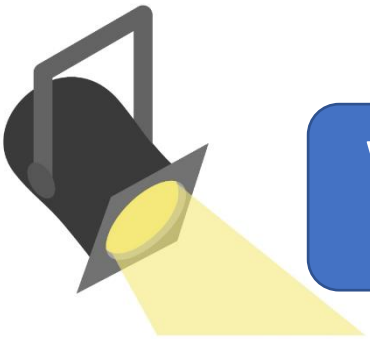

Westfield Infant School Spotlight on Science

What is Science and how is it taught?

Science is a foundation subject taught through continuous provision in EYFS and timetabled weekly in KS1. At Westfield Infant School, we have a knowledge-based curriculum which strongly emphasises pupil's retainment and use of key vocabulary.

PKC's scheme of learning is used to ensure clear lesson outcomes and progression which also provides a strong foundation for their Key Stage 2 learning. Pupils gain a respect for nature and an understanding of the world around them through topics such as Living Things and Their Environments, Materials and Matter, Seasons and Weather, Taking Care of the Earth, Plants, Animals and their Needs.

In EYFS, science is taught through various exploratory hand-on activities. Lessons involve observations and investigations that allow children to learn by covering areas such as; exploring their senses and observing leaves using magnifying glasses. To make science a natural part of children's learning, cross-curricular links are integrated into other subjects whenever possible.

How do we support all learners to access the subject?

Lessons are adapted to create scientific thinking for all pupil's ability levels. At Westfield Infant School, we believe in creating inclusive lessons which are accessible to all pupils. Different learning style activities are incorporated into science lessons, such as hand-on experiments, visual aids on the screens and sufficient time to talk to partners. Science screens use large pictures which are beneficial for all pupils, including SEND and EAL pupils. Key vocabulary is displayed on the knowledge organiser (which is shown at the start of each lesson) and read out loud, providing an opportunity for the teacher to explain the definition of key vocabulary. Many science lessons in KS1 involve paired or grouped activities to allow pupils to support each other.

Physical objects to interact with make learning accessible for all pupils. Activities are modelled before pupils complete them. When necessary, pupils work collaboratively within science lessons, through partner discussions and some activities. This enables SEND and EAL pupils to have relevant language modelled to them from their peers. Teachers planning science ensure activities are scaffolded appropriately for SEND and EAL pupils.

How do we assess the children's knowledge and understanding in this subject?

At the start of each science lesson, a starter recaps the previous lesson's learning. Pupils are encouraged to talk with a partner and share their thoughts on the previous learning before moving onto new learning. Teachers conduct ongoing (formative) assessments by observing and questioning their pupils during lessons to see whether they are able to achieve the lesson objective. Pupils are

given verbal feedback and misconceptions are addressed during lessons. Open-ended questions are written on the screens to ensure all teachers are consistent when asking key questions. Exit tickets at the end of lessons allow the teacher to assess the understanding of learning. Weekly review sessions held every Friday allow pupils to recap learning from that week, that term and the previous term. Teachers use these sessions to assess how well pupils have retained knowledge and provides an opportunity for retrieving learning. After each topic has been taught, pupils in KS1 complete a multiple-choice quiz (summative assessment) which allows teachers an opportunity to assess pupil's understanding. The subject leader also conducts pupil voice interviews and work scrutiny to assess children's knowledge and understanding across the school.

How do we involve parents and carers in this subject?

Knowledge Organisers are shared with parents at the start of each new topic via Class Dojo. Parents/carers are encouraged to share the Knowledge Organiser with their child at home to promote discussions about their learning. During British Science week, a message is sent out to parent s via Class Dojo explaining what is going on in school and suggestions for scientific enquiries to try at home. The Big Plastic Count was an initiative brought in last academic year (2023-24) which encouraged parents/carers to involve their children in the recycling done at home and promote the importance of recycling.

Every year, Westfield Infant School holds Healthy School Week, where additional scientific sessions occur, such as a visit from the Life Education Centre. Each morning of this week, parents/carers are invited into school to share breakfast with their children.

How do we promote wider opportunities for this subject area?

During British Science Week, an assembly is held to introduce the week to the children which mentions famous scientists from a variety of backgrounds. Teachers across the school swap classes for a session during this week to teach a different class an engaging and memorable one-off science lesson. There are many non-fiction science books in the library which children are able to look at during their weekly library slot and take home for the week. During science lessons were possible, teachers reference how science relates to everyday experiences. Subjects such as weather, nature and basic health tie into the topics each year group teaches throughout the year. The Big Plastic Count was an opportunity for pupils to promote the importance of recycling at home and be involved in tracking the amount of recycling their household collects over a period of a week.

The school has a variety of resources available to enrich classrooms and outdoor spaces, such as magnifying glasses. In EYFS, pupils are encouraged to make everyday observations, ask questions and pursue their own interests in sciences. Outdoor learning and water and sand play allow pupils to explore natural materials. Our school grounds and local natural areas are useful for pupils to explore science first-hand. When necessary, lessons include exploring the school grounds, which is valuable for pupils to see how science applies to the world around them.

Year 2 visit Conkers which provides direct exposure to a variety of scientific concepts and interactive exhibits. Activities such as bug hunting (focussing on minibeasts and habitats), playing with natural materials and a session learning about climate change are held at Conkers.