Science Policy

September 2022

Contents

1. **Curriculum Statement**

Intent

The 2014 national curriculum for science aims to ensure that all pupils:

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics
- 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
- are equipped with the **scientific skills** required to understand the **uses and implications** of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this

At William Patten, we encourage children to be inquisitive throughout their time at the school and beyond. The Science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group. The key knowledge identified by each year group is informed by the national curriculum and builds towards identified phase 'end points' in accordance with NC expectations. Key skills are also mapped for each year group and are progressive throughout the school. These too ensure systematic progression to identified skills end points which are in accordance with the Working Scientifically skills expectations of the national curriculum. The curriculum is designed to ensure that children are able to acquire key scientific knowledge through practical experiences; using equipment, conducting experiments, building arguments and explaining concepts confidently. The school's approach to science takes account of the school's own context, ensuring access to people with specialist expertise and places of scientific interest as part of the school's commitment to learning outside the classroom. Cross curricular opportunities are also identified, mapped and planned to ensure contextual relevance. Children are encouraged to ask questions and be curious about their surroundings and a love of science is nurtured through a whole school ethos and a varied science curriculum.

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

- Science is taught in planned and arranged topic blocks by the class teacher, to have a project-based approach. This is a strategy to enable the achievement of a greater depth of knowledge.
- Each new unit of work begins with a recap of the previous related knowledge from previous years. This helps children to retrieve what they have learnt in the earlier sequence of the programme of study, and ensures that new knowledge is taught in the context of previous learning to promote a shift in long term memory. Key vocabulary for the new topic is also introduced as part of this 'unit introduction' and children are shown

the ‘Topic Vocabulary (TV) Mat. This provides definitions and accompanying visuals for each word to ensure accessibility to all. This approach also means that children are able to understand the new vocabulary when it is used in teaching and learning activities and apply it themselves when they approach their work.

- The KWL process is used throughout each unit of work. Once children know the new vocabulary for the unit and how it relates to previous learning, the children are asked what they already know specifically about the new topic. This provides the teacher with an insight into the children’s ‘starting points’ for the topic, to enable the use of assessment to inform planning. The children are then also asked what they would like to know and class responses are collated and used to inform the programme of study to ensure an aspect of ‘focussed interest planning’. A record of this process kept in children’s topic books. At the end of the topic, children take part in a review of what they now know. This involves a review of the key knowledge, with reference to the TV (knowledge) mat. The teacher is then able consolidate any of the key knowledge which is identified at this part of the process as not yet being secure.
- Within all lessons, teachers plan a phase of progressive questioning which extends to and promotes the higher order thinking of all learners. Questions initially focus on the recall or retrieval of knowledge. Questions then extend to promote application of the knowledge in a new situation and are designed to promote analytical thinking, such as examining something specific. In design and technology, an example of this level of questioning might ask children to consider how a mechanical system (such as gears and pulleys) might speed up, slow down or change the direction of movement. The questions that teachers ask within the same lesson phase, then focus on the children’s own work and how they might change or create an outcome and justify a choice they have made which is based on their evaluation.
- Through our planning, we involve problem solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess pupils regularly to identify those children with gaps in learning, so that all pupils keep up. Tasks are selected and designed to provide appropriate challenge to all learners, in line with the school’s commitment to inclusion.
- We build upon the knowledge and skill development of the previous years. As the children’s knowledge and understanding increases, they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Working Scientifically skills are embedded into lessons to ensure that skills are systematically developed throughout the children’s school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in keeping with the topics.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children’s understanding of their surroundings by accessing outdoor learning and workshops with experts.
- Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.

- Regular events, such as Science Week, allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills. These events often involve families and the wider community.
- At the end of each topic, key knowledge is reviewed by the children and rigorously checked by the teacher and consolidated as necessary.

Impact

The successful approach at William Patten results in a fun, engaging, high-quality science education that provides children with the foundations and knowledge for understanding the world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. Through various workshops, trips and interactions with experts and local charities, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity. Children learn the possibilities for careers in science, as a result of our community links and connection with national agencies including the STEM association. They learn from and work with professionals, ensuring access to positive role models within the field of science from the immediate and wider local community. From this exposure to a range of different scientists from various backgrounds, all children feel they are scientists and capable of achieving. Children at William Patten overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding. The school's science provision is recognised by the achievement of the nationally recognised 'Primary Science Quality Mark', which the school currently holds at silver level.

2. **Teaching and Learning**

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 of phase (KS1, Lower KS2 and upper KS2) 'end points', informed by the National Curriculum statements. Key skills are also mapped so that these are developed systematically and align directly to the specified working scientifically statements as outlined in the NC for each phase.

In each lesson, children are guided towards the learning intention through the use of success criteria. The LI and success criteria are shared at the beginning of the lesson and reviewed by children at the end. They are subsequently used by the teacher during the assessment and review work of children's work and are used to identify individual target areas. A working wall will be used to support and celebrate learning throughout each unit of work. This will also be used to support the acquisition of key knowledge and will support the accurate use of an extended specialist vocabulary.

Progressive questioning within lesson phases is planned prior to the lesson and is evident on teaching slides. Questioning is informed by the Bloom's Taxonomy Teacher Toolkit, which can be found at the end of this policy (p15).

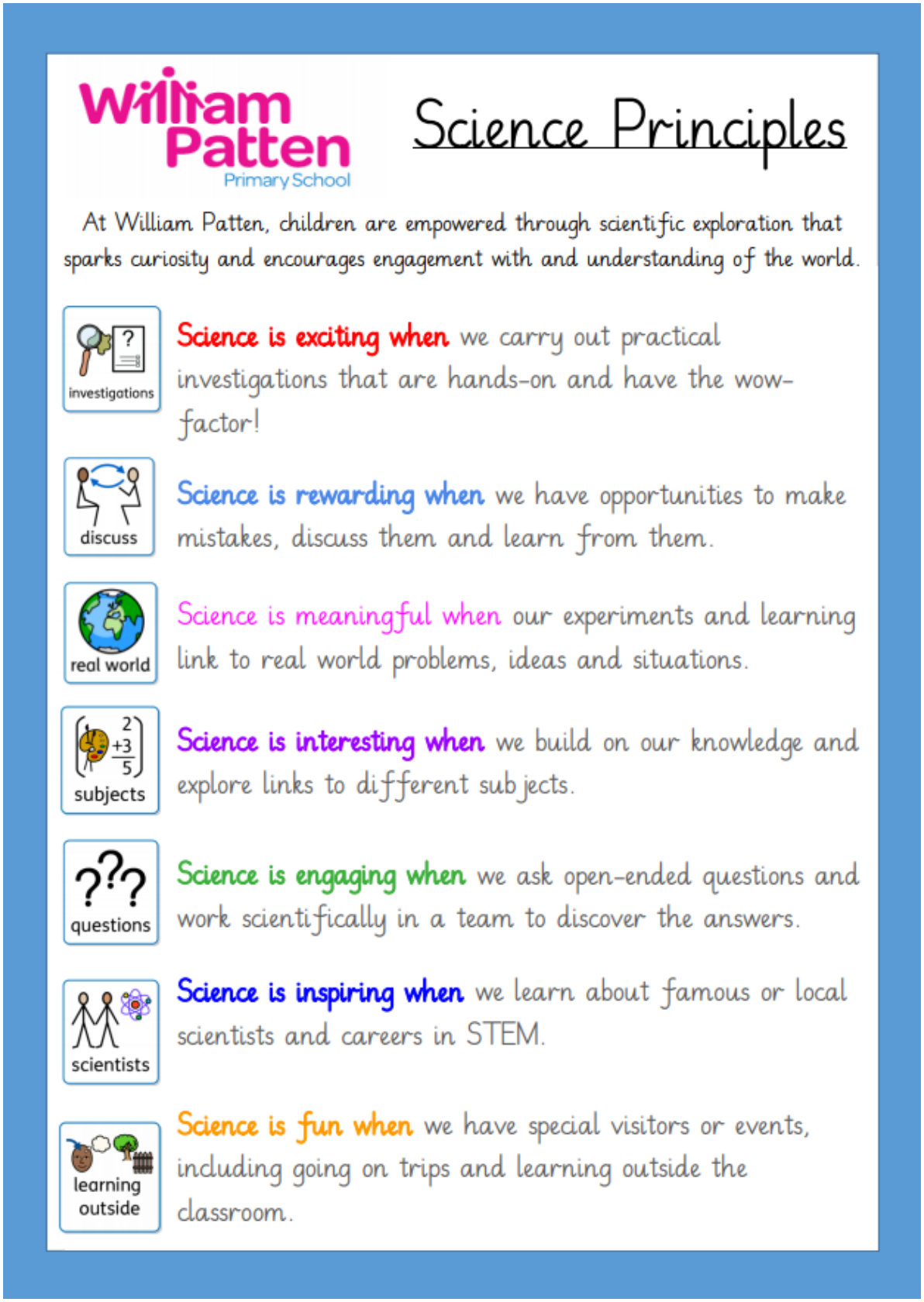
To ensure a common ethos in the teaching and learning of science, staff and children were involved in the creation of the William Patten Science Vision and Principles:

Vision:
At William Patten, children are empowered through scientific exploration that sparks curiosity and encourages engagement with and understanding of the world.

Principles:

- **Science is exciting when** we carry out practical investigations that are hands-on and have the wow-factor!
- **Science is rewarding when** we have opportunities to make mistakes, discuss them and learn from them.
- **Science is meaningful when** our experiments and learning link to real world problems, ideas and situations.
- **Science is interesting when** we build on our knowledge and explore links to different subjects.
- **Science is engaging when** we ask open-ended questions and work scientifically in a team to discover the answers.
- **Science is inspiring when** we learn about famous or local scientists and careers in STEM.
- **Science is fun when** we have special visitors or events, including going on trips and learning outside the classroom.

Figure 1: Science Vision and Principles Poster –



These posters are on display on the working wall in classrooms and are referred to throughout the coverage of each science topic.

To ensure excellence across the school in the teaching and learning of science:

- Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom.
- Teachers ask a range of questions which enable all children to take part, listening carefully to answers and taking learning forward, using open and closed questions and allowing children time to think.
- Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge.
- Teachers use precise questioning in class to test conceptual knowledge and skills, and assess pupils regularly to identify those children with gaps in learning, so that all pupils keep up.
- New vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.
- 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 the opportunity to seek answers to questions through collecting, analysing and presenting data.
- The key knowledge for each topic and across each year group is mapped across the school and checked at the end of each science topic.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding.
- Teachers find opportunities to develop children's understanding through learning outside the classroom.
- Science lessons provide a quality and variety of subject specific language to enable the development of children's confident and accurate use of scientific vocabulary and their ability to articulate scientific concepts clearly and precisely. Children are encouraged and assisted in making their thinking clear, both to themselves and others, and teachers ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

3. **Assessment**

Children's existing knowledge of the topic and the key related knowledge from previous year groups, is checked at the beginning of each unit, as part of the KWL process. Children's knowledge and skills are continually assessed and developed by the teacher during lesson, in accordance with the lesson's success criteria. Children review these criteria at the end of each the lesson, using a green pen, and the teacher verifies their judgements. Critical discussion, including that which generated by the teacher's progressive questioning also enables ongoing assessments.

Lessons are planned to ensure that key knowledge is developed over time, over the course of each science block and in the correct sequence. Key knowledge is reviewed by the

children and rigorously checked and consolidated by the teacher at the end of each unit of work.
Lessons within each unit are also planned to ensure the systematic development of the key identified skills across the school.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study as set out in the National Curriculum. These are set out as statutory requirements. We also draw on the non-statutory requirements to extend our children and provide an appropriate level of challenge.

Children receive effective feedback through teacher assessment, both orally and through written feedback in line with the success criteria. Children are guided towards achievement of the main objective through the use of process-based 'success criteria', provided by and explained by the teacher. Children refer to these during the lesson and they precede outcomes of work in children's books. The success criteria are used to identify areas of difficulty by children and teachers when reviewing and assessing work.

Ongoing assessment also includes:

- Observing children at work, individually, in pairs, in a group, and in classes.
- Questioning, talking and listening to children
- Considering work/materials / investigations produced by children together with discussion about this with them.

In EYFS, we assess the children's Understanding of the World according to the Development Matters statements.

4. **Planning and Resources**

Planning is a collaborative process and each class teacher plans with their year group partner. Teachers use the Associate of Science Education's 'Planning Matrices' to inform lesson content, specialist vocabulary and key knowledge and to ensure an appropriate emphasis on skills through practical experiences and approaches. Teachers also have access to the Department for Education Science Scheme of Work and the Kent Scheme of work to inform their planning and lesson design. Hamilton Trust resources are also available for adaptation and the school utilises the support and resources from the National Stem Centre.

The key vocabulary for each topic is mapped and shared with the children, with reference to the 'Topic Vocabulary (TV) Mat that each year group has created. This provides a graphic organiser of the key vocabulary, the previous relate knowledge and the current key knowledge of the topic. Responses to the 'What I'd like to know?' phase of the topic introduction, also enable and inform focussed interest planning which takes account of children's interests (as well as their starting points as informed by the 'What do I know already?' phase).

Key knowledge and skills, in line with the National Curriculum are mapped on the whole school 'Science Knowledge and Skills Progression Map' and this shows the key knowledge and skills of each unit and how they build through the school. The school's own context is also considered and opportunities for learning outside the classroom, including the use of specific school resources (such as the edible classroom and rooftop garden) and relevant educational visits, are included on the map and are planned by teachers. Cross curricular links are also mapped to further support the contextual relevance of the science curriculum.

High-quality science resources to support the teaching of all units and topics from EYFS to Y6, are used consistently and maintained by the subject leader. These are kept in a central store and are labelled and easily accessible to all staff. As well as these, the EYFS classes have a range of resources for easy access to children during exploration. The library contains a rich and varied supply of science topic books to support children's individual research and all classes have access to these during their weekly allocated library slot.

5. Organisation

Within the academic year, children study science in blocks, as outlined in the overall curriculum framework overview. This allows children to enhance their scientific knowledge and develop working scientifically skills through focused daily learning, throughout the duration of each block. This model also promotes the achievement of a greater depth of understanding by the end of a unit.

6. EYFS

Science in the EYFS is informed by and aligned to the following related early learning goals:

Personal, Social and Emotional Development

ELG: Speaking

- Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.

ELG: Managing Self

- Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

Understanding the World

ELG: People, Culture and Communities

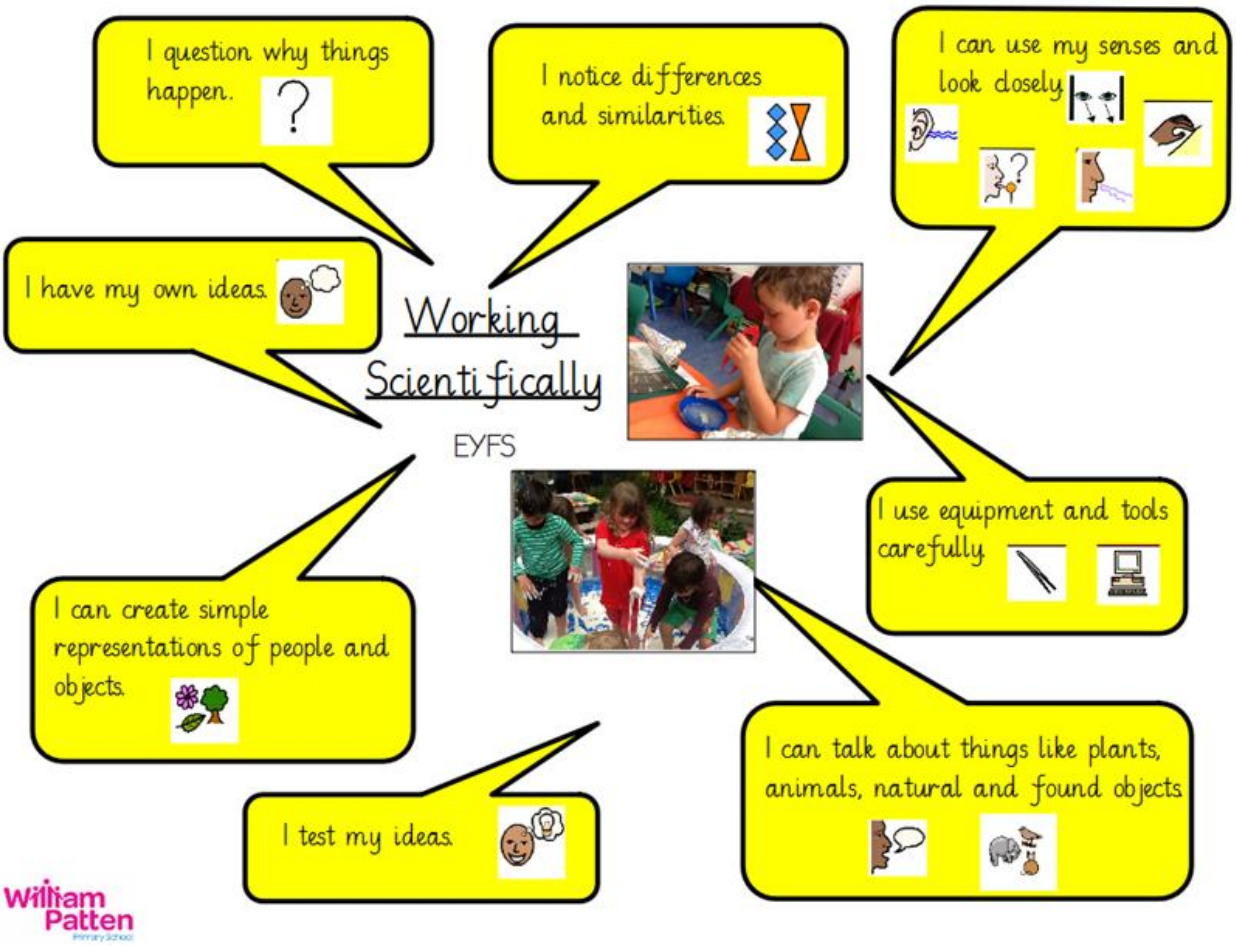
- Describe the immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps

ELG: The Natural World

- Explore the natural world around them, making observations and drawing pictures of animals and plants

- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter

The teaching of science in EYFS is in accordance with the EYFS national framework. Children are guided to make sense of their physical world and community through opportunities to explore, observe and find out about people, places, technology and the environment. They are assessed according to the Development Matters attainment targets.



7. **KS1 and KS2**

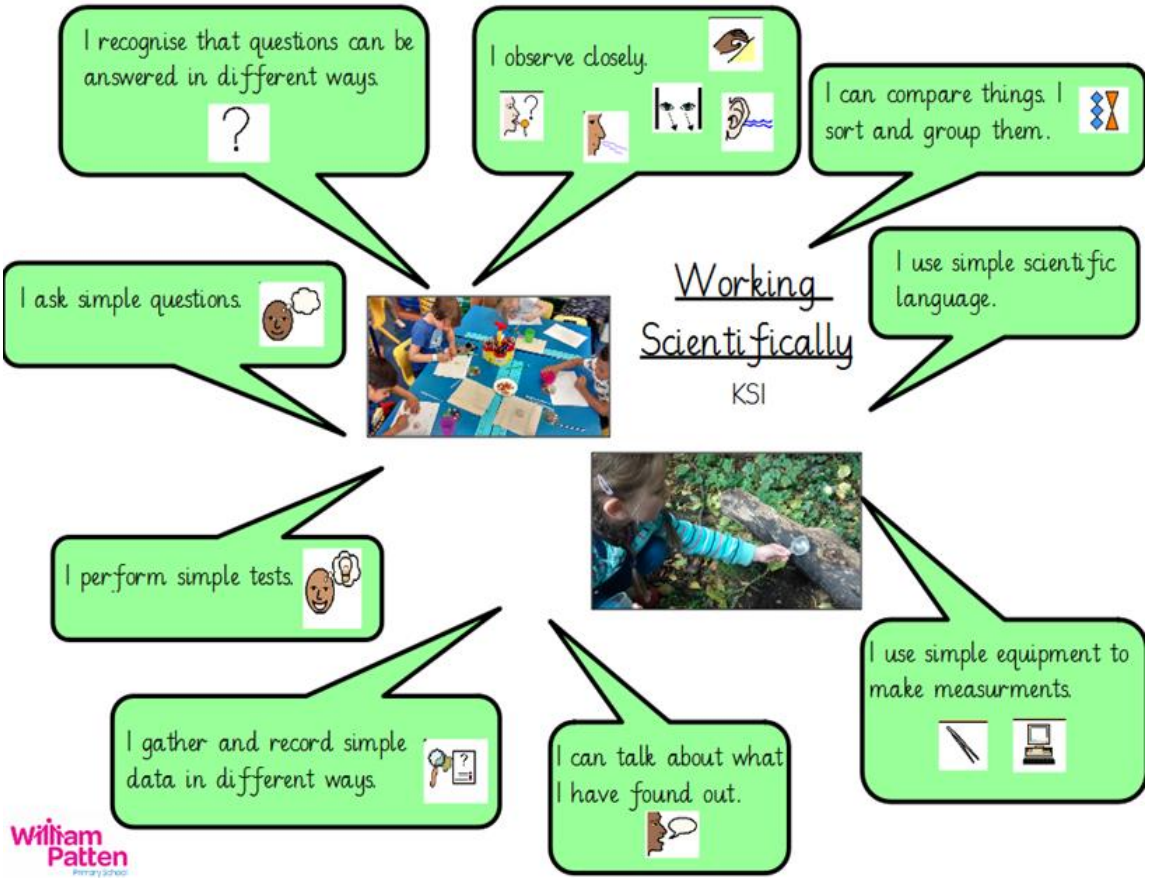
Key stage one:

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. At William Patten, children are encouraged to be curious and ask questions about what they notice. Their understanding of scientific ideas is supported through the use of different types of scientific enquiry so that children can answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. Children are supported to begin to use simple scientific

language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways, including wider school forums such as science week. Most of the learning about science is done through first-hand practical experiences, and children are also to begin to use appropriate secondary sources, such as books, photographs and videos.

'Working scientifically' is described separately in the National Curriculum programme of study, but is **always** taught through and clearly related to the teaching of substantive science content in the programme of study. The knowledge and skills progression maps outline how the specific skills of each unit progressively build between years and towards the overarching 'end point statements'. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Opportunities are provided for the children to read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

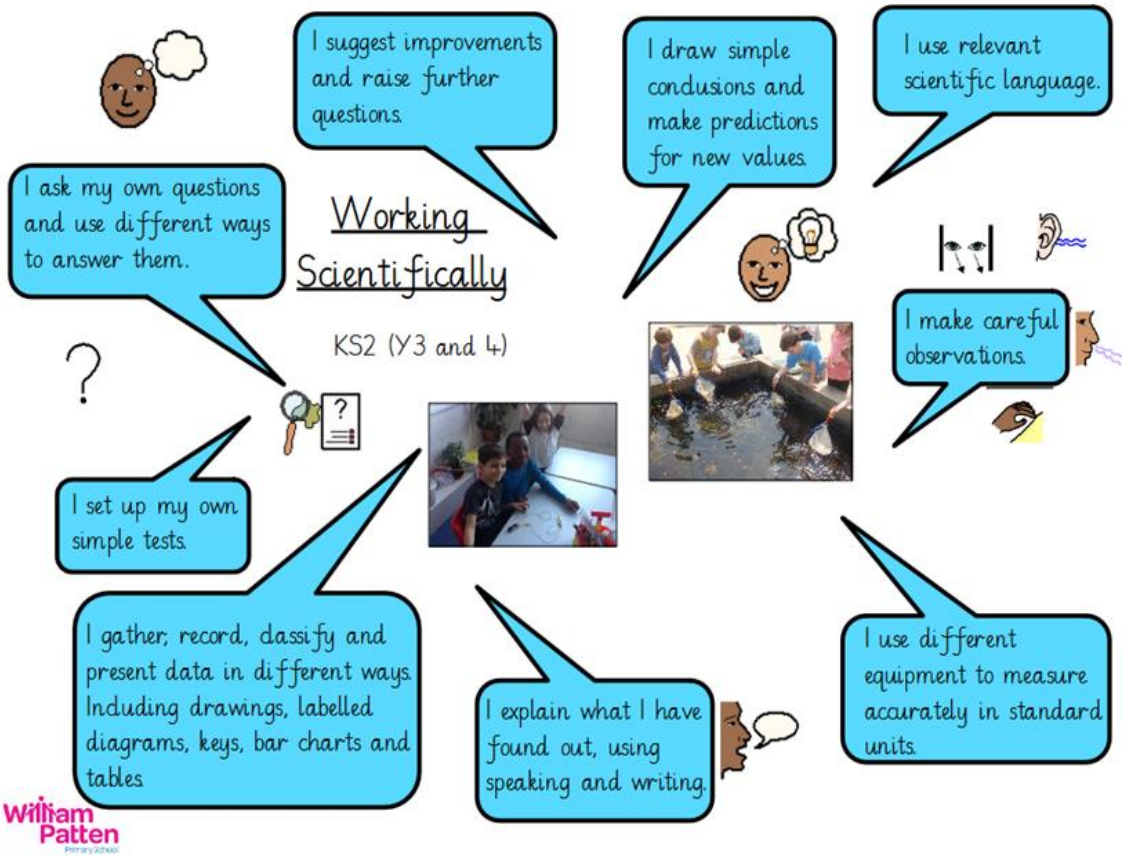


Lower Key Stage two:

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. Children are encouraged and supported to ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

As in KS1, 'Working scientifically' is described separately in the National Curriculum programme of study, but is **always** taught through and clearly related to the teaching of substantive science content in the programme of study. The knowledge and skills progression maps outline how the specific skills of each unit progressively build between years and towards the overarching 'end point statements'. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Opportunities are provided for the children to read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.

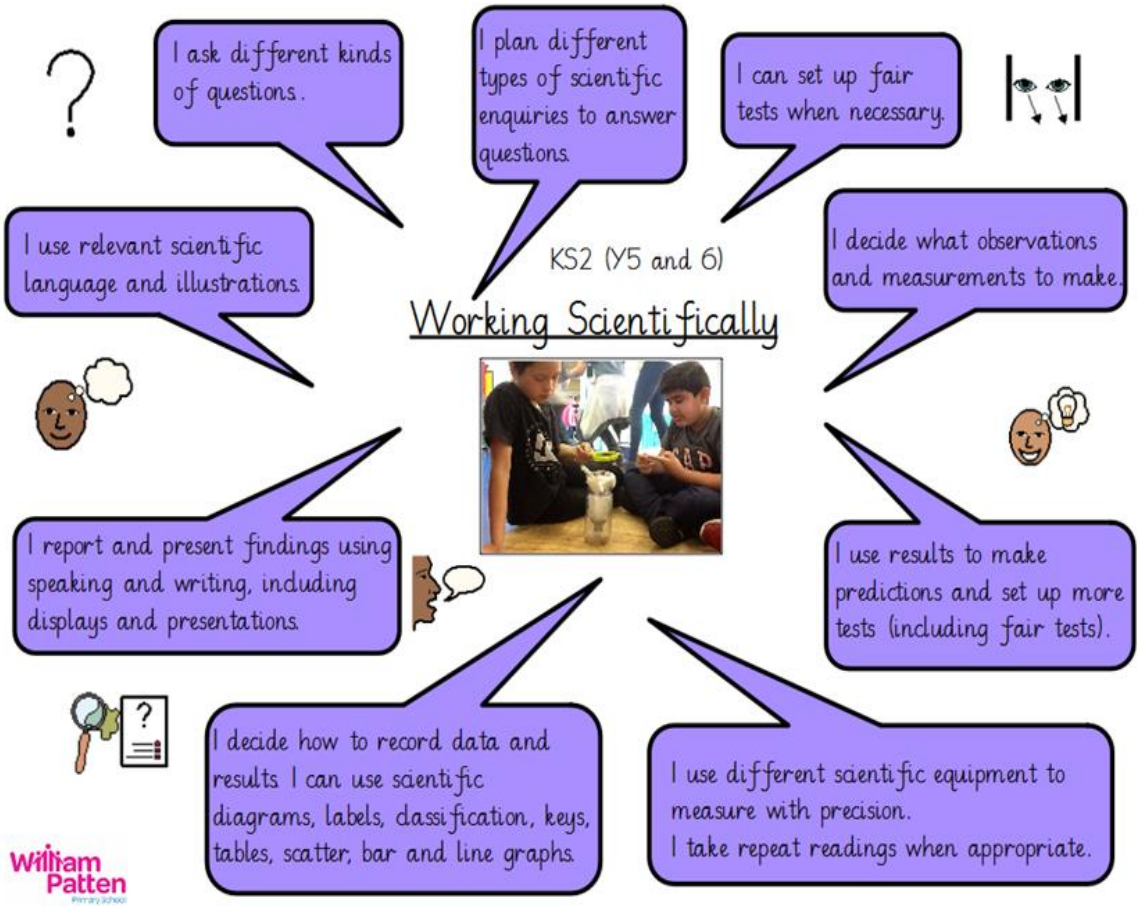


Upper Key Stage two:

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. At William Patten, children do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. Children are also supported to begin to recognise that scientific ideas change and develop over time. The school curriculum provides opportunities for children to select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of

secondary sources of information. Children learn to draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.
'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must **always** be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Opportunities are provided for the children to read, spell and pronounce scientific vocabulary correctly.



8. **Equal Opportunities**

At William Patten Primary school, we are committed to providing a teaching environment which ensures all children are provided with the same learning opportunities regardless of social class, gender, culture, race, special educational need or disability. Teachers use a range of strategies to ensure inclusion and also to maintain a positive ethos where children demonstrate positive attitudes towards others.

9. **Inclusion**

- Topic vocabulary is explained to the children from the onset of the topic, with accompanying definitions and visual cues, to ensure that all children develop and are able to use a range of vocabulary according to the project.
- Within each topic, teachers use 'word aware' to help children from identified vulnerable groups who would benefit. In Science, the word chosen for this is generally a technical term that is not a high frequency word.
- Key knowledge for all children is also provided on the TV (knowledge) mat, which is available for all children top refer to throughout the study in their books. Further use of assistive technology is also considered where appropriate for individual learners; this might include the use of widget to support instructions for construction, or the use of an electronic devise to support research.
- QR codes, photographs and print outs/screen shots of tasks completed on a computer or app can be used to evidence a learning process where the child has not produced a recorded outcome.
- Each class also has a working wall, which evolves with the topic. Teachers use this to reinforce the key knowledge and skills.
- Teaching assistants are expected to provide written feedback alongside the outcome or success criteria of the children they have supported as part of the monitoring and assessment of progress in the subject.

Science teaching considers the needs of different individuals and groups for learners and tasks are designed and differentiated as appropriate to ensure an appropriate level of challenge. Supporting adults are also deployed effectively to ensure focussed support where this is necessary.

Teachers use a range of inclusion strategies, including paired work, open questions and direct, differentiated questioning and the activation of prior knowledge and contextual learning. This supports the inclusion and motivation of all learners ensuring that optimum progress is made throughout each part of the lesson.

10. **Role of the Subject Leader**

The subject leader's responsibilities are:

- To ensure the high profile of the subject and provide a strategic lead and direction for science in the school.
- To maintain and ensure use of the central supply of science resources, in accordance with those specific to each year group and topic.
- To support colleagues in their teaching of science and support the CPD of others
- To ensure progression of the key knowledge and skills identified within each unit and that these are integral to the programme of study and secure at the end of each age phase.
- To monitor books and ensure that key knowledge is evidenced in outcomes, alongside and as supported, by SMT.
- To monitor planning and oversee the teaching of science.

- To lead further improvement in and development of the subject as informed by effective subject overview.
- To ensure that the science curriculum enables the progress and raises the attainment of all pupils, including those who are disadvantaged or have low attainment.
- To ensure that the science curriculum takes account of the school's context, promotes children's pride in the local area and provides access to positive role models from the immediate and wider local area to enhance the science curriculum.
- To ensure that approaches are informed by and in line with current identified good practice and pedagogy; to attend regular opportunities for CPD, including borough forums and PSQM sessions (to maintain the school's achievement of the PSQM) and disseminate findings.
- To establish and maintain existing links with external agencies and individuals with specialist expertise to enrich teaching and learning in science.
- To organise an annual whole-school science week, in accordance with the national theme, ensuring a focus on practical and investigative activities.

The subject leader has specially-allocated time for fulfilling the task of reviewing samples of children's work, training, liaising with other subject leaders from other schools and organising science week.

11. **Parents**

Parental input is highly valued and parents are regularly invited and welcomed into school to share their own expertise with the children. Enquiries from parents and members of the school community with specialist expertise and knowledge are also encouraged. The school will actively seek to establish collaboration with parents and carers who are able to support the teaching and learning of science at William Patten.

The support that parents and carers provide in supporting their children at home with topic-based homework is also recognised and valued. When these are set, Science homework tasks will be well communicated and have a clear purpose and will often provide children with the means to consolidate or extend their classroom work.

Specific opportunities for parents to take part in science activities at the school, including science week, will be communicated. Special events will also be organised to involve families in scientific activities.

Date of Policy: **July 2022**
Policy Review Date: **July 2023**

PRIMARY SCIENCE QUALITY MARK ®
Valid 2017-2020
SILVER AWARD

LOW LEVEL THINKING SKILLS ← → HIGH LEVEL THINKING SKILLS

Knowledge

Recall /regurgitate facts without understanding. Exhibits previously learned material by recalling facts, terms, basic concepts and answers.

Key words:

Choose, Copy, Define, Duplicate, Find, How, Identify, Label, List, Listen, Locate, Match, Memorise, Name, Observe, Omit, Quote, Read, Recall, Recite, Recognise, Record, Relate, Remember, Repeat, Reproduce, Retell, Select, Show, Spell, State, Tell, Trace, What, When, Where, Which, Who, Why, Write

Actions:

Describing, Finding, Identifying, Listing, Locating, Naming, Recognising, Retrieving

Outcomes:

Definition, Fact, Label, List, Quiz, Reproduction, Test, Workbook, Worksheet

Questions:

Can you list three ...?
Can you recall ...?
Can you select ...?
How did _____ happen?
How is ...?
How would you describe ...?
How would you explain ...?
How would you show ...?
What is ...?
When did ...?
When did _____ happen?
Where is . . . ?
Which one ...?
Who was ...?
Who were the main . . . ?
Why did ...?

Comprehension

To show understanding finding information from the text. Demonstrating basic understanding of facts and ideas.

Key words:

Ask, Cite, Classify, Compare, Contrast, Demonstrate, Discuss, Estimate, Explain, Express, Extend, Generalise, Give examples, Illustrate, illustrate, Indicate, Infer, Interpret, Match, Observe, Outline, Predict, Purpose, Relate, Rephrase, Report, Restate, Review, Show, Summarise, Translate

Actions:

Classifying, Comparing, Exemplifying, Explaining, Inferring, Interpreting, Paraphrasing, Summarising

Outcomes:

Collection, Examples, Explanation, Label, List, Outline, Quiz, Show and tell, Summary

Questions:

Can you explain what is happening . . . what is meant . . .?
How would you classify the type of ...?
How would you compare ...?contrast ...?
How would you rephrase the meaning ...?
How would you summarise ...?
What can you say about ...?
What facts or ideas show ...?
What is the main idea of ...?
Which is the best answer ...?
Which statements support ...?
Will you state or interpret in your own words ...?

Application

To use in a new situation. Solving problems by applying acquired knowledge, facts, techniques and rules in a different way.

Key words:

Act, Administer, Apply, Associate, Build, Calculate, Categorise, Choose, Classify, Connect, Construct, Correlation, Demonstrate, Develop, Dramatise, Employ, Experiment with, Group, Identify, Illustrate, Interpret, Interview, Link, Make use of, Manipulate, Model, Organise, Perform, Plan, Practice, Relate, Represent, Select, Show, Simulate, Solve, Summarise, Teach, Transfer, Translate, Use

Actions:

Carrying out, Executing, Implementing, Using

Outcomes:

Demonstration, Diary, Illustrations, Interview, Journal, Performance, Presentation, Sculpture, Simulation

Questions:

How would you use...?
What examples can you find to ...?
How would you solve _____ using what you have learned ...?
How would you organise _____ to show ...?
How would you show your understanding of ...?
What approach would you use to...?
How would you apply what you learned to develop ...?
What other way would you plan to ...?
What would result if ...?
Can you make use of the facts to ...?
What elements would you choose to change ...?
What facts would you select to show ...?
What questions would you ask in an interview with ...?

Analysis

To examine in detail. Examining and breaking information into parts by identifying motives or causes; making inferences and finding evidence to support generalisations.

Key words:

Analyse, Appraise, Arrange, Assumption, Breakdown, Categorise, Cause and effect, Choose, Classify, Differences, Discover, Discriminate, Dissect, Distinction, Distinguish, Divide, Establish, Examine, Find, Focus, Function, Group, Highlight, In-depth discussion, Inference, Inspect, Investigate, Isolate, List, Motive, Omit, Order, Organise, Point out, Prioritize, Question, Rank, Reason, Relationships, Reorganise, Research, See, Select, Separate, Similar to, Simplify, Survey, Take part in, Test for, Theme, Comparing

Actions:

Attributing, Deconstructing, Integrating, Organising, Outlining, Structuring

Outcomes:

Abstract, Chart, Checklist, Database, Graph, Mobile, Report, Spread sheet, Survey

Questions:

What are the parts or features of ...?
How is _____ related to ...?
Why do you think ...?
What is the theme ...?
What motive is there ...?
Can you list the parts ...?
What inference can you make ...?
What conclusions can you draw ...?
How would you classify ...?
How would you categorise ...?
Can you identify the difference parts ...?
What evidence can you find ...?
What is the relationship between ...?
Can you make a distinction between ...?
What is the function of ...?
What ideas justify ...?

Synthesis

To change or create into something new. Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.

Key words:

Adapt, Add to, Build, Change, Choose, Combine, Compile, Compose, Construct, Convert, Create, Delete, Design, Develop, Devise, Discover, Discuss, Elaborate, Estimate, Experiment, Extend, Formulate, Happen, Hypothesise, Imagine, Improve, Innovate, Integrate, Invent, Make up, Maximise, Minimise, Model, Modify, Original, Originate, Plan, Predict, Produce, Propose, Reframe, Revise, Rewrite, Simplify, Solve, Speculate, Substitute, Suppose, Tabulate, Test, Theorise, Think, Transform, Visualise

Actions:

Constructing, Designing, Devising, Inventing, Making, Planning, Producing

Outcomes:

Advertisement, Film, Media product, New game, Painting, Plan, Project, Song, Story

Questions:

What changes would you make to solve...?
How would you improve ...?
What would happen if...?
Can you elaborate on the reason...?
Can you propose an alternative...?
Can you invent...?
How would you adapt _____ to create a different...?
How could you change (modify) the plot (plan)...?
What could be done to minimise (maximise)...?
What way would you design...?
Suppose you could _____ what would you do...?
How would you test...?
Can you formulate a theory for...?
Can you predict the outcome if...?
How would you estimate the results for...?
What facts can you compile...?
Can you construct a model that would change...?
Can you think of an original way for the ...?

Evaluation

To justify. Presenting and defending opinions by making judgements about information, validity of ideas or quality of work based on a set of criteria.

Key words:

Agree, Appraise, Argue, Assess, Award, Bad, Choose, Compare, Conclude, Consider, Convince, Criteria, Criticise, Debate, Decide, Deduct, Defend, Determine, Disprove, Dispute, Effective, Estimate, Evaluate, Explain, Give reasons, Good, Grade, How do we know?, Importance, Infer, Influence, Interpret, Judge, Justify, Mark, Measure, Opinion, Perceive, Persuade, Prioritise, Prove, Rate, Recommend, Rule on, Select, Support, Test, Useful, Validate, Value, Why

Actions:

Attributing, Checking, Deconstructing, Integrating, Organising, Outlining, Structuring

Outcomes:

Abstract, Chart, Checklist, Database, Graph, Mobile, Report, Spread sheet, Survey

Questions:

Do you agree with the actions/outcomes...?
What is your opinion of...?
How would you prove/disprove...?
Can you assess the value/importance of...?
Would it be better if...?
Why did they (the character) choose...?
What would you recommend...?
How would you rate the...?
What would you cite to defend the actions...?
How would you evaluate ...?
How could you determine...?
What choice would you have made...?
What would you select...?
How would you prioritise...?
What judgement would you make about...?
Based on what you know, how would you explain...?
What information would you use to support the view...?
How would you justify...?
What data was used to make the conclusion...?

Bloom's Taxonomy: Teacher Planning Kit