

Disclaimer

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British Science Week

KS1 Activity Pack Adult Guidance

British Science Week (BSW) is an annual event which lasts 10 days and celebrates science and maths amongst other subjects. During the event, people of all ages across the UK are encouraged to organise and take part in events and activities in recognition of BSW.

Each year there is a different theme – this year's theme is 'connections'. Included in this pack are five activities designed to experiment with, investigate and explore different kinds of connections. For each activity, you will find step-by-step instructions along with prompt cards to promote discussion and exploration. There is an editable version of these prompt cards so they can be changed to suit when and how these will be used. Both in this guidance and on the activity sheets, there is an explanation of the science behind each activity.

Whether you choose to complete one or all five of the activities, they have been designed to fit around your plans for BSW. Perhaps complete one activity each day or have an activity carousel.

To support these activities, supplementary activities and resources have also been provided. These can be used in class to support teaching or as a home learning task.

Travelling Colours

In this activity, children will explore the absorbency of kitchen roll. They will observe what happens when kitchen roll connects to (coloured) water and how water can travel from one place to another. They will also observe how primary colours mix to make secondary colours.

Kitchen roll is an absorbent material. It absorbs the water, transferring it to the empty cup adjacent. The primary colours mix together to make secondary colours – purple, green and orange.

You will need:

water
white kitchen roll
blue, yellow and red food colouring
six clear beakers or cups

Please adjust amounts suited to your requirements and number of children.

Ice Escape

In this activity, children will explore the connection between temperature and water and how the water can change state depending on the temperature. They will notice how, when the water gets cold enough, it freezes. Then, they need to try and warm the ice so it melts and the toy frozen inside can escape. Children will observe the differences between the ice and liquid water and try to find the best way to melt the ice.

The freezing point of water is 0°C. When water reaches this temperature, it freezes into ice and changes state from liquid to solid. When the temperature of the ice rises above 0°C, it starts to melt and changes from a solid back into a liquid.

Some substances, like salt, can lower the freezing point of water and therefore they make the ice melt as the freezing point will now be below 0°C.

You will need:

water (for freezing)
a small container like a yoghurt pot
small toy figure - a plastic one would be best
freezer
tray or a plate
various items to try and melt the ice with, e.g. materials (to try and wrap round and warm)

Please adjust amounts suited to your requirements and number of children.

Tunnels and Bridges

In this activity, children will have fun exploring some of the physical connections, of bridges and tunnels, that connect two places that science has helped to engineer. They will work together to select the materials they need to build bridges and/or tunnels and then test them with a toy vehicle. Throughout their building, encourage the children to think about their constructions and adapt them if necessary. This activity could be extended by seeing if the bridges can hold a certain weight or by using materials to make their tunnels waterproof. See if their vehicle stays dry in the tunnel when water is sprinkled on top.

Tunnels and bridges connect places which might otherwise be hard to get too. Designs for bridges are suited to what types of vehicles are intended to go on them. They are made out of materials such as steel and concrete to make them strong and be able to withstand weight. There are several types of design of bridge including beam, suspension and Truss bridges.

Tunnels are sometimes built through mountains or even in rivers or seas. They therefore need to be waterproof and able to withstand the great water pressure surrounding the tunnel.

You will need:

blocks or books to place under each end of the bridge/tunnel

toy vehicles

selection of items and materials to build with; cardboard, paper, newspaper, wooden lolly sticks, cardboard tubes

sticky tape/masking tape

glue

scissors

Please adjust amounts suited to your requirements and number of children.

Habitats

In this activity, children will think about the connection that animals have to their habitats. They will draw and label a habitat for their chosen animal, ensuring that everything in that habitat meets their basic needs so the animal can survive. Children could draw and label a natural habitat for an animal in the wild or a habitat for a pet.

You will need:

habitat activity sheet

A habitat is a name for the place where an organism lives. The habitats have everything in that they need to survive. All animals have three basic needs that they must meet to be able to live – air, water and food. Depending on the type of animal, they may have other specific needs like the need for shelter, the correct temperature or a place to keep them safe away from predators. Different animals are suited to different habitats. For example, fish need to be in water to stay alive.

Cup and String Telephones

In this activity, children will explore the connection between sound and how we hear it by making cup and string telephones. Children will need some adult help in this activity. They will be amazed how they can hear their partner speaking when listening in their cups! They could then go on to explore different variations of this activity including different length strings, different material cups or different materials instead of string, such as wool.

Sound travels in 'sound waves'. The sound waves vibrate on the cup and then these vibrations travel along the string and are then transferred to the other cup. When you listen into a cup, the cup acts like a speaker and amplifies the sound.

You will need:

paper cups

string

sharp pencil - or something similar to pierce a hole in the cup

scissors

Please adjust amounts suited to your requirements and number of children.