

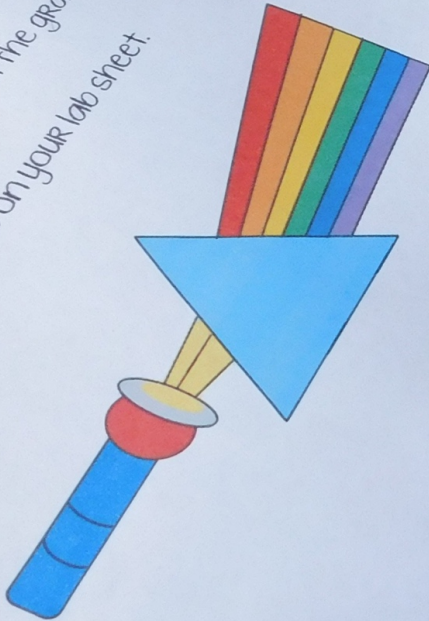
Centers

Types of Energy



Light

1. Is:
- 2.) Using a flashlight, point it against a prism.
 - 3.) Answer the questions on your lab sheet.



Created By The Owl Teacher

Advanced Preparation

Station 1: Mechanical Energy
 *Gather materials needed.
 *Cut a one-inch square section from the top edge of the paper cup

Station 2: Heat Energy
 *Gather materials needed.
 *Cut a strip of aluminum foil 6 in

Station 3: Light Energy
 *Gather materials

Station 4: Sound Energy
 *Gather materials
 *Place a solid block in a Ziploc bag
 *Fill another Ziploc bag half full of water
 *Fill another Ziploc bag with air

Station 5: Electrical Energy
 *Gather materials
 *Remove a Christmas bulb from a string of lights to expose the bottom of the light bulb.

For All Stations:
 *Make copies needed
 *Staple all pages of the student



Materials Page

Station 1: Mechanical Energy
 *three blocks (like Jenga)
 *scissors
 *ruler with a center groove
 *colored marker
 *marble
 *8 oz paper cup



Station 2: Heat Energy
 *1 AA battery (not alkaline)
 *aluminum foil
 *scissors
 *ruler



Station 3: Light Energy
 *flashlight
 *index card
 *prism



Station 4: Sound Energy
 *3 Ziploc bags
 *solid block (Jenga Block Okay)
 *water
 *pencil



Station 5: Electrical Energy
 *Christmas bulb from a string of lights
 *9V battery



For All Stations:
 *directions sheet
 *student lab sheets



Detailed materials and preparation page for each station. Materials are generally found in most science classrooms.



Station 1 Mechanical



Directions:

- 1.) Place the cup so the rim should touch the ground.
- 2.) Raise the open end of the cup with your colored marker.
- 3.) Place the marble at the highest end.
- 4.) Release the marble.
- 5.) Answer the questions on your sheet.

Directions:

- 1.) Repeat above with a different colored marker.
- 2.) Answer the questions on your sheet.

Directions Sheet



Station 2 Heat



★CAUTION★

Be careful! No touching the battery pole with your fingers. It will continue to heat up.



Directions:

- 1.) Hold one end of the battery pole with your fingers.
- 2.) Continue to hold the battery pole with your fingers on the other hand.
- 3.) Answer the questions on your sheet.

Directions Sheet

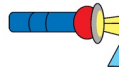


Station 3 Light



Directions:

- 1.) Hold an index card up to the light.
- 2.) Using a flashlight, point the light at the index card.
- 3.) Answer the questions on your sheet.



Directions Sheet



Station 4 Sound



Directions:

- 1.) Predict which sound is the loudest, medium, and softest.
- 2.) Place the Ziploc bag on a flat surface. Lightly tap with the pencil.
- 3.) Repeat with the other bags.
- 4.) Record your answers to the questions on your sheet.

Directions Sheet



Station 5 Electrical



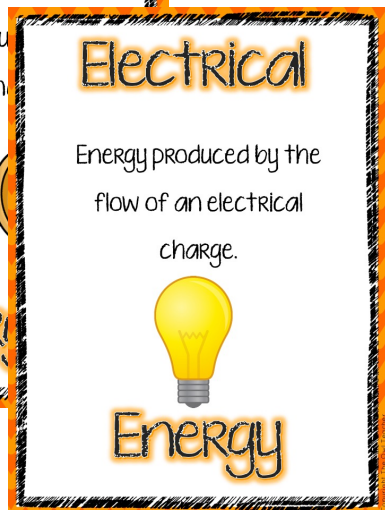
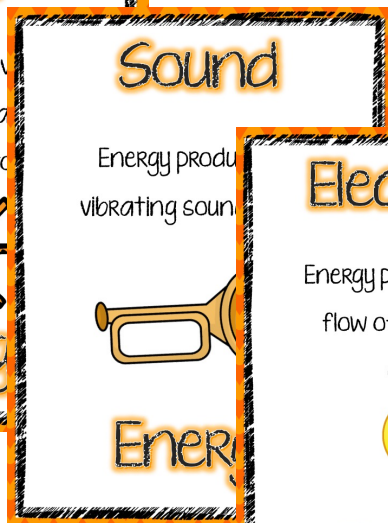
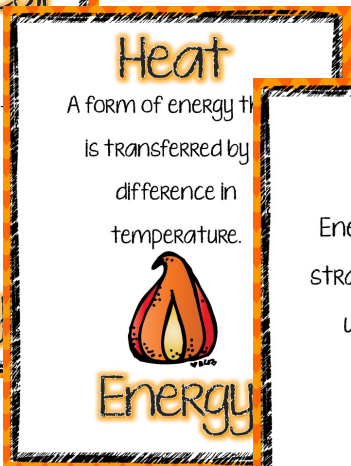
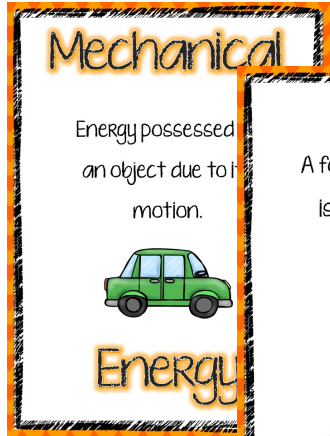
Directions:

- 1.) Carefully place each prong into each part of the 9V battery.
- 2.) Answer the questions on your sheet.

Step-by-step direction sheets for each center/station.




Visuals for each center/station!





Posters detailing each type of energy


Student pages for each center/station. Additional pages without the label of a station in case you wish to do each station independently.


Forms of Energy for Scientific Learners

 = Mechanical


 = Heat

 = Light

 = Sound

 = Electrical

Scientist: _____

Station 1 Mechanical 

Experiment One

 cup move? Why or why not?

Experiment Two

 cup move? Why or why not?



 is experiment two different from experiment one?

 marble move at the same speed between experiment two?

 cup move the same distance between experiment two?

5) Why or why not?

6) What evidence of energy is displayed during this investigation?

 **Station 2 Heat** 

★ CAUTION ★



Be careful! NOT to burn yourself! Do not hold the battery poles longer than 20 seconds. The wire will continue to get hot and the battery is discharging (losing its power).

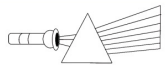
- 1) What did you observe happening?

- 2) Which forms of energy were being used?

- 3) Why do you think the object warmed up?

- 4) What do you think would happen if you kept the aluminum foil on for a long period of time?

 **Station 3 Light** 





- 1) What did you observe happening?

- 2) Which forms of energy are displayed during this investigation?

- 3) Which form of energy is coming out of the batteries of the flashlight?

- 4) Why do you think we see all the colors of the rainbow?

 **Station 4 Sound** 

Key:
 3 - Loudest sound
 2 - Medium sound
 1 - Softest sound

Bag	Prediction	Volume	Matter Type (Solid, Liquid, Gas)
Water			
Air			
Block			


- 1) How do the three bags differ in sound?

- 2) What created this sound?

- 3) Which one do you think has the most vibration?






- 4) Why?

- 5) Draw the shape of sound vibrations.

 **Station 5 Electrical**

Directions:
 Carefully place each prong into each part of the battery.

Questions:
 Answer the following questions:
 What did you observe happen?
 Why do you think this occurred?
 Is there any other form of energy involved with this demonstration? If so, which?

Final Wrap Up     

It's time to share what you have learned about energy! Tell your story using pictures. Create a cartoon, draw a flow chart or make a web. Be creative!

- 1) Plan your 'teaching' creation. What do you want to say about energy?
- 2) Use symbols, CAPITAL letters, different lines, color, and words to share what you know.
- 3) Be original.
- 4) Neatness, humor, color, and knowledge count!

Answer key and student reflection page included.
Black and white versions also included.