Weaver Primary School
Science Policy

1. Our rationale for teaching science

Science is a body of knowledge built up through the experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills. Science is also a collaborative activity where ideas and suggestions are shared and investigated together. Through practical activities and team work, children experience and learn how to work together, have mutual respect for one another and value social cohesion.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. Our aims in teaching science include:

- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for, our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- Developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Enabling our children to become effective communicators of scientific ideas, facts and data.

2. Our teaching aims

- Teach science in ways that are imaginative, purposeful, well managed and enjoyable.
- Encourage and support children to ask questions about the world and use scientific processes to try and answer them.
- Support children to make links between science and other subjects.
- Encourage and enable pupils to develop enquiring minds and curiosity about science and nature.
- Develop skills of scientific enquiry to design and carry out investigations and evaluate scientific evidence to draw conclusions.
- For the children to appreciate the benefits and limitations of science.

Science is a core subject in the National Curriculum.

3. How science is structured through the school

Planning for science is a process in which all teaching staff are involved and delivering a broad and balanced science curriculum to our children is a core principle of our school.

In KS1 and KS2, teachers have access to a range of resources to help support their planning

and delivery of science and all teachers have signed up to the websites Explorify and Reachout

CPD. We also use PLAN Primary Science Resources to help with our planning and assessment, along with other online resources.

Any resources we use are adapted to suit the needs of each class and individual children.

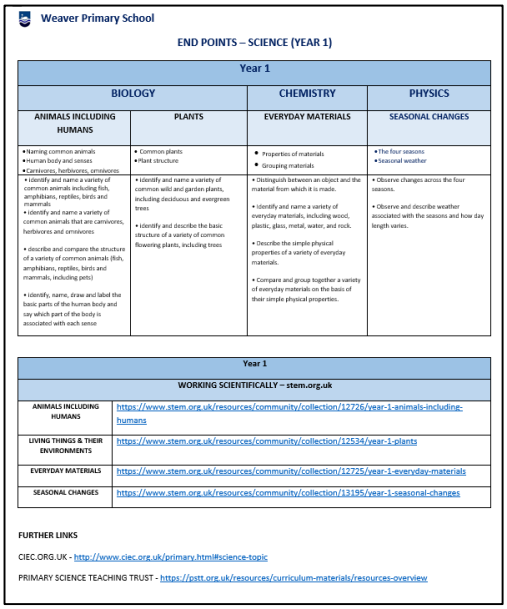
Lessons are taught weekly and although, links to English and Maths are encouraged, Science can be

taught discretely.

In EYFS, Science is often taught through their half termly topic through the Early Learning Goal of Understanding of the World. We actively encourage our EYFS pupils to engage in the world around them and make use of our outdoor spaces to allow children to observe changes as the year progresses. They particularly benefit from the use of the 'Weaver Woodland' and engage in a weekly Forest School session.

4. Teaching and Learning Strategies

The science curriculum is mapped to ensure alignment with the national curriculum content and programme of study. Key knowledge relates directly and builds towards the achievement of 'end points', informed by the National Curriculum statements. These are available on our school website.



Weaver Primary School

END POINTS – SCIENCE (YEAR 1)

Year 1			
BIOLOGY		CHEMISTRY	PHYSICS
ANIMALS INCLUDING HUMANS	PLANTS	EVERYDAY MATERIALS	SEASONAL CHANGES
• Naming common animals • Human body and senses • Carnivores, herbivores, omnivores	• Common plants • Plant structure	• Properties of materials • Grouping materials	• The four seasons • Seasonal weather
• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	• Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • Identify and describe the basic structure of a variety of common flowering plants, including trees	• Distinguish between an object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. • Describe the simple physical properties of a variety of everyday materials. • Compare and group together a variety of everyday materials on the basis of their simple physical properties.	• Observe changes across the four seasons. • Observe and describe weather associated with the seasons and how day length varies.

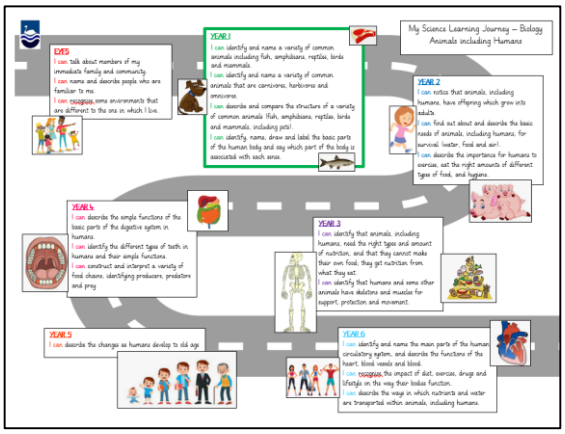
Year 1	
WORKING SCIENTIFICALLY – stem.org.uk	
ANIMALS INCLUDING HUMANS	https://www.stem.org.uk/resources/community/collection/12726/year-1-animals-including-humans
LIVING THINGS & THEIR ENVIRONMENTS	https://www.stem.org.uk/resources/community/collection/12534/year-1-plants
EVERYDAY MATERIALS	https://www.stem.org.uk/resources/community/collection/12725/year-1-everyday-materials
SEASONAL CHANGES	https://www.stem.org.uk/resources/community/collection/13195/year-1-seasonal-changes

FURTHER LINKS

CIEC.ORG.UK - http://www.ciec.org.uk/primary.html#science-topic

PRIMARY SCIENCE TEACHING TRUST - https://pstt.org.uk/resources/curriculum-materials/resources-overview

At the beginning of each unit of work, each child is provided with a copy of a 'learning journey'. This 'road map' not only provides the children with unit objectives, it also provides them with the objectives from previous years and those that follow. It is a visual aid for teachers and pupils to see how each unit builds upon those previously taught.



Providing opportunities to work scientifically and 'bringing science alive' is at the core of what we do at Weaver. Teachers are therefore able to access a number of websites that help to plan for this.

'STEM Learning', 'Why and How – Primary Science Teaching Trust' and 'PLAN – working scientifically matrices' are three excellent sites that we use.

Working Scientifically skills are embedded into lessons and these focus on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils are given opportunity to seek answers to questions through collecting, analysing and presenting data in a variety of ways.

5. Equal opportunities in science

Science is taught within the guidelines of the school's equal-opportunities policy.

- We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.
- In our teaching, science is closely linked with literacy and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties, so there is an emphasis on 'bringing science to life' for our pupils.
- We exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.
- 'A Scientist Just Like Me' are posters that are displayed around the school and are designed to raise awareness of diversity in science-related jobs and to provide illustrated examples of a wide range of science-based careers. These posters focus on the skills, attitudes and habits that are needed to carry out the work, rather than on any expert knowledge, which may be daunting or seem out of reach to children. They show children an example of someone from a particular ethnic background working in a science job and challenge gender stereotypes about science jobs.

6. Assessment and recording in science

We use assessment to inform and develop our teaching.

- Topics begin with the use of the 'learning journey' for each unit of work. This allows children to recap on previous knowledge learnt.
- Teachers have access to a number of science websites that can help them to plan for assessment opportunities. These include 'PLAN - primary science resources support the planning and assessment of the Science National Curriculum in England' and 'Teacher Assessment in Primary Science (TAPS)'
- We mark work positively, making it clear verbally, or on paper, where the work is good, and how it could be further improved. Children's work is compared with age appropriate exemplification (PLAN and TAPS resources).
- We have a tracking system to follow children's progress. The school science coordinator monitors progress through the school by sampling children's work at regular intervals.
- Continuous assessment of children's work, much of which is informal is used within the school. This assessment is used to inform teaching throughout the school.
- Reports to parents are made verbally each term, and written once a year, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.
- Through the use of 'Headstart – Science' assessments, we are able to assess children's learning at the end of each lesson and at the end of each unit of work.

Review

Date: March 2022

Review Date: March 2025