

Science & Nature Investigation Kit

Use the binoculars to explore the natural world and make it easy to see things close up.

Record observations by taking photos, videos and using the time-lapse digital camera.

The waterproof endoscope is a valuable tool to observe aquatic ecosystems and explore wet environments.

The kit can be used with a range of activities. Here are some ideas to start you off. They have been designed by a science and nature specialist. We hope you enjoy them.



Hands-on tools ideal for exploring.

Materials Trail Activities

Resources

- Camera
- Binoculars



This is an activity encourages pupils to think about materials and their purposes and properties.

Take the pupils on a journey around the outside of the school. Encourage them to take photographs of the different types of material they can see that make up the building. Make sure they observe guttering, locks, windows, window frames, door handles, roof, walls, and flooring.

Look for signs of weathering and discuss why some materials are affected by weather and how this changes their appearance.

Use the photographs to establish the names of the different materials and begin to research the properties of the materials used for different purposes. Why are locks made from metal? Why is guttering made from plastic? The pupils can then use the photographs to sort and classify different materials.

This activity lends itself to developing scientific vocabulary, such as:

Human-made	Clay
Natural	Brick
Durable	Matal
Fragile	Waterproof

It would be useful to make a comparison with a school built in another era especially if the school is a relatively new build. If there is a school in the local area that was built in a different era, a visit there to take photographs and compare with their school building would be a good idea. If this is not possible, using photographs of schools built in Victorian, early 20th century and up until the 1980s would be an alternative way to encourage observational skills.

Using the binoculars would allow children to look at architectural features and identify any unusual shapes or structures. They can also see if there are any features such as leaded windows, domed roof, spire which are not commonly used on modern buildings.

Another activity is to look at school building in different countries and discuss the variety of materials used and why this would be.

If your school has grounds that include some green space with plants and trees, this provides an opportunity to look at natural materials and how these change with the seasons/weather.

If you repeat the walk at different times of the year and take photographs, this can be used to highlight seasonal change. Looking at different materials can also lead to an investigation into how different materials decompose.

This investigation shows the difference in decomposition times for different materials.

You will need:

- Two jam jars of the same size
- Two pieces of material to cover the jars
- Two elastic bands
- Compost or soil
- Finely chopped banana or other fruit
- Small pieces of plastic or polystyrene
- Water

Instructions:

1. First, add about 3cms of soil or compost to the jars making sure there is an equal amount in each jar.
2. In one jar add the chopped fruit; in the second jar add the plastic or polystyrene.
3. Sprinkle each jar with 10 drops of water.
4. Use the material and elastic bands to make a for cover each jar.
5. Leave in a warm place for at least 5 days, checking regularly to make observations of any change taking place.
6. Take photographs of the change in the materials to use as a discussion resource.

This experiment can be repeated with different materials such as cotton and polyester to compare the difference in natural and person made materials.