

SCIENCE FOR ONE

straw

Activities for doing practical science while respecting social distancing

- * Each activity sheet is based around **one easy to obtain resource**
- * Children **work independently** but should be encouraged to talk in pairs or groups
- * Any additional resources needed are minimal and easy to provide for each child
- * Activities are **linked to topics** and suggestions are given for **three age ranges**
- * The activities **can be done outside**.

Science with straws

Paper straws are cheap, recyclable and come in straight or flexible varieties. Either type is suitable for the activities suggested here.

Bamboo straws will also work and if necessary, the activities can be done with plastic straws.



AGE 5-7 TALL TOWERS

Give children time to explore their resources and discuss and describe their properties, e.g. if they can bend, twist, squash or stretch them.

Challenge the children to use the straws to build a stable structure. They should aim for the tallest structure they can, but it must be able to stand on its own. Start by using just 3 straws, then try with 4 straws and finally, with all 5 straws.

Each time, encourage the children to draw a picture of each structure and record how high it is using a ruler; this could be on a pre-prepared recording table or completed independently. Encourage children to discuss how their structure changed each time and what strategies they used. Ask them if they can identify whether there were any shapes they made or patterns they noticed that made the tower more stable. Ask them to describe what happened each time they added another straw.

Resources per child

- 5 straws (straight or flexible)
- Blob of sticky tack/moulding putty

Science explored

- Properties of materials
- Gathering data and using ideas

Interesting links

- [Engineering our world – Gustave Eiffel and building a tower](#)

Important note: The Primary Science Teaching Trust is not liable for the actions or activity of any person who uses the information in this resource or in any of the suggested further resources. The Primary Science Teaching Trust assumes no liability with regards to injuries or damage to property that may occur as a result of using the information on this sheet and recommend that a full risk assessment is carried out before doing any of the activities suggested.

AGE 7-9 LAUNCHING ROCKETS

The children can make their rocket indoors or outdoors, but the rocket testing should be done outside. Explain to the children how to make a simple rocket by wrapping paper tightly around a pencil, securing with tape, then making one end air-tight by folding over and taping down. When they remove the pencil, they will have made a paper cylinder with one sealed end. Their straw should be able to fit inside the paper tube 'rocket'. The straw will be the 'launcher'.

Once outside, the children can launch their rockets by giving a short sharp blow into the straw. Challenge them to think about what they could change to make their rocket go further, or to make their rocket land on a particular spot, or target on the ground. This could include:

- changing the paper rocket: size, shape, type of paper
- changing the straw launcher: length/diameter of straw, launch angle
- changing how hard they blow

Encourage children to think about how they can make accurate measurements, and to discuss their ideas and findings with each other.

HEALTH AND SAFETY NOTE: straws and rockets should be disposed of to avoid risk of cross-contamination; repeated blowing may cause dizziness.

Resources per child

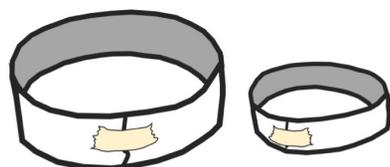
- 1 straw
- Paper
- Sticky tape

Science explored

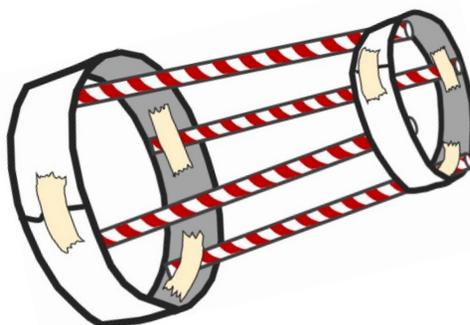
- Forces and motion; air resistance
- Planning a scientific enquiry; controlling variables

Interesting links

- [Make a balloon rocket](#)
- [Make a squeezey bottle rocket](#)



Cut two strips of card approx. 30cm x 5cm and 20cm x 4cm and use sticky tape to make the strips into two hoops.



Use sticky tape to attach four straws as shown. With the smaller hoop facing up and forwards, hold one of the straws to throw the tornado.

Resources per child

- 4 straws
- A4 card
- Sticky tape

Science explored

- Forces and motion; air resistance
- Planning a scientific enquiry; controlling variables

Interesting links

- [Whole class spinner challenge](#)

AGE 9-11 FLYING TORNADOES

The children can make their first tornado indoors or outdoors, but the tornado testing and exploring should be done outside. Show the children how to make a tornado (see photos above).

Once outside, the children can throw their tornadoes. Ask them to think about the variables they could change e.g. length of the straws, number of straws, diameter of the paper rings, and then challenge them to explore how they could change their tornado to make it go further or to land on a particular target on the ground. Encourage them to discuss their ideas with each other and to focus on making accurate observations and measurements.