

Science Policy



Introduction

New Wave teachers provide a high-quality science education for all pupils to build the foundations for understanding the world through biology, chemistry and physics. Science has and continues to change lives and all pupils are taught essential aspects of the knowledge, methods, processes and uses of science. Pupils are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. New Wave pupils develop an understanding of how science can be used to explain what is occurring, predict how things will behave, and analyse causes in the world around them.

Aims and Objectives

- To inspire pupils to take an active and critical interest in science through practical, experimental and theoretical processes.
- To allow pupils to hypothesise, conjecture, identify patterns, and draw accurate and reasoned conclusions.
- To empower pupils to ask big questions and think scientifically about how these could be answered.
- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- To develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- To equip pupils with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Curriculum

New Wave teachers ensure all pupils have access to a rigorous Science curriculum taught through the IPC as both an independent and interdependent subject.

In the Early Years Foundation Stage (EYFS) Science is planned according to the IEYC and is an integral part in developing their understanding of the world.

At Key Stages One and Two, Science is taught through the IPC. The National Curriculum objectives are cross referenced with the IPC learning goals to ensure coverage and consistency.

Assessment

To be focused on learning, New Wave teachers must be focused on the assessment of the IPC learning goals for Science. Assessment through the IPC is rigorous.

We look for misconceptions; wrong answers and work that does not meet the success criteria and address these with example and scaffold prompts. 'Depth of Knowledge' style questions and prompts are used to challenge, provoke thought and develop critical thinking.

We use a range of questions to develop breadth, depth and accuracy. We encourage all pupils to respond like academics giving well-thought-out and reasoned responses. Mini plenaries are embedded to showcase achievement and address misconceptions. KWL grids are recorded in pupil's books and shared on classroom displays to elicit science knowledge. Pupils are encouraged to 'tweet' about their learning using knowledge 'tweet' cards. The IPC AFL rubrics are embedded to assess key skills in science at either a beginning, developing or mastering level. New Wave teachers provide learning advice to move pupils on to the next stage of their learning. Understanding is evaluated using understanding tweet cards which require pupils to make connections and apply their knowledge and skills in a different context.

New Wave teachers assess pupils at beginning, developing or mastering and collect this data which, during milepost reflection, is used to identify focus groups of pupils and inform future planning.

High Aspirations ○ High Standards ○ High Achievement

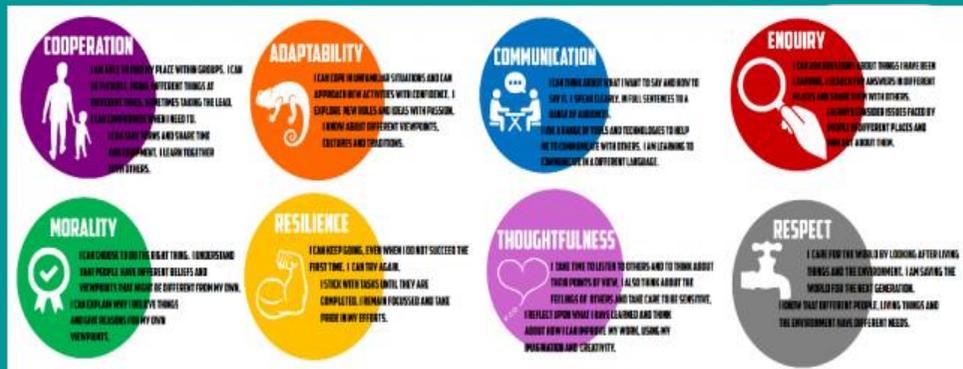
Organisation

New Wave teachers deliver a balanced, inspiring and exciting Science curriculum clearly defining the learning goals; what pupils should know, be able to do and develop an understanding of at different mileposts.

Science is taught as an independent yet interdependent subject through the IPC. New Wave teachers use the IPC units of work to help define the weekly coverage of Science through a range of practical research and recording activities. These are evidenced in pupil books as; mind-maps, formal writing, iPad applications, photographs to name but a few.

Personal Goals

New Wave teachers believe the IPC Personal Goals build part of the foundation in nurturing scientists of the future. The personal goals help to develop both individual qualities and learning dispositions that allow pupils to grow in a rapidly changing world. To ensure in Science, New Wave teachers provide opportunities for pupils to practice and understand these goals within each learning task, ensuring our classroom practices and values allow our pupils to develop towards the school's shared vision. Our school motto, 'Excellence for All' is at the heart of all that we do.



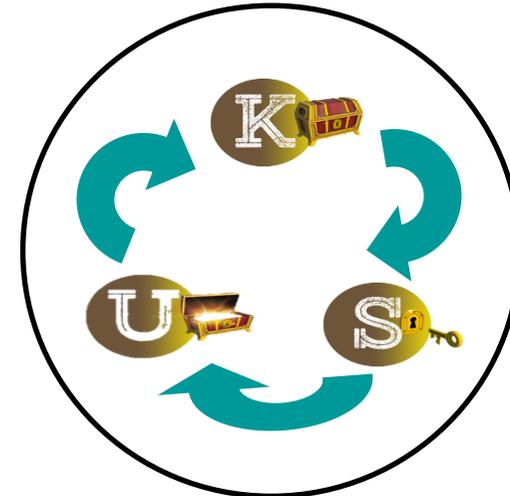
New Wave Mastering Approach

New Wave teachers are focused on improving pupil's learning in Science. We believe that pupils should learn the subject knowledge, skills and understanding to become aware of the world around them ensuring excellent progress is made by all.

We broaden pupil's knowledge with carefully planned lessons; challenging them to make scientific connections with what they already know. Pupils are given opportunities to apply their knowledge to a variety of brain-friendly activities, honing their skills as scientists at a beginning, developing or mastering level.

New Wave teachers know that scientific understanding is developmental so we strive to provide pupils with the opportunities and time to develop and deepen their understanding through challenging and stimulating activities that promote curiosity and wonder.

- Hypothesizing and predicting
- Planning and carrying out investigations
- Observing, measuring and presenting results
- Evaluating results and drawing conclusions.



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