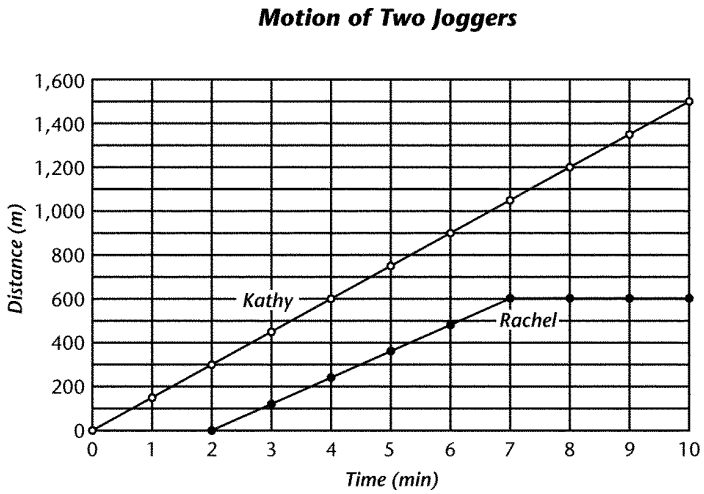
DR. ROLANDO ESPINOSA K-8 CENTER

SUMMER HOME LEARNING

COMPREHENSIVE SCIENCE III & PHYSICAL SCIENCE HONORS

Answer the following questions using diagrams provided. You may use additional paper to provide your answer.



a. What two variables are plotted in the graph?

b. How would you describe Kathy's motion? What does such motion mean?

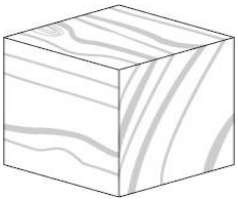
c. How far did Kathy jog in the first 4 minutes?

d. What is Kathy's average speed?

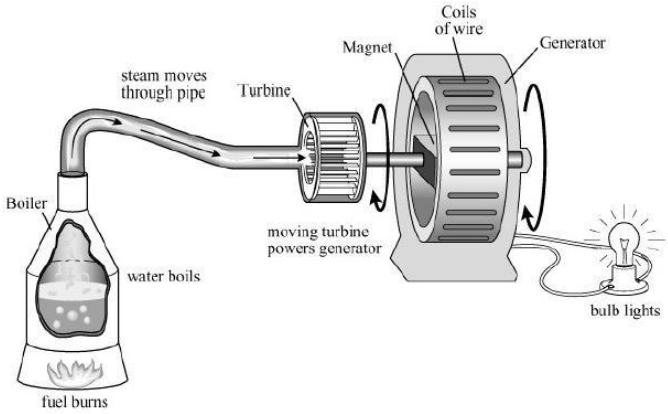
e. How long after Kathy started jogging, did Rachel begin jogging?

f. Describe Rachel's motion at 9 minutes.

NAME: _____ PERIOD: _____ ID: _____



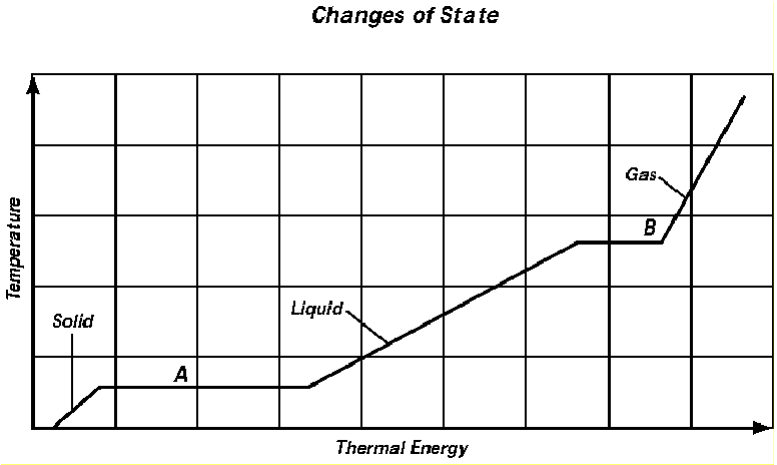
2. The density of water is 1.0 g/cm3.
Although the class has no water, the students want to know if the cube will float or sink in water. Explain, in detail, the steps that must be taken to determine if the cube will float or sink.
Be sure to use the following key terms: *triple beam balance, metric ruler, and density*.



3. The diagram above shows how energy is transformed in a power plant. During this entire process, energy is transferred from one form to another several times. Describe four energy changes that occur during the process.

DR. ROLANDO ESPINOSA K-8 CENTER

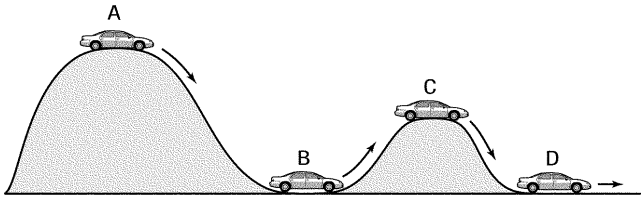
SUMMER HOME LEARNING



4. Suppose the material is being heated.
   a. What change of state is represented by line segment A?

   b. What is happening to the average kinetic energy of the particles during the change of state represented by line segment B? Explain.

   c. What physical property does the temperature at point B represent? If the liquid is kept at this temperature what state of matter will be observed? Explain your answer.



All cars are moving and have the same mass.

5. Which car has the greatest potential energy? What type of potential energy does the car have? What characteristics or properties does potential energy depend on? Which cars have the least potential energy? Explain.