

Awe and Wonder

Marvellous Marbles

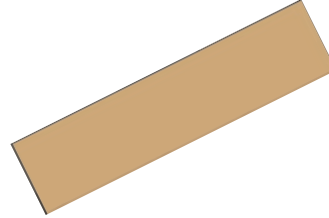
You will need:



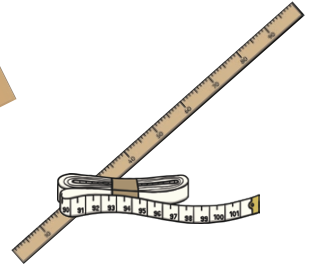
a large marble



a smaller marble



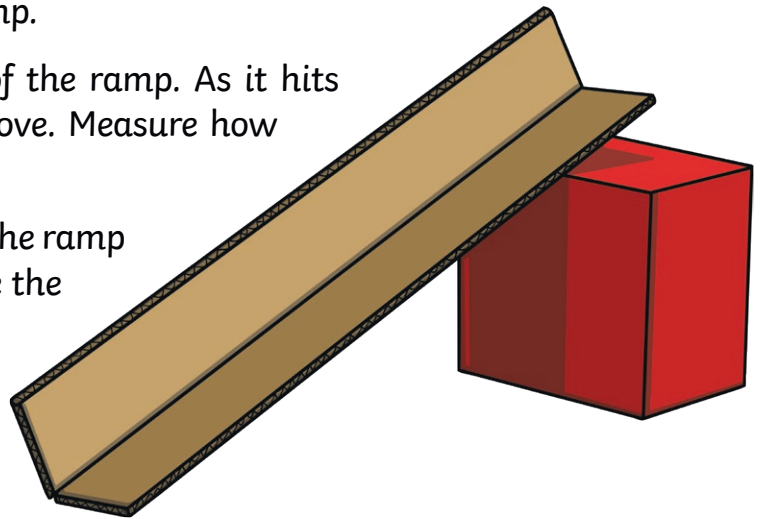
a long piece of card
(about 1 metre long)



tape measure or
1 metre ruler

Method:

1. Cut your card into a long piece about 1metre long and about 10cm wide. Fold it lengthways in the middle to create a long 'v' shape.
2. In a clear space, place the ramp at an angle (you can hold it or place items underneath), put the large marble at the bottom of the ramp and place your tape measure or ruler alongside travelling away from the ramp.
3. Roll the smaller marble from the top of the ramp. As it hits the larger marble, it should make it move. Measure how far the marble has moved.
4. Repeat using different-sized marbles or the ramp at a different angle. How can you make the large marble travel as far as possible?



The Science

The motion of the smaller marble hitting the larger marble creates a pushing force on the larger marble causing it to move. The higher the angle of the ramp or the larger the marble, the faster the marble will travel. By moving faster, the smaller marble will create a larger pushing force when it hits the larger marble, causing it to move further.