

Name _____ Class _____ Date _____

KE Variables

Background Information: Kinetic energy is the energy that moving objects possess. It is sometimes called "the energy of motion."

Question: *How do the **mass and speed** of a vehicle affect its kinetic energy?*



You will design a series of experiments to answer this question using the following materials:



- Marbles of different masses (to represent vehicles of different mass)
- Ramp material
- Textbooks to change the angle of the ramp (this will vary the speed)
- A plastic cup with a hole cut into it (an "igloo" cup)
- A meter stick or ruler to measure how far the marble moves the cup

To get useful data, your experiments need to be "controlled." The following questions might help you design productive experiments:

- Which variable will your team change? (This is the independent variable.)
- Which variables will the team observe and measure? (These are the dependent variables.)
- Which variables are being held constant? (controlled variables)

Keeping these variables in mind, make a list of some experiments you might use to answer the question:
