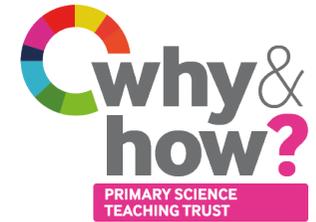




## Mary Sherman Morgan

### LINKED CHALLENGE

Construct a balloon rocket that will travel along a string for at least a metre



### ACTIVITY OVERVIEW

Two groups with two different sets of equipment (see resources list).

All children to have access to a metre ruler and different types of string. Activity leader to demonstrate how an inflated balloon travels, showing that air expelled in one direction causes movement in the opposite direction. Also explain that children can select their string/wire for the challenge from the general resources. One end will be tied to a window/door handle and the other to a chair.

Activity leader to set initial challenge for children and let them explore the equipment. Children reminded they can decide to ask for a 'top tip' as a group if they find the challenge difficult. Activity leader to then determine how much of a pointer the group needs to get on track.

### KEY FACTS/SCIENCE

Rocket fuel works by creating enough energy when it burns to push the rocket up against gravity. The force of the expelled liquids and gases from the rear of the rocket creates an equal force called thrust and movement in the opposite direction; this then propels the rocket upwards. This thrust can also be called propulsion; the force is propelling the rocket upwards.

A balloon rocket works in a similar way. The air in the balloon pushes out and the balloon is given the thrust to move in the opposite direction. The direction the balloon travels can confuse children when they first try this.

<https://www.youtube.com/watch?v=KMX7zgaLC0w>

### RESOURCES

#### Group 1

Selection of balloons

Tape

Straws

Toilet roll tubes

#### Group 2

Selection of balloons

Paper clips

Tape

Card

#### General Resources

Selection of string

Wire

Metre ruler

Scissors

### QUESTIONS/FURTHER LEARNING

- Which rocket worked best and why do you think it did?
- Would changing some of the materials/string effect how far the rocket travels?

