Name: _____

Date: _____

Block: _____

SCI 10 Converting Units

1) 35 sec = _____ min

2) 40 min = _____ sec

3) 2.3 h = _____ min

4) 13 min = _____ h

5) 2500 sec = _____ h

6) 13 m = _____ cm

7) 35 km = _____ miles

8) 20 cm = _____ m

9) 130000 cm = _____ km

10) 3000 m = _____ miles

11) 25 miles = _____ km

12) 106 km = _____ m

13) 2.3 miles = _____ m

14) 1500 m = _____ km

15) 120 km/h = _____ m/s

16) 30 m/s = _____ km/h

17) 45 km/h = _____ mph

18) 80 mph = _____ km/h

19) 34 m/s = _____ mph

20) 43 mph = _____ m/s

Name: _____

Date: _____

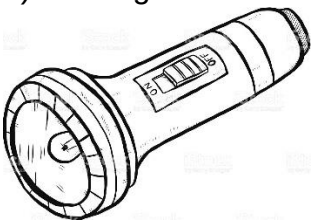
Block: _____

Types of Energy

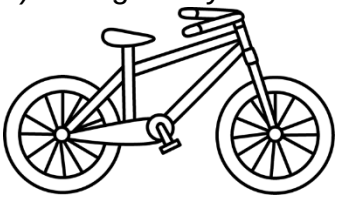
1) Identify the transformation of energy using thermal, mechanical, electrical, magnetic, sound, light, chemical, elastic, nuclear or gravitational.

a) Windmill

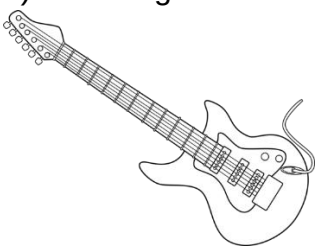
b) Flashlight



c) Riding a bicycle



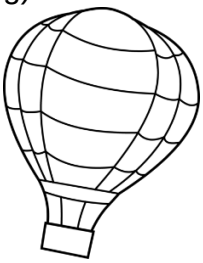
d) Electric guitar



e) Car

f) Eating an apple

g) Hot air balloon



h) Campfire

2) Give an example for each energy transformation. (Do not use the examples from the previous page.)

a) Electrical to Thermal

b) Chemical to Mechanical

c) Light to Chemical

3) Give a brief description of the energy transformation in each type of power generator.

Solar:

Wind:

Geothermal:

Tidal:

Hydroelectric:

KINETIC AND POTENTIAL ENERGY WORKSHEET **Name:_____**

Determine whether the objects in the following problems have kinetic or potential energy. Then make a list of your variables and which one you are trying to find. Convert any to SI units if needed.

KE= $1/2\ m\ v^2$
PE = mass x gravitational acceleration ($9.8 m/s^2$) x height

SI Units
Energy= joules
Height = meters
Mass= kilograms
Velocity= m/s
Gravitational acceleration= ($9.8\ m/s^2$)

1. You serve a volleyball with a mass of 2.1 kg. The ball leaves your hand with a speed of 30 m/s. The ball has _____ energy.

2. A baby carriage is sitting at the top of a hill that is 21 m high. The carriage with the baby has a mass of 12 kg. The carriage has _____ energy.

3. A car is traveling with a velocity of 40 m/s and has a mass of 1120 kg. The car has _____energy.

4. A cinder block is sitting on a platform 20 m high. It weighs 79 lbs. The block has _____ energy.

5. There is a bell at the top of a tower that is 0.45 km high. The bell has a mass of 19000 g. The bell has _____ energy.

6. A roller coaster is at the top of a 72 m hill with 350 J of energy. The coaster (at this moment) has _____ energy.

7. What is the _____ energy of a 3-kilogram ball that is rolling at 2 meters per second?

8. Two objects were lifted by a machine. One object had a mass of 2 kilograms, and was lifted at a speed of 2 m/sec. The other had a mass of 4 kilograms and was lifted at a rate of 3 m/sec.