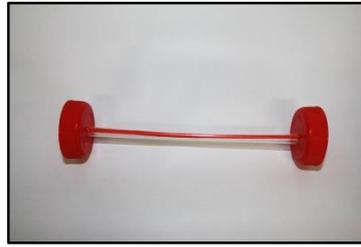


# Play Resource Presents Science from Scrap

## Wind Buggy

### You will need:

- 1 crisp packet
- 2 plastic tops and rings
- 2 match sticks
- 1 milk straw
- 3 bendy straws
- Sellotape
- Screw driver
- Measuring tape
- Stop watch



### How to use these resources for enquiry in Science/Maths

This activity can be used in lessons focusing on forces and energy. Initially this can be a challenge task where the children design, make and test a wind buggy but then become an exploration where the children change things to investigate the difference they make, e.g. size of wheels or crisp packet. They can then calculate speed and the readings generated can be used in numeracy lessons when looking at measures.

### Instructions

- Use a screw driver to make a hole in the centre of the plastic tops.
- Insert a match into each end of a milk straw.
- Cut bendy straw to size and place over milk straw to make the axle.
- Attach wheels to each side of the axle.
- Stick other bendy straw to centre of axle. Place plastic ring into top of straw.
- Punch hole in centre of front of the crisp packet. Put straw through hole, stick in place. Stick the short end to the inside of the packet.
- Attach bag to axle. Use sellotape to hold in place.
- Place the second plastic ring into top of straw.
- Test buggy outside on windy day or place on a table top or corridor and use a hair dryer to simulate the wind. Calculate speed of buggy.

### Background Knowledge

Wind is moving air and is a renewable source of energy. Kinetic energy is motion energy and anything moving has kinetic energy.

The wind-powered buggy converts the kinetic energy of the wind to kinetic energy that moves the buggy. When we see the wind pushing the buggy, we can think of that process as a transfer of energy. Kinetic energy in the wind is being transferred to kinetic energy of the buggy.

Calculate speed using the formula:

$$\text{Speed} = \text{Distance}/\text{Time}$$

### Key Questions.

- How does wind speed and direction affect the performance of the buggy?
- Does the size of crisp packet affect the speed of the buggy?
- How would you change your design to make your buggy travel faster?

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