COLLOIDE LEARNING

O

Energy Educational Resources Booklet

WATER SOLUTIONS

Colloide

ENERGY SOLUTIONS

FACILITIES ENGINEERING

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WATER SOLUTIONS

ENERGY SOLUTIONS

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WHAT IS ENERGY?



The simplest definition of energy is "the ability to do work". Energy is how things change and move. It's everywhere around us and takes all sorts of forms. It takes energy to cook food, to drive to school, and to jump in the air.





HEAT ENERGY

Circle all the items that make heat and put a X over the items that don't.



WATER SOLUTIONS

ENERGY SOLUTIONS



THE SUN'S ENERGY

Join the dots to make the sun shine and provide heat and light to the world.





SAVING ENERGY

Did you know that when you turn on a light switch, you use energy? To help save energy, it is important to turn off lights when you are not using them.

Make your way through the maze to turn off the light and help save energy!



WATER SOLUTIONS

ENERGY SOLUTIONS



ENERGY EVERYWHERE

Colour in this page which shows some forms of renewable energy.





SORTING ENERGY

Directions: Cut and place the images in the correct column.



WATER SOLUTIONS

ENERGY SOLUTIONS



CONDUCTION, CONVECTION & RADIATION

Directions - Look at each picture. Decide what type of heat transfer is taking place. (There may be more than one.) Fill in the bubble to show your answer.



ConductionConvectionRadiation



Conduction Convection Radiation

Conduction Convection Radiation





ConductionConvectionRadiation



ConductionConvectionRadiation

WATER SOLUTIONS

ENERGY SOLUTIONS





ENERGY SOURCES

Find all the sources of energy within the word search.

Words can be found horizontally, vertically and diagonally.

Energy Sources Word Search

L	Т	Μ	Х	Μ	Μ	W	Ε	Т	D	U	Ν	Ρ	J	Q	Μ
Α	Ζ	Υ	L	D	Т	0	Т	Х	D	U	С	Т	G	R	Т
Μ	Ρ	Т	Т	L	В	F	Υ	0	С	Κ	Т	Υ	Т	Х	Е
R	Т	т	т	Κ	0	F	Ε	L	С	С	R	В	В	F	L
Е	Y	С	Q	Т	F	۷	Е	W	G	В	Т	С	J	Е	С
Н	U	L	L	Μ	Α	Α	0	Т	0	Т	С	Α	U	S	Μ
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G	Α	Ε	Q	G	Т	Κ	Q	Α	S	Μ	0	۷	U	0	G
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R	Y	G	D	Ν	Ζ	Ρ	0	S	В	Κ	D	Κ	۷	W	Α
Ν	Н	Μ	W	S	Μ	F	Α	0	Х	F	Y	G	Е	R	R
Κ	Т	Κ	Ν	т	Е	Н	L	L	Х	0	Н	Ρ	Μ	S	U
F	S	Q	G	U	U	Q	G	Α	Т	Κ	۷	Υ	S	Е	Т
Т	Κ	Ε	D	Υ	Q	۷	w	R	w	Ρ	Y	G	Х	S	Α
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Biomass Coal Fossil Fuel Geothermal Hydroelectric Natural Gas Nuclear Oil Solar Tidal Wave Wind Wood

WATER SOLUTIONS



FORMS OF ENERGY

Find all the forms of energy within the word search.

Words can be found horizontally, vertically and diagonally.

Forms of Energy Word Search

L	۷	Т	Т	R	Α	D	G	G	Y	Т	S	Ε	т	Е	U	F
Α	Т	U	н	Α	Ν	W	G	В	Ν	Ν	۷	D	D	R	Ε	Ν
С	Κ	0	F	D	С	Q	L	Μ	R	0	Ζ	Ζ	Ν	U	С	D
L	Υ	Т	J	Т	G	0	Κ	Α	С	W	Т	Т	Μ	U	Ρ	F
Μ	U	Α	Е	Α	L	0	Ν	Т	Т	D	F	Т	۷	۷	0	W
Ε	S	Т	В	т	Μ	В	S	۷	Ν	т	Α	Μ	С	F	F	S
Н	н	Q	J	Т	R	Α	Н	Μ	Ε	Ε	Ν	R	J	Т	W	Т
С	С	Т	G	0	Ν	Α	R	Х	R	С	Т	Ε	U	Н	R	Κ
F	0	Y	Ν	Ν	Y	Н	R	Q	S	U	Т	T	т	Q	0	F
С	Α	Ν	Ζ	U	Α	Ρ	Μ	D	Т	W	Ν	Т	С	0	G	Ε
Н	L	Х	D	Н	Q	w	W	Н	Α	Ζ	S	С	0	Ε	Ρ	R
Α	н	U	w	U	С	J	Е	т	Α	Κ	Т	Y	Κ	Ν	Ζ	Q
G	Κ	0	L	R	С	R	В	Α	Y	Ζ	Т	Т	т	G	Т	S
В	Ν	۷	F	Т	Μ	т	L	Α	С	Т	R	т	С	Е	L	Е
Ρ	Q	J	F	Α	R	Υ	Т	G	Α	Κ	Т	0	L	Y	Κ	Н
U	1	В	L	Υ	Т	Ζ	Х	0	L	W	L	Т	W	0	S	Н
G	Ν	Ε	L	Α	S	Т	Т	С	Ν	Ν	U	С	L	Ε	Α	R

Kinetic Conduction Convection Radiation Potential Sounds Elastic Friction Electrical Thermal Chemical Nuclear

11.



POTATO POWER

Did you know you could power a light bulb with a potato? The chemical reactions that take place between two dissimilar metals and the juices in the potato create a small amount of voltage that can power a very small electrical device

Please note: Don't perform the experiment near open flames or strong sources of heat.

Materials Needed for Activity

- A large potato
- Two pennies
- Two zinc-plated nails
- Three pieces of copper wire
- A very small light bulb or LED light

What you need to do:

- 1. Cut the potato in half, then cut a small slit into each half, large enough to slide a penny inside.
- 2. Wrap some copper wire around each penny a few times. Use a different piece of wire for each penny.
- 3. Stick the pennies in the slits you cut into the potato halves. Wrap some of the third copper wire around one of the zinc-plated nails and stick the nail into one of the potato halves.
- 4. Take the wire connected to the penny in the half of potato with the nail and wrap some of it around the second nail.
- 5. Stick that second nail into the other potato half.
- 6. When you connect the two loose ends of the copper wires to the light bulb or LED it will light up

Instructional Video

Sources

https://science.howstuffworks.com/innovation/everyday-innovations/how-to-make-potato-powered-light-bulb.htm

ENERGY SOLUTIONS





EXTRA RESOURCES

Click the links below to access additional learning materials



Make A Balloon Powered Car

Power Up Game

<u>Science Video for Kids:</u> <u>What Is Energy?</u>

WATER SOLUTIONS

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