

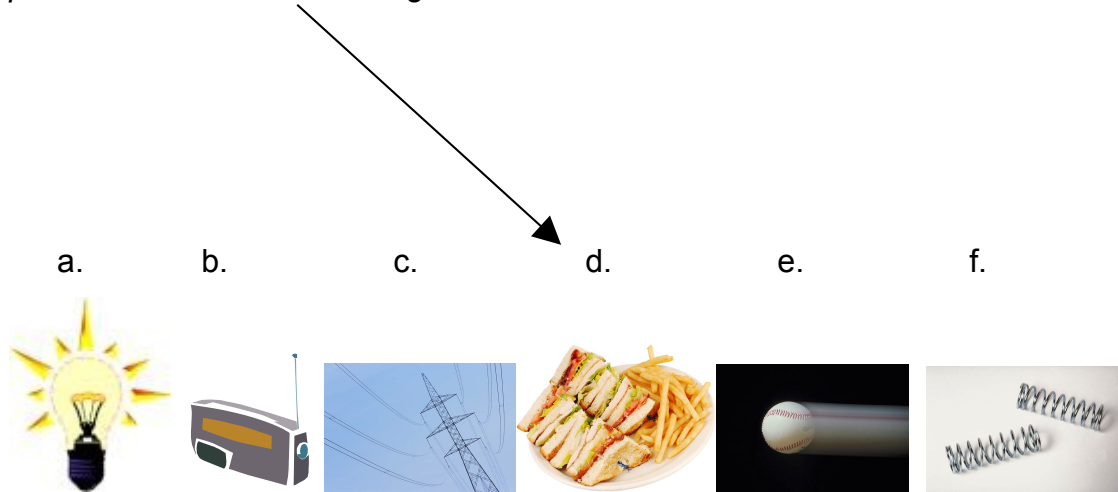
3.16 Energy

Name:.....

1. Match the different forms of energy in the list with the correct diagram beneath.
One has been done for you.

potential *chemical* *light* *kinetic* *sound* *electrical*

a. b. c. d. e. f.



2. Now, use the forms of energy in the list below to complete the following sentences. Each word can be used once.

potential *chemical* *kinetic* *sound* *electrical*

- (i) Vibrations cause _____ energy.
(ii) Energy stored in a battery or food (as well as fuel, such as oil and coal) is called _____ energy.
(iii) Energy just waiting to do work is called _____ energy.
(iv) We mainly use _____ energy in our homes.
(v) Any moving object has _____ energy.

3. Again, use the forms of energy in the list below to complete the following sentences about **energy conversions** (changing one form of energy into another). Each word can be used once.

potential chemical light kinetic sound electrical

- (i) A light bulb converts _____ energy into _____ and heat energy.
- (ii) A moving car converts the chemical energy in fuel into _____ energy.
- (iii) A radio converts electrical energy into _____ energy.
- (iv) An object just about to fall converts _____ energy into kinetic energy as it falls to the ground.
- (v) The _____ energy in fuel is converted into heat energy by burning.

4. Draw a diagram that you would use to show the conversion of chemical energy in a battery into heat energy. You should include a **battery**, a **light bulb** and a **switch** in your diagram. Make sure you label your diagram.



5. Energy is the ability to do _____. It is measured in _____.

6. Energy can neither be _____ nor _____ but it can be _____ from one form into another. This is called the Law of _____ of Energy.

7. Most of the energy on our planet comes from the Sun. Plants use this energy to make food by a process called *photosynthesis*. We use plants in a variety of ways, e.g. food, fuel etc. Describe different ways in which energy from the sun is converted into other forms of energy.

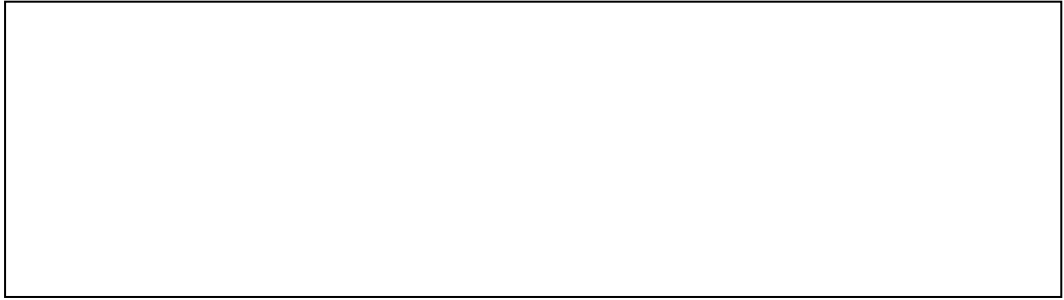
8. When you turn a light on, all of the electrical energy is not converted into light energy because some of it is wasted as heat energy. In fact, most of the energy produced on earth ends up as wasted heat.

(a) Give another example of where energy is wasted as heat.

(b) How can we prevent some of this energy from being wasted?

(c) How would your answer to part (b) prevent energy from being wasted?

9. Using a diagram to show your idea, design an experiment to compare the amount of energy contained in different foods.



(a) List what you need:

(b) What measurements will you make?

(c) Predict what will happen in your experiment.

(d) How accurate do you think your method will be?
