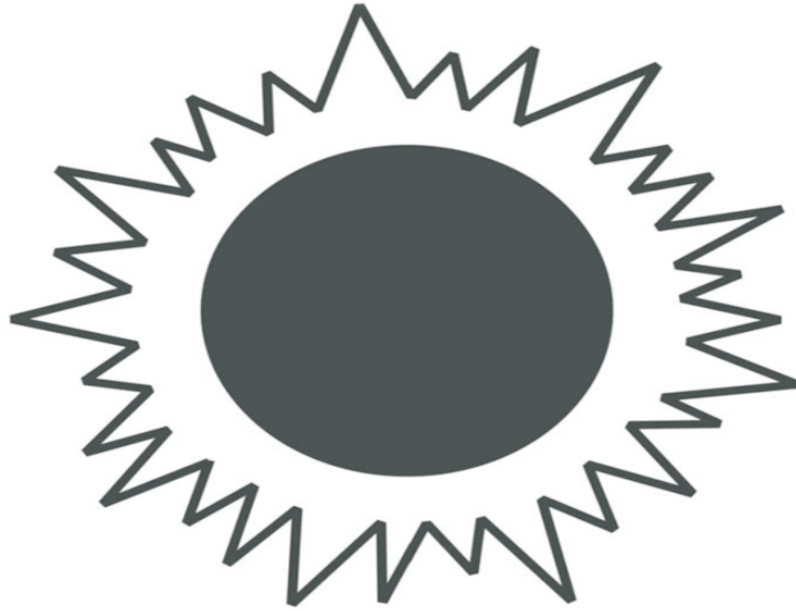


Propane makes heat when it is burned.

Propane is a clean fuel.
We can use it to fuel machines used indoors.



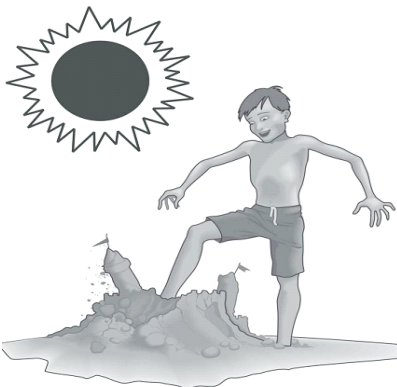
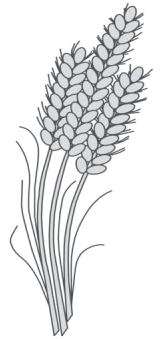
Solar Energy



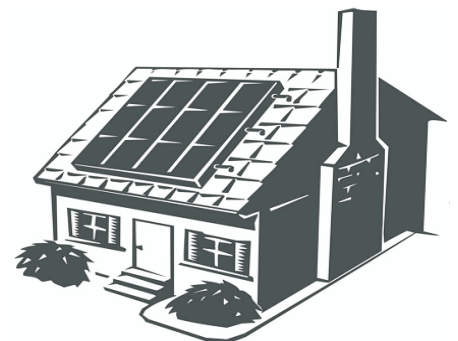
The Sun

We can use the sun's energy every day.

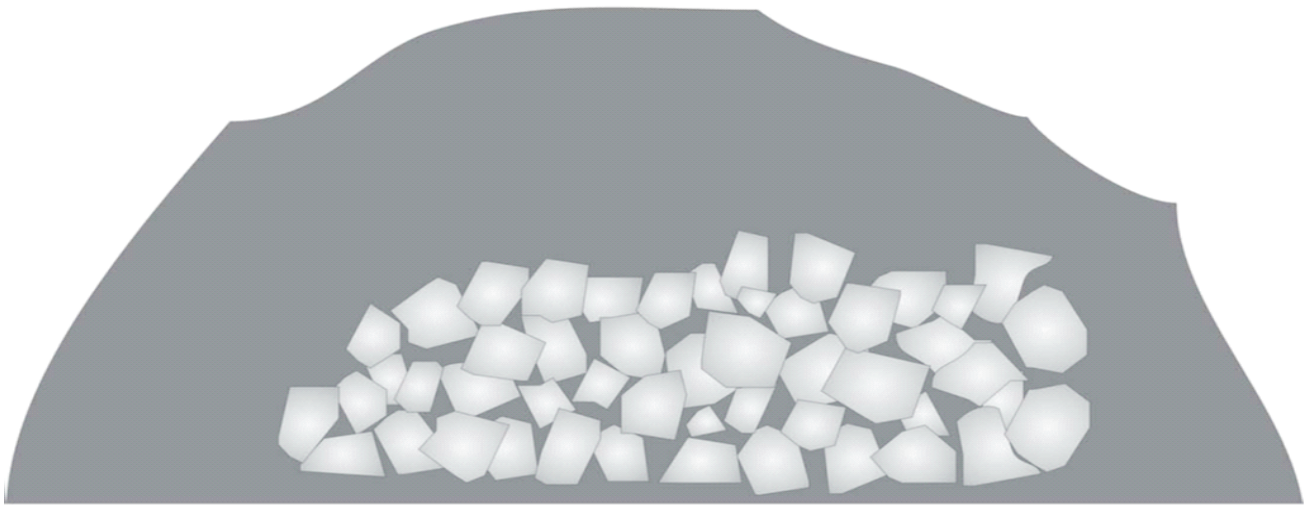
Solar energy is light energy. Solar energy makes plants grow.



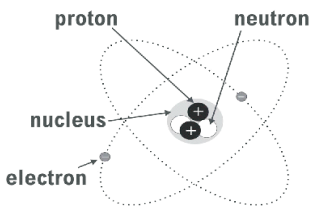
Sometimes solar energy turns into heat.



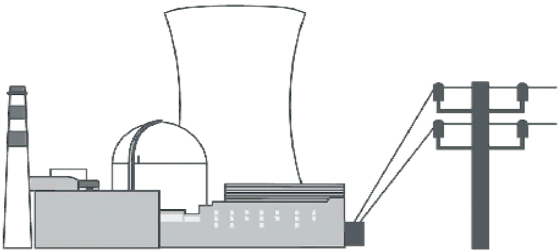
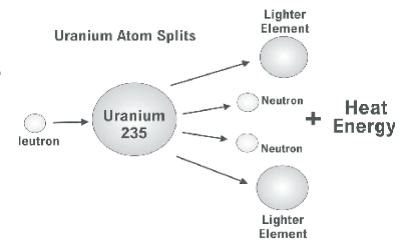
Uranium



Uranium is a mineral buried in the ground.
It has energy in it.

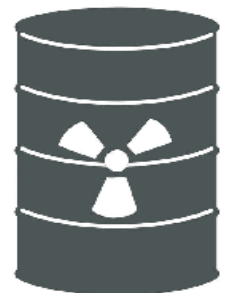


An atom is made of smaller particles.
Nuclear energy holds an atom
together. Fission splits an atom apart.
We can split uranium atoms to get
heat energy



A nuclear power plant splits
uranium atoms to make electricity.

Waste from a nuclear power plant is radio active.
It is dangerous and should be stored carefully.

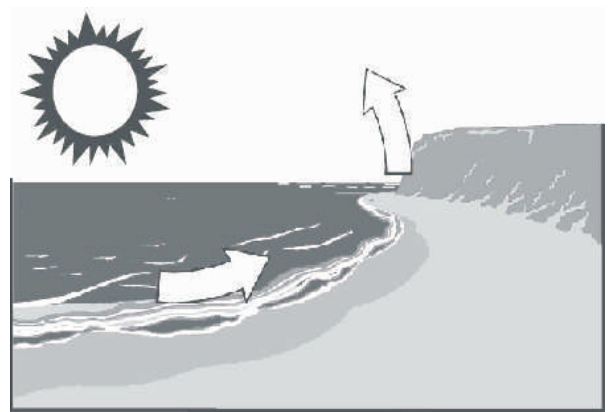


Wind



Wind is moving air.
There will be wind as long as the sun shines.

Where water meets land, wind is formed because warm air over land rises and cooler air over the water moves in.



A wind turbine turns wind energy into electricity.