

SCIENCE FOR ONE

box

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 a cardboard box

Shoe, pizza, paper and delivery boxes are all junk resources that are simple to collect and are free. Any sized box can be used, and the children can be encouraged to bring in their own box from home.



AGE 5-7 NATURE COLLECTION

Challenge children to explore outside and assemble a collection of natural objects in their boxes: sticks of different lengths and sizes; leaves of different colours and shapes; stones with different surfaces.

What to do with the collection:

- Identify ways in which the natural resources are similar and different
- Group and classify them according to observable features
- Identify the leaves with this Nature Detectives' [leaf identification tool](#)
- Discuss which objects are alive, were once alive or have never been alive, and encourage the children to give reasons for their ideas
- Create a model animal inside their box from some or all of their natural resources. Stories such as *Leaf Man* by Lois Ehlert or *Fletcher and the Falling Leaves* by Julia Rawlinson could provide inspiration for this

HEALTH AND SAFETY NOTE: the children should wash their hands before and after collecting the objects, and they should be briefed about what is safe to collect.

Resources per child

- Cardboard box
- Leaf identification tool

Science explored

- Living things
- Plants
- Identifying and classifying

Interesting links

- [Nature Detectives Leaf Dial](#)
- [Science Fun at Home - Scavenger](#)

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.

AGE 7-9 MAZE MAKING

Let the children play with the magnet and the paperclip. See if they notice that the attraction is stronger at the ends (poles) of the magnet than it is in the middle. Ask them to test the attraction of the paperclip to the magnet with the cardboard box in between them. Can they move the paperclip around by moving the magnet?

Explain that the challenge is to move the paperclip around a maze or a racetrack that they will draw inside their box (they can do a second one on the outside). For a maze they could create lines that join letters on the left side of the box to numbers on the right, or pathways from the centre to the corners. For a racetrack they could draw parallel lines and make it as convoluted as they like. The children could:

- Try and complete the racetrack without the paperclip touching the edges of the track
- Get a partner to give directions to guide the paperclip around the maze without looking at it themselves

Resources per child

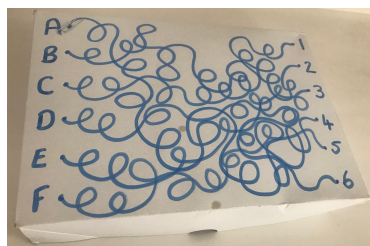
- Cardboard box
- Magnet
- Paperclip
- Felt tip pens

Science explored

- Forces and magnetism

Interesting links

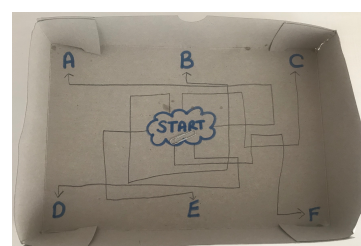
- [Wow Science magnet activities](#)



Maze using wiggly lines to join letters to numbers



Racetrack



Maze using pathways from the centre to the corners

Resources per child

- Cardboard box with a lid or flaps
- Marble
- Scissors
- Sticky tape

Science explored

- Forces – gravity and friction

Interesting links

- [Watch this fun and inventive chain reaction video](#)

AGE 9-11 MARBLE RUN

Start by watching this marble run video: copy this link into your browser <https://www.facebook.com/dkbooks.uk/videos/1665456436911449/> or search for 'DK Home Science Lab Jules Pottle marble run'. Explain to the children they are going to make a small marble run on the back of or inside their box, and that the challenge is to slow the marble down as much as possible using the lid and the flaps to make ramps, obstacles and corners. Time the marbles as a class - try this [online stopwatch](#). Then children could:

- Discuss what they have done to slow the marble down and what works best, and then try out using ideas from other people
- Change the angle of the ramps or add additional ones
- Increase friction by changing the surface of the ramps