

Take Home Booklet

Forms of Energy



What are Forms of Energy?



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Dear Family,

Your child is learning about the changing forms of energy. We are learning how to differentiate the forms of energy such as light, heat, electrical, solar and sound energy. We are studying how light is reflected, such as from tinted windows, and refracted, such as in cameras and telescopes. You and your child can enjoy the enclosed **kaleidoscope** that uses light and mirrors to reflect objects and create patterns.

In addition, your child is learning many new vocabulary words that describe energy. Help your child to make these words a part of his or her own vocabulary by using them when you talk together about the energy you use every day.

WORD

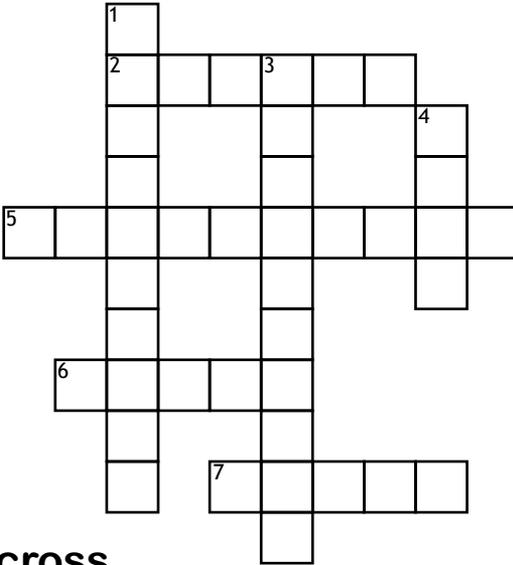
DEFINITION

differentiate	to identify the difference between things
verify	to test or check again, to prove
energy	the ability to do work; the ability to cause change and make things happen
light energy	energy from light
heat energy(thermal)	energy from moving particles, heat
electrical energy	energy from the flow of electric charge
solar energy	energy from the sun in the form of heat and light
sound energy	energy from vibrations that can be heard
reflection	the bouncing of light from a surface, such as a mirror or tinted car window
refraction	the bending of light, such as in eyeglasses or a telescope

The following pages include activities that you and your child can do together. By participating in your child's education, you will help to bring the learning home.

Vocabulary Practice

Complete the puzzle using the vocabulary words.



Across

- It takes _____ to do work.
- The flow of an electric charge creates _____ energy.
- Energy from _____ is called light energy.
- Vibrations I hear create _____ energy.

Down

- You can see your _____ in a mirror.
- A telescope bends light causing a _____.
- Moving particles cause _____ energy.

ANSWERS: Across: 2. energy, 5. electrical, 6. light, 7. sound; Down: 1. reflection, 3. refraction, 4. heat

Take Home Booklet

Forms of Energy - 1

Helper's Signature _____

Helpers, please rate the activities in this booklet:

1-poor 2-needs improvement 3-good 4-excellent
(Please circle one number on each line.)

My child's performance on these activities was: 1 2 3 4
The quality of these activities was: 1 2 3 4

Once you have completed all the activities and experiments, complete this section, cut along the dotted line, and return it to your teacher.

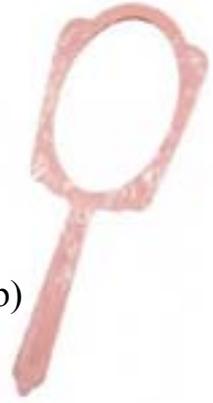
Student's Name: _____ on _____
I worked with my _____ (ex: mom, aunt, brother, guardian) on these projects.

Family Science Activity

Crazy Reflections

Materials:

- ◆ a small mirror
- ◆ a container of clear water at least 5 or 6 inches deep (you can use a sink or tub)



Steps:

- Hold the **mirror** about 3 inches under the surface of the water, with the mirror side facing upwards. Hold it flat, so you can look down into the mirror, through the water. You should see your *reflection* in the mirror staring up at you.
- Stick your finger into the water, so you can see its *reflection* in the **mirror**. You should see the *reflection* of your entire finger. You can see the part that is under the water and the part that is above the surface.
- Slowly tilt the **mirror**. As the angle increases, suddenly, the part of your finger that is above the water will disappear. You can still see the part that is under the surface, but it looks as if it is sticking through a mirror. If you lift your finger, it will seem to vanish into the mirrored surface.

Talk About It

The reason the surface of the water goes from transparent to a **mirror** is because light bends as it moves from one substance to another.