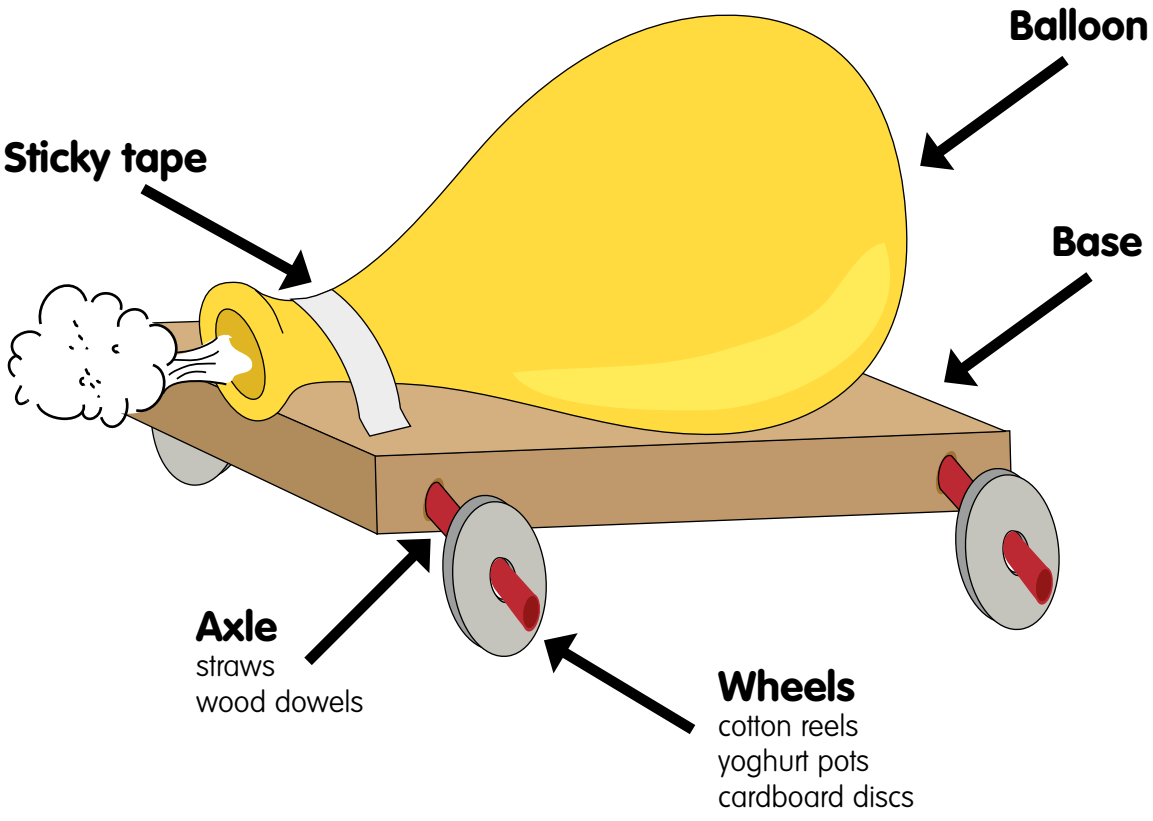
Rolls-Royce

Balloon Buggy Investigation

For pupils aged 7-11

Teachers' notes



This Activity Sheet is provided by Rolls-Royce plc as part of our continuing commitment to education

Balloon Buggy Investigation

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The range of ideas that pupils are likely to suggest as changes to the buggy include:

- The type of balloon
- Whether the balloon is round or straight
- How much the balloon is blown up
- The size of the trolley wheels
- The type of wheels used
- The weight of the trolley.

Practical tips

This investigation asks pupils to consider changes to the balloon buggy rather than the surface it runs on. Pupils may find it easier to come up with a range of ideas if they are first asked to think about ways in which the force pushing the buggy could be increased and then ways in which the force of friction, slowing the buggy down could be changed.

Testing the buggies will probably need more floor space than that available in the classroom. Long tapes may be needed; alternatively chalk marks at metre intervals may be useful for measuring how far the buggies go.

Balloon pumps are needed if the same balloon is to be reused for several runs. Pupils who carry out the extension investigation, measuring the speed of the buggy will need to be familiar with using stop watches and will need to be able to calculate speed.

Speed = distance / time

National Curriculum Links

This investigation links to attainment target Sc 4, Physical processes. At KS2:

Pupils should be taught:

Sc4 2c About friction including air resistance as a force that slows moving objects and may prevent objects from starting to move.

Sc4 2d That when objects are pushed or pulled an opposing push or pull can be felt.

Sc4 2e How to identify the direction in which forces act.