



Science at Westfields Junior School

At Westfields Junior School, we give children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future.

To achieve this, lessons are planned to include engaging, practical hands on experiences that encourage curiosity and scientific enquiry. Our aim is that these stimulating and challenging experiences will help children secure and extend their scientific knowledge and understanding as well as their vocabulary to enable them to become scientists in the future.

Coverage

- Our Science curriculum follows the National Curriculum statutory guidance for Science. Science is taught for 2 hours a week, whether in one lesson or smaller sessions throughout the week.
- Topics across year groups are as follows:
 - ✓ Year 3: Animals Including Humans, Rocks and Soils, Plants, Light, Forces & Magnets
 - ✓ Year 4: Living Things & Their Habitats, Animals Including Humans, States of Matter Sound, Electricity, Investigation Stations.
 - ✓ Year 5: Earth & Space, Forces, Properties of Materials, Changes of Materials, Life cycles, Investigation Stations.
 - ✓ Year 6: Light Evolution & Inheritance, Electricity Animals Including Humans, Living Things & Their Habitats, Famous Scientists and their contributions.
- 'Working and thinking scientifically' permeates our Science curriculum with children developing all aspects of scientific enquiry.
- Throughout the key stage, we focus on children correctly reading, spelling and pronouncing scientific vocabulary, ensuring definitions are explored and understood.

Progression

- The National Curriculum for Science develops progression through the Year 3, 4, 5 and 6 programmes of study.
- The principal focus of science teaching in lower Key Stage 2 is to enable children to broaden their scientific view of the world around them.
- The principal focus of science teaching in upper Key Stage 2 is to enable children to develop a deeper understanding of a wide range of scientific ideas.
- Long and medium term planning is carefully developed to include the statutory content, required learning experiences and related vocabulary.
- Each year group has individual checklists and use self-assessment grids.
- The skills for working scientifically are developed progressively and displayed on checklists.

Enrichment

- Year 3 and Year 4 astronomy club
- Year 5 and Year 6 astronomy club
- Year 5 Winchester Science centre workshops and planetarium trip & Marwell Zoo life cycles workshops. Space week live lessons.
- Year 5 STEM activity days at Frogmore and Yateley secondary schools
- Science and Technology Week held annually

Cross-Curricular Links

- Year 3 – Nutrition links with PSHE Healthy Eating. Rocks link with History in the Stone Age. Materials and Light links with DT Shadow Puppet topic.
- Year 4 – States of Matter and Water cycle links with Geography River topic. Sound links with Boom whackers in Music. Warning systems using circuits.
- Year 5 - Space topic links with English reading and writing.
- Year 6 – Circuits link with DT Shop Window topic.
- Maths – Measurement, time and statistics.
- Computing – Use of data loggers and Excel.

Assessment

- Whole class and verbal feedback.
- Use of Knowledge Organisers.
- Use of retrieval practice at the beginning & end of lessons.
- Use of quizzes, starter, plenary activities and written assessment tasks.
- Teacher assessment, self-assessment and peer assessment of activities and tasks.
- Referral to the progression document.
- Completion of the Science Foundation Subject Assessment document identifying children not achieving expected standard and those exceeding.

Inclusion and Challenge

- Everyone has access to the Science Curriculum.
- Key vocabulary is shared and discussed throughout lessons.
- Key skills are modelled by adults and children.
- Retrieval practice promotes deeper knowledge.
- Key questions develop a deeper level of thinking.
- Secure teacher subject knowledge promotes support and extension through teaching approaches. and strategies, task design and differentiation.
- To support and challenge children, differentiation will include: self-selection and tiered activities; resources and scaffolds; investigations and challenges; experiments and range of resources/roles within those; differentiation through outcome; adult support and peer-support.
- Children are given pre-teach time to ensure scientific vocabulary and key concepts are embedded before learning within class takes place.
- Challenging pupils with "what if" or "what next" questions during investigations as well as linking abstract concepts to practical everyday applications.