



Transfer of Energy Experiment

Energy is the ability to do work. Learn the difference between potential energy (stored energy), and kinetic energy (the energy of moving things). This experiment is used to further study the transfer of energy from one object to another.

Materials

- Ruler with a groove in the middle
- Small Marbles
- Large Marbles

Procedure

First, line up two marbles in the middle and one marble at the edge. What happens when you flick one marble towards the two marbles in the center? Only one of the marbles will roll away!

Repeat the experiment with different configurations of marbles (like shooting 2 at 3), and pretty soon the pattern emerged: the number of marbles that you flick equal the number of marbles that roll away. In other words, the rolling marble can only transfer the amount of energy that it has – one marble can transfer energy to one marble, two marbles can transfer enough to move two marbles, etc.

What happens if a larger marble is used?

When flicking the large marble at four smaller marbles, two marbles usually roll away and a third marble will likely roll slowly away. Therefore, the large marble has approximately the energy of 2.5 of the small marbles.

Go ahead and try with different combination of marbles and like a future scientist try to calculate and interpret results....have fun!

