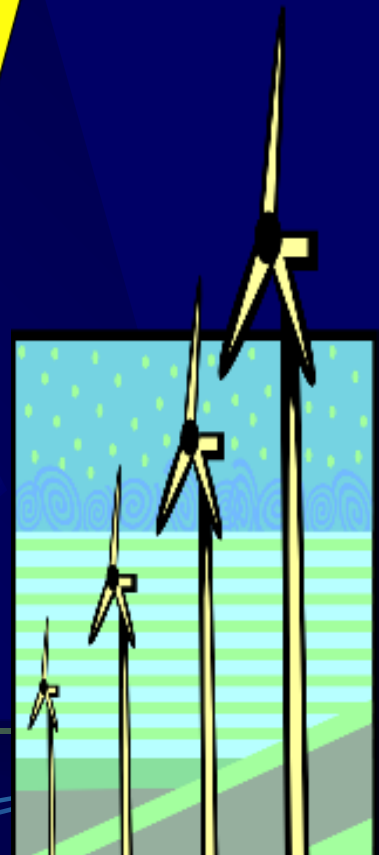


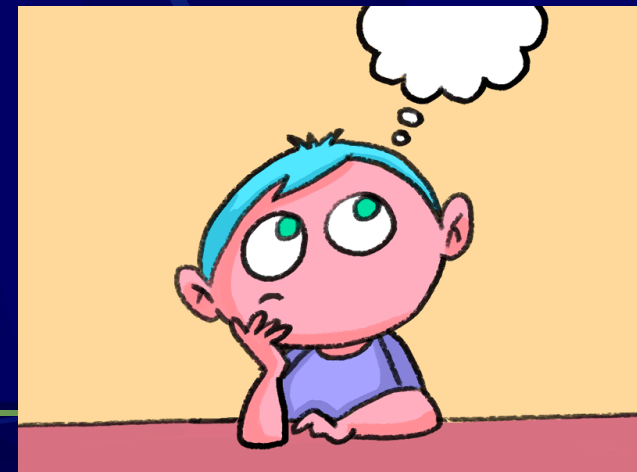


ENERGY



Do NOW

- Name 3 things you used this morning that have or use energy.



ENERGY is...

the ability to do WORK or cause change

Name 2 things that ARE energy or that HAVE energy



WORK

is... when a FORCE moves an object



a FORCE is... a push or a pull



There are two main kinds of energy...

**POTENTIAL
ENERGY**
STORED energy

or

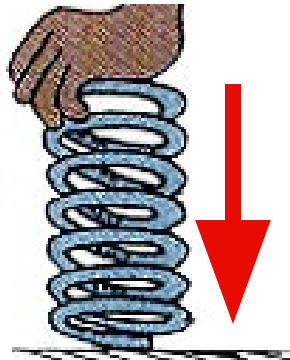
Energy that is NOT being
used

**KINETIC
ENERGY**

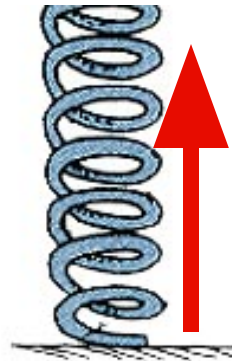
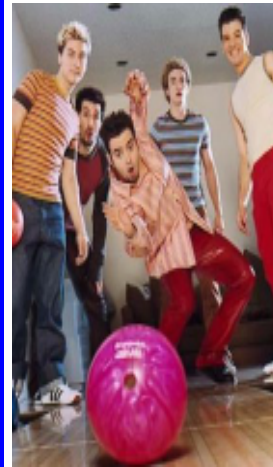
Energy that IS being used
or

Energy in MOTION

Examples



Examples



Demonstrate POTENTIAL ENERGY using the ball on your table AND draw a picture showing what potential energy looks like.

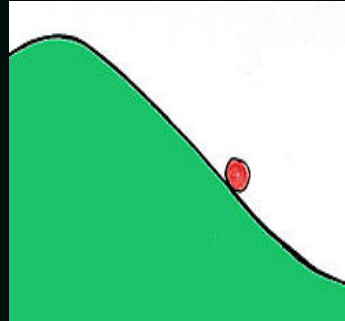


Now, use the same ball to demonstrate KINETIC ENERGY. Again, draw a picture to show what kinetic energy looks like.

Write a "P" or a "K" under each picture on your paper to tell whether the pictures are showing POTENTIAL or KINETIC energy.



P



K



K



K



P

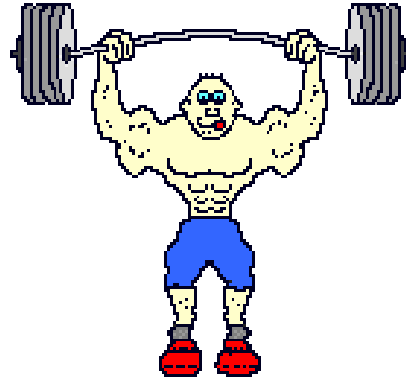
Do Now:

Click in A for Potential energy and B for kinetic energy:

1.



2.



3.



4.



5.



6.



6 DIFFERENT FORMS OF ENERGY

Both potential & kinetic energy come in many forms. Six of the most common ones are:

MECHANICAL ENERGY

Energy of moving parts



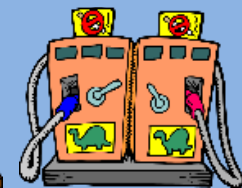
THERMAL (HEAT) ENERGY

Energy of the heat IN an object



CHEMICAL ENERGY

Energy in chemical bonds of food, gas, batteries, burning wood etc.



6 DIFFERENT FORMS OF ENERGY (continued)

ELECTRICAL ENERGY

Moving electrical charges



ELECTROMAGNETIC ENERGY

Light energy, X-rays, radio waves



NUCLEAR ENERGY

Stored in the nucleus of an atom & released when atoms are split or joined together, nuclear reactors, atomic bombs, stars, sun



Do Now:

Use the e-clicker to click in the form of energy the object has.

- a. electrical energy
- b. chemical energy
- c. mechanical energy
- d. nuclear energy
- e. electromagnetic energy
- f. heat energy.

1.



2.



3.



4.



(Nuclear power plant)

Review:

There are two **TYPES** of energy: potential and kinetic.

Energy can't be created or destroyed so we need to **convert** energy we have into what we need.

The energy we use comes from many **sources**: Fossil fuel (coal, oil, natural gas), nuclear power, sun, wind, geothermal, hydropower. Most of this we **convert into electricity** (electrical energy).

There are 6 **forms** of energy: mechanical, chemical, nuclear, electromagnetic, thermal, electrical . Energy can change from one form into another but is not created or destroyed.

Do Now:



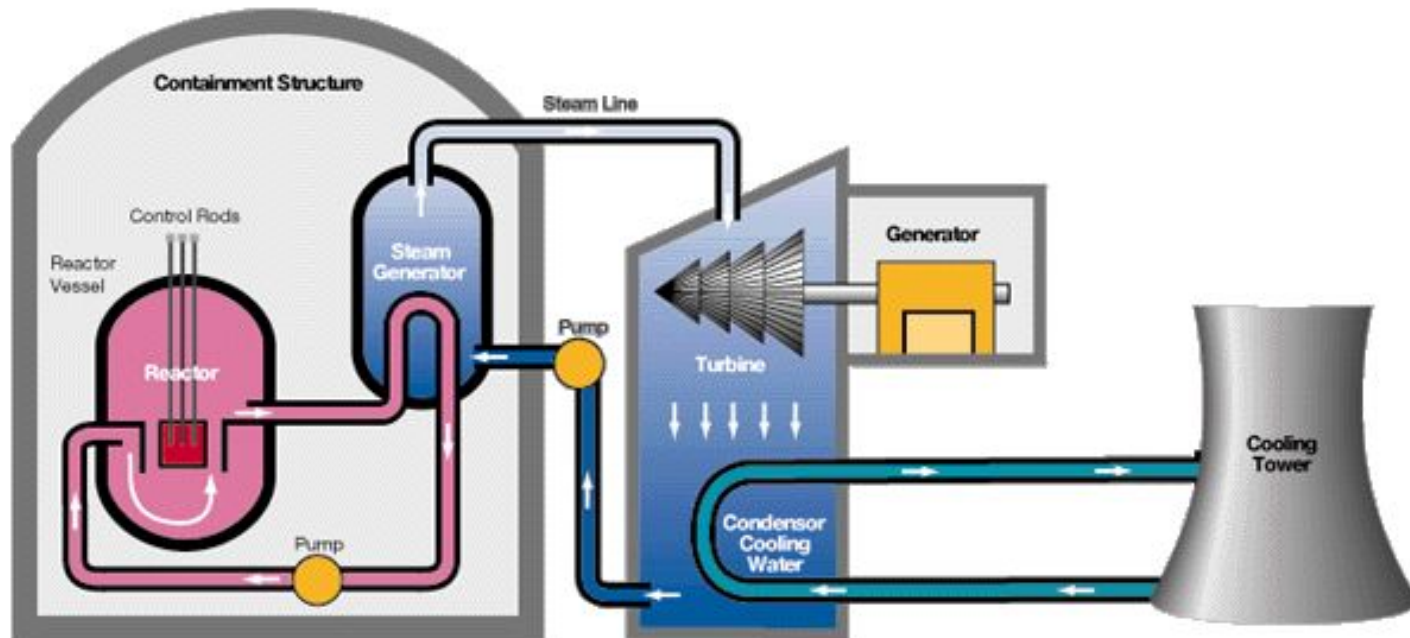
- How many people does it take to turn on a light bulb?
- Where do we get our energy from?
- How is electricity “made”?

**Where do we get electricity?
Energy conversions from fossil
fuel:**

[real life power plant](#)

<http://www.youtube.com/watch?v=20Vb6hLQ5g>

Electricity from Nuclear energy

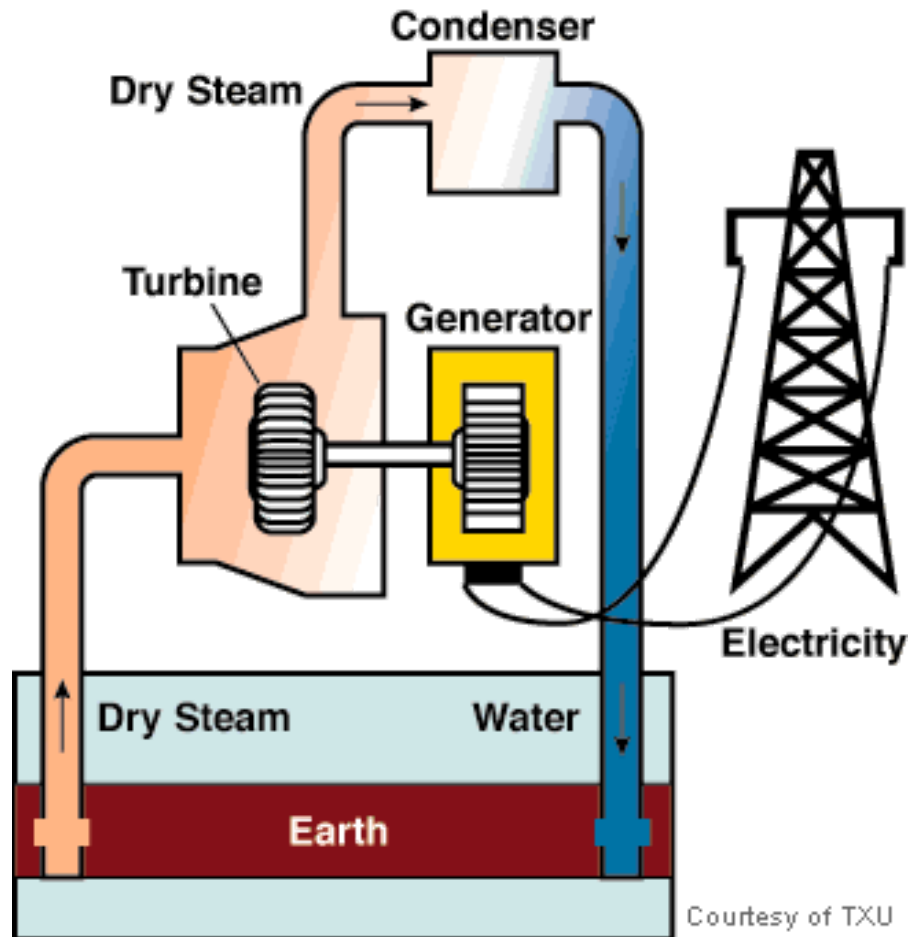


Electricity from hydropower

Electricity from Wind energy



Electricity from geothermal



Electricity from the sun

