



Science



Science at Portsdown Primary School and Early Years

At Portsdown we aim to develop a love for science. We believe that a high quality Science education provides the foundations for understanding the world around them. We aim to develop children's scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. We will develop their understanding of the processes that scientists use to help them answer scientific questions. A good understanding of the basic principles and a desire to question and explore why things happen and how things work will give our pupils a good base from which to build upon in the next stage of their education and into their adult lives. Children will be encouraged to develop a sense of 'awe' and 'wonder' about the world around them, and to begin to understand how Science has changed our lives and continues to do so. Children will work collaboratively with adults and their peers to ask questions and answer them by carrying out a range of scientific enquiries. Using their growing knowledge, children will be able to predict what they might find out, explain what is occurring, and analyse their findings, making links to knowledge that they already have.

What's going well?

- Science is being taught in line with school overview / NC
- Children are enjoying science in both KS1 and KS2
- Children are able to discuss their learning this current year
- Some children can remember enquiry based learning/ experiments from previous years
- Fair testing planners are being used in KS1/2.
- KS2 children can talk about what they can change/keep same/measure.
- Odgen Trust resources and training days for sciences leads
- Science trips during science week for Y5 and KS1 pupils
- All children are able to talk about their science learning from current and some previous years. For example: Year 6s can talk about Year 6 units and Year 4

Next steps:

- Look at how we are using **assessment** for each science unit. Introduce examples of assessments that could be used at the end of each unit to check the progress made by children
- **Enrichment opportunities** - Plan at least 1 possible enrichment opportunity for each year group. Contact STEM and UTC to see what opportunities we can put in place for ks1/2
- **Texts/books:** Ensure each year group has high quality texts that link to each science unit and ensure children have access to science books at an appropriate level.

Long term planner:

Colours highlight links between year groups.

For example: *Light is first covered in Y4 explicitly and then Y6.*

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
N1: Caterpillars	Understanding the world - Is curious and interested to explore new and familiar experiences in nature: grass, mud, puddles, plants, animal life - Explores objects by linking together different approaches: shaking, hitting, looking, feeling, tasting, mouthing, pulling, turning and poking		Understanding the world - Is curious and interested to explore new and familiar experiences in nature: grass, mud, puddles, plants, animal life - Can talk about some of the things they have observed such as plants, animals, natural and found objects		Understanding the world - Notices detailed features of objects in their environment - Can talk about some of the things they have observed such as plants, animals, natural and found objects - Enjoys playing with small world reconstructions, building on first-hand experiences, e.g. visiting farms, garages, train tracks, walking by river or lake	
N2: Butterflies	Understanding the world - Notices detailed features of objects in their environment - Can talk about some of the things they have observed such as plants, animals, natural and found objects - Enjoys playing with small world reconstructions, building on first-hand experiences, e.g. visiting farms, garages, train tracks, walking by river or lake		Understanding the world - Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world - Talks about why things happen and how things work - Develop an understanding of growth, decay and changes over time.		Understanding the world - Shows care and concern for living things and the environment - Begin to understand the effect their behaviour can have on the environment - Develop an understanding of growth, decay and changes over time.	
Year R	Understanding the world - Shows care and concern for living things and the environment - Begin to understand the effect their behaviour can have on the environment - Develop an understanding of growth, decay and changes over time. - Looks closely at similarities, differences, patterns and change in nature		Understanding the world - Looks closely at similarities, differences, patterns and change in nature - Knows about similarities and differences in relation to places, objects, materials and living things - Talks about the features of their own immediate environment and how environments might vary from one another. - Makes observations of animals and plants and explains why some things occur, and talks about changes.		Understanding the world - Knows about similarities and differences in relation to places, objects, materials and living things - Talks about the features of their own immediate environment and how environments might vary from one another. - Makes observations of animals and plants and explains why some things occur, and talks about changes.	
Year 1	Animals, including humans	Seasonal Changes (covered throughout the year)	Everyday materials		Plants	
Year 2	Living things and their habitats	Animals, including humans	Uses of everyday materials			Plants
Year 3	Rocks	Animals, including humans	Plants		Light	Magnets and forces
Year 4	States of matter	Animals, including humans	Electricity	Sound	Living things and their habitats	
Year 5	Properties and changes of materials (part 1)	Earth and space	Properties and changes of materials (part 2)	Forces	Living things and their habitats	Animals inc. humans
Year 6	Light	Animals including humans	Living things and their habitats	Electricity		Evolution and Inheritance