



Getting Energy to Change

Energy is neither created or destroyed but only changes form (transforms). All of the energy that goes into a system is constant. In other words, energy may be converted from one form to another, but it doesn't disappear or multiply. A law of science says that Energy cannot be Created or Destroyed! Think about the energy in your favorite food - this is chemical energy. When you eat the food, your body digests it and gives you energy to move and pick up things - this is mechanical energy. So the chemical energy in food is transformed to mechanical energy in your body. All of the types of energy we have studied can be transformed into other types of energy.

Materials: flashlight, hot plate, carafe of water, radiometer, electromagnet, small paper clips, glow stick, CD player, radio or computer

What To Do:

1. Your teacher will show you a flashlight and the batteries inside.
2. Your teacher will turn the flashlight on.
3. On the next page fill in the chart for the flashlight.
4. Your teacher will plug in and turn on the hot plate.
5. Place a carafe of water on the hot plate.
6. On the next page fill in the chart for the hot plate and water.
7. Your teacher will give each table a radiometer.
8. Place it on the table and observe.
9. Take it outside and place it in the sun. Observe what happens.
10. On the next page fill in the chart for the radiometer.

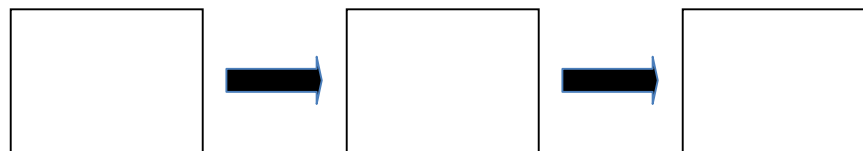


11. Your teacher will show you a battery, nail with wire wrapped around it and 5 small paper clips.
12. Touch the wires to the top and bottom of the battery and touch the nail to the paper clips.
13. On the next page fill in the chart for the electromagnet.
14. Your teacher will show you a glow stick.
15. Then your teacher will turn off the classroom lights and break the glow stick.
16. On the next page fill in the chart for the glow stick.
17. Your teacher will plug in a computer, radio or CD player.
18. Then your teacher will play some music.
19. On the next page fill in the chart for the CD player.

Questions:

1. What types of energy did electrical energy transform into? _____
2. What types of energy did chemical energy transform into? _____
3. A flashlight actually has 2 energy transformations in the process of getting light. The chemical energy in the battery changes to electrical energy in the flashlight, which changes to radiant energy in the light bulb. Draw and label these 2 energy transformations in the space below.

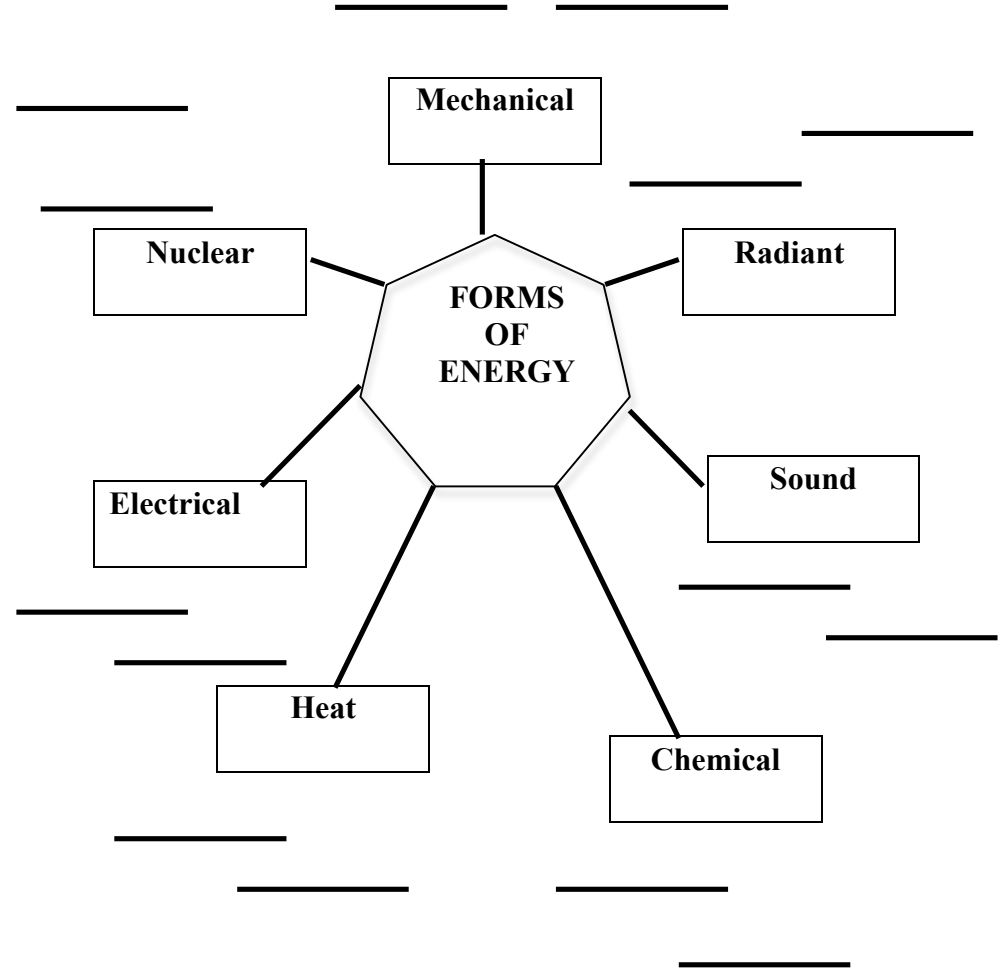
Chemical Energy Electrical Energy Radiant Energy



Energy Transformations

Title of Activity	What happened? (What evidence is there that energy was used?)	Where did the energy come from?	What type of energy is it to begin with?	What type of energy did it change (transform) into?
1. Flashlight with battery				
2. Hot Plate and water				
3. Radiometer				
4. Electromagnet				
5. Glow stick				
6. CD Player or computer				

Write examples of each type energy on the lines below.





Name _____ period _____

EXIT TICKET

Making Energy Change

Fill in the blanks below using the following words:

Heat Nuclear Electrical Mechanical



_____ → _____
Beginning Energy Type changes into Ending Energy Type



_____ → _____
Beginning Energy Type changes into Ending Energy Type

Conclusion: (transforms, electrical, flashlight, chemical, radiant,)

When energy changes from one form to another it

_____. Two energy transformations occur when you turn on a _____. The _____ energy in the battery changes to _____ energy and then to _____ energy.



Name _____ period _____

EXIT TICKET

Making Energy Change

Fill in the blanks below using the following words:

Heat Nuclear Electrical Mechanical



_____ → _____
Beginning Energy Type changes into Ending Energy Type



_____ → _____
Beginning Energy Type changes into Ending Energy Type

Conclusion: (transforms, electrical, flashlight, chemical, radiant,)

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_____. Two energy transformations occur when you turn on a _____. The _____ energy in the battery changes to _____ energy and then to _____ energy.