



Mass, Force, and Distance Traveled Partner Activity

0507.11.1 Predict how the amount of mass affects the distance traveled given the same amount of applied force.

0507.11.3 Design and conduct experiments using a simple experimental design to demonstrate the relationship among mass, force, and distance traveled.

Materials Needed:

Paper clips

Different lengths of string (6, 8, 10, 12 inches)

Pennies

Tape

Timer or watch with second hand

Experiment: In your Science journal, write down the Scientific Method steps for this experiment.

- 1)** Tie a paper clip to the different lengths of string
- 2)** Put a penny in the 6 inch clip. Create a pendulum by taping the top of the string to a table or desk.
- 3)** Pull the pendulum horizontal to the table or desk and let it swing back and forth. Count the number of full swings (back and forth to starting point equals one full swing) in 30 seconds and record the results in your Science journal.
- 4)** Repeat the experiment with each length of string. Finally, graph the results.



In your Science journal, answer the following question:
How does the length of the string affect the number of swings and their speed? (The longer the string, the fewer and slower full swings.)