St John Vianney Catholic Primary School

Science at Home

Simple science investigations for you to try at home!

You don't need expensive equipment! Science doesn't stop when school ends. These activities use everyday objects and our local environment to spark curiosity and discovery. Remember: Science is about asking questions! You don't always need to know the answer before you start investigating. Talk about what you notice, make a prediction, test it and explain what you think happened.

Year 1

Plant Detective

Go for a walk around your garden, street, local park or promenade. Look for three different plants or trees. Can you name them? Can you spot leaves, flowers, stems or roots? Draw and label what you find.

National Curriculum link: Plants – identifying common wild and garden plants, including deciduous and evergreen trees, and identifying basic plant structures.

Material Detectives

Choose 10 objects around your home. What are they made from – wood, metal, plastic, glass, paper or fabric? Why do you think that material was chosen? For example, a saucepan is made from a material that can withstand heat.

National Curriculum link: Everyday materials – identifying and naming common materials and distinguishing between objects and the materials from which they are made.

Year 2

Microhabitat Hunt

Look carefully in a garden, park or around the edges of a pavement. Check under leaves, near plants or around stones without disturbing wildlife. What living things can you find? Can you group them by where you found them?

National Curriculum link: Living things and their habitats – identifying plants and animals in habitats and microhabitats.

Which Material Makes the Best Umbrella?

Choose a few materials from around the home, such as a plastic bag, kitchen roll, foil, fabric or newspaper. Predict which will keep a small toy dry. Add a little water. Which material was waterproof? Which was absorbent?

National Curriculum link: Uses of everyday materials – identifying why materials are suitable for particular uses.

Year 3

Coloured Flower Investigation

If you have a pale or white flower, place the stem in water with a little food colouring. Check it over the next few hours or the following day. Can you see where the coloured water has travelled? No food colouring? Simply observe a plant and record changes over several days.

National Curriculum link: Plants – investigating how water is transported within plants.

Rock Detective

Look at a few safe, loose rocks from somewhere you are allowed to collect them, such as a beach. How are they different? Sort them by colour, texture, size or appearance. Can you create your own classification system?

National Curriculum link: Rocks – comparing and grouping different kinds of rocks based on their appearance and physical properties.

Year 4

Shadow Investigation

Choose a safe object outside and draw around its shadow in the morning. Check again later. Has the shadow moved? Has its size changed? On a rainy day, use a torch and an object indoors.

National Curriculum link: Light – recognising that light travels from a source and investigating how shadows are formed.

Build a Food Chain

Look outside for plants and animals such as grass, flowers, insects and birds. Can you create a simple food chain, for example grass → insect → bird? What might happen if one part of the food chain disappeared?

National Curriculum link: Animals including humans / Living things and their habitats – recognising that animals obtain their food from plants and other animals and constructing simple food chains.

Year 5

Measure Your Heart Rate

Find your pulse by placing two fingers gently on your wrist. Count the beats for 30 seconds and double the number. Do some safe, gentle exercise for 30 seconds and measure again. What happened to your heart rate?

National Curriculum link: Animals including humans – understanding the effects of exercise on the body and recognising that the heart pumps blood around the body.

Make a Shadow Sundial

Place a stick upright in the ground or in a plant pot. Mark the end of its shadow at different times of the day. What pattern do you notice? Can you explain why the shadow changes?

National Curriculum link: Earth and space – describing the movement of the Earth and understanding the apparent movement of the Sun across the sky.

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Year 6

Classify the World Around You

Choose 10–15 living things. These could be animals you spot outside, pictures in books or animals you find online. Sort them into groups, then explain why each animal belongs in its group. Can you make your classification more detailed?

National Curriculum link: Living things and their habitats – classifying living things into broad groups according to observable characteristics.

Paper Helicopter Investigation

Make a simple paper helicopter using scrap paper. Drop it from the same height several times. Change one variable, such as the length of the blades, and test again. Which design takes longest to reach the ground? Record your results.

National Curriculum link: Working scientifically – planning investigations, recognising variables, taking measurements, recording data and drawing conclusions.