



St. Nicholas C of E Primary School

Science Policy

Our Vision Statement

“To maximise the learning potential of every pupil within the love of God.”

Date reviewed: October 2020

Reviewed by: L. Dootson

Approved by Headteacher: October 2020

Date of next review: Autumn 2023

Intent

The 2014 National Curriculum for Science aims to ensure that all children:

- 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 St Nicholas, 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 programs of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children 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.
- Through our planning, we involve problem-solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and are 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 children regularly to identify those children with gaps in learning, so that all children keep up.

- We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and 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 these skills are being 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 or project days, such as Nature Day, allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills.

Impact

The successful approach at St Nicholas 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 such as Primary Futures and learn from and work with professionals, ensuring that children have 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 St Nicholas overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.

1. Legal framework

This policy has due regard to statutory legislation and guidance including, but not limited to, the following:

DfE (2013) 'Science programmes of study: key stages 1 and 2'
DfE (2014) 'Statutory framework for the early years foundation stage'
The Control of Substances Hazardous to Health Regulations (COSHH) 2002
The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013

This policy will be used in conjunction with the following school policies and procedures:

Health and Safety Policy
Accident Reporting Procedure

2. Roles and responsibilities

The **subject leader** is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of science, providing support for staff where necessary.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an **annual** audit of all science resources.
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessment.
- Advising on the contribution of science to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for development of science in subsequent years.

The **classroom teacher** is responsible for:

- Acting in accordance with **St Nicholas Science Policy**, ensuring that lessons are taught in line with the school's **Health and Safety Policy** at all times.

- Liaising with the science coordinator about key topics, resources and supporting individual pupils.
- Ensuring that all of the relevant statutory content is covered within the school year.
- Monitoring the progress of pupils in their class and reporting this on an **half termly and annual basis**.
- Reporting any concerns regarding the teaching of the subject to the **subject leader** or a member of the **senior leadership team (SLT)**.
- Undertaking any training that is necessary in order to effectively teach the subject.

3. The national curriculum

3.1 The national curriculum is followed and provides a full breakdown of the statutory content to be taught within each unit.

3.2 During **Reception class**, in accordance with the ‘Statutory framework for the early years foundation stage’, focus will be put on the seven areas of learning, with the scientific aspect of pupils’ work relating to the objectives set out within the framework.

3.3 During **Years 1 and 2**, pupils will be taught to:

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.

3.4 During **Years 3 and 4**, pupils will be taught to:

- Ask relevant questions and use different types of scientific enquiries to answer these questions, setting up simple practical enquiries, comparative and fair tests.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units and a range of equipment, including thermometers and data loggers.
- Gather, record, present and classify data in a variety of ways to help answer questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Use straightforward scientific evidence to answer questions or to support their findings.

3.5 During **Years 5 and 6**, pupils will be taught to:

- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Use test results to make predictions to set up further comparative and fair tests.
- Report and present findings from enquiries, including conclusions, causal relationships and explanations of the results and the degree of trust in them. This should be in oral and written forms such as displays and other presentations.
- Identify scientific evidence that has been used to support or refute ideas/arguments.

4. Aims and Objectives

“To strive to ensure that all pupils at St Nicholas C of E Primary School attain their full academic, cultural, emotional, physical, social, moral and spiritual potential, learning mutual respect and responsibility within a Christian Context.”

4.1 Science teaches an understanding of natural phenomena. It aims to stimulate a child’s curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national and global level.

4.2 Our aims in teaching science include the following:

- Preparing our children for life in an increasingly scientific and technological world;
- Foster 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 the world;
- To enable children to ask and answer Scientific questions and to solve problems;
- Plan and carry out scientific investigations, using equipment, including computers correctly;
- Know and understand Biology, Chemistry and Physics as outlined by the National Curriculum 2014 at their Key Stage;
- Evaluate evidence and present their learning and conclusions, clearly and accurately in a variety of ways.

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 collaborative skills to work co-operatively 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;
- Work collaboratively in pairs, groups and/or individually;
- Developing the skills of investigation - including observing, measuring, predicting, hypothesizing, experimenting, communicating, interpreting, explaining and evaluating;
- Developing the use of scientific language, recording and techniques;
- Read and spell specific scientific vocabulary appropriate for their age;
- Developing the use of ICT in investigating and recording;
- Enabling our children to become effective communicators of scientific facts and data;
- Learn about science using the outdoor learning environment.

5 Teaching and Learning

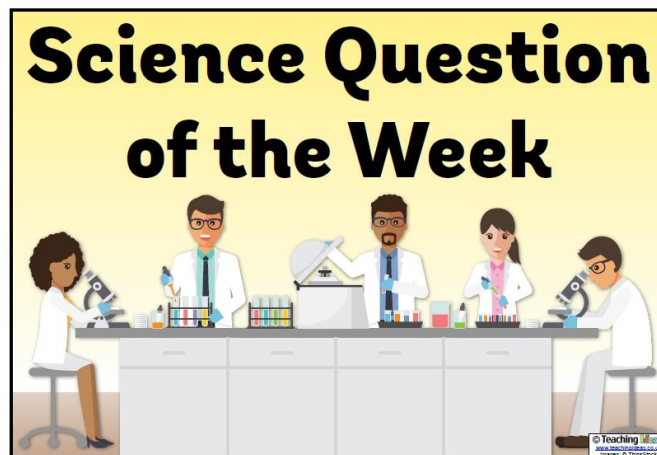
- 5.1 We use a variety of teaching and learning styles in Science lessons. Our principal aim is to develop children's knowledge, skills and understanding. Sometimes this is done through whole class teaching, while at other times we support the children in working scientifically whilst conducting their own investigations. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures and photographs. ICT is used in lessons to enhance the children's learning and provide further ways of recording learning. They take part in role play and discussions and they present findings to the rest of the class. We involve the children in 'real' scientific activities wherever possible, for example, researching local environmental sites or problems and carrying out practical experiments/enquiries then analysing the results.
- 5.2 We recognise there are children of widely different scientific abilities in all classes and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways by:
- Setting common tasks which are open ended and can have a variety of responses
 - Setting tasks of increasing difficulty (we do not expect all children to complete all tasks, just the task at their level)
 - In most classes the children are grouped by mixed ability for Science so that the children can support each other, work together and learn from each other. If necessary, the children could be grouped by ability depending of the nature/skill of the session;
 - Provide resources of different complexity, matched to the ability of the child;
 - Using classroom assistants, where possible, to support the work of individual children or groups of children.
- 5.3 We also try to encourage AFL opportunities using a variety of devices to enable children to show understanding of key concepts learnt in a creative

cross curricular way as well as standard ways of recording and assessing in science.

For example:

- An explanation report for the Water Cycle
- A recount story of a day in the life of a bee showing understanding of pollination
- A diary entry from the perspective of a material to show reversible / irreversible changes

- 5.4 In order to raise the profile of Science and ignite children's curiosity of awe and wonder in the subject of science, each classroom has a Science Question of the Week display. The object of this is to collate questions from the children that they would like to find out and hand one a week as extra homework to a child. They will then go home, research the question and present their findings to the rest of the class the following week.



A thematic science week every year enables staff and children to really explore and immerse themselves fully by completing many experiments as well as utilising specialist scientists from Primary Futures, organised by the science co-ordinator to inspire children and see how science fits in to real life scenarios and job opportunities – Science in Action.

6. **Science Curriculum Planning**

- 6.1 The school bases all of its science lessons on the National Curriculum programme for Science but has adapted the way in which it is taught to meet the needs of our children.

The science subject co-ordinator has purchased a scheme of work, 'Switched on Science' to support teachers and enable a consistent standard being taught with its content taken from the appropriate part of the program of study for each year group.

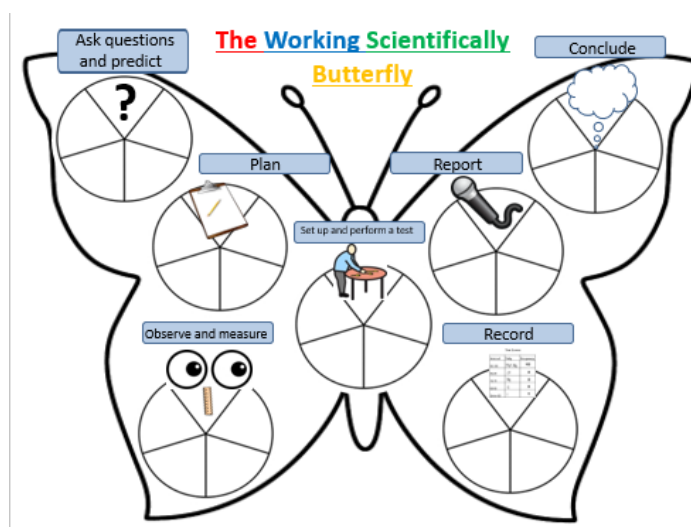
At the beginning of each topic, learning outcomes for working scientifically are listed as well as the subject knowledge concept statements. These are taken

directly from the science programme of study. The topic overview section also offers cross-curricular opportunities, essential scientific vocabulary, health and safety guidance, big questions for research and discussion and, crucially, background subject knowledge for teachers. This enables non-specialist teachers to quickly up-skill themselves with the relevant scientific knowledge and language before beginning the lesson. Also listed in the planning are possible misconceptions that teachers may come across, as well as a run-down on what children should have learnt up to this point.

Whilst the long term plan is fixed it is up to the class teachers to organise when and how content is taught. Science is generally taught as a discrete subject but we try, where possible, to combine scientific study with other curriculum subjects suitable alongside the Lancashire planning documentation

6.2 All planning for Science should be recorded on the agreed school planning document which can be found on the staff server area. A planning support page has been developed and distributed to support staff in planning Science lessons, particularly to encourage working. Scientifically, it is up to individual teachers if they choose to make reference to this document.

In order to ensure a varied and full range of skills being covered across each year group, the science co-ordinator has developed a simple chart that can be filled in by children as they progress throughout the year. This is to be placed in the front of every science book.



Every teacher has been given a questioning stem bookmark to ensure children are being increasingly challenged with the teachers response marking, which in turn will show the individuals level of understanding and help form judgements.

QUESTIONS STEMS FOR INCREASING CHALLENGE

Knowledge and recall

Who, What, When, Where, Why, Which
How, How much
Describe or define
Recall, select, list, find
Tell me, show me, point out
Name, label
Remember, memorise

Comprehension

Translating, interpreting, extrapolating
Organisation and selection of facts
Retell, describe.....in your own words
What does this mean
State in one word
Give an example of
What part doesn't fit
Choose the statements you agree with
Outline, summarise, match, translate,
identify, indicate, locate, classify
Explain what is happening
Read the graph/ table
Compare and contrast
Sequence the facts
The main idea is

Application

Using science in situations that are
knew or unfamiliar
How could you use
Demonstrate how
Show how
Apply, construct, identify
If....how
What would happen if...
How much change would there be if
How would you organise
Can we apply this knowledge
How could we use what we have learnt
today
What questions would you ask in an
interview?

Analysis

Breaking down into parts, relating to the
whole
Distinguish, diagram, similar, like, chart, plan
, dissect, contrast, arrange, conclude,
separate, outline, differentiate,
Give reasons for
What assumptions can you make
What is fact, what is opinion
What is the relationship between
Justify your decision
Categorize
Formulate a hypothesis, predict
What solutions would you suggest
How could you test...
How could you adapt, modify...

Synthesis

Create something new
How could you improve
Suggest an alternative
What solutions would you suggest
Think of an original way to
Using your knowledge predict, create,
compose, design, develop
Solve the following, infer, State a rule about
How else would you

Evaluation

Judging according to a set of criteria and
stating why
Appraise, judge
Which is the best, verify, evaluate,
Find the errors, criticize
Are there any inconsistencies
What may have caused experimental errors
Which information is more important, better,
more reliable, valid, appropriate,
inappropriate
Do you agree with...and why
What do you think about...why
Prioritise...and why
How could you improve...explain why
What is important, not important
What would you recommend and why
What would you advise

6.3 By purchasing a new science scheme of work we ensure that pupils' experiences build on prior learning and are increasingly being challenged as they move through school.

7. Foundation Stage

7.1 Science is taught under the heading Understanding the World in the foundation stage curriculum. It focuses mainly on where they live and the natural world that surrounds them. Understanding the world, allows the children to explore and seek to find answers to their own questions arising from everyday adventures within the classroom's indoor and outdoor setting. Reception encourages all children to show care and concern for all living things in our world and be able to start to think about the similarities, differences, patterns and changes that happen around us.

7.2 Tapestry is the online recording tool currently being used for foundation stage Learning Journals. It allows early years to capture pictures and records observations instantly, enabling teachers to help assess more formally how children are progressing.

8. The contribution of science to teaching in other curriculum areas

8.1 English

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that the children study in Literacy are of a scientific nature. The children develop oral skills in science lessons through discussions and through recounting their observations of scientific experiments. They develop their creative writing skills through writing reports, recounts and completing projects as well as recording information.

8.2 Mathematics

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations they learn to estimate and predict. They develop the skills of accurate observation and recording of events using a wide variety of graphs and diagrams suited to the task. They use numbers in many of their answers and conclusions.

8.3 Information and communication technology (ICT)

Children use ICT in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the Internet and on scientific programmes. Children use ICT to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

8.4 Personal, social and health education (PSHE) and citizenship

Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle material and how environments are changed for better or worse. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. They organize campaigns on matters of concern to them, such as helping the poor or homeless. The Christian ethos of the school has a key role in this. Science promotes the concept of positive citizenship.

8.5 Spiritual, moral, social and cultural development

Science teaching offers children many opportunities to examine some of the fundamental questions in life. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world within a Christian context. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the

way people care for the planet and how science and Christianity can contribute to the way we manage the Earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

9. Teaching science to children with special needs

- 9.1 We teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties in line with our SEND and Inclusion policies. Our work in science takes into account the targets set in the children's Individual Education Plans (IEPs).

10. Liaison with other Schools

- 10.1 The school liaises with receiving High Schools through Y6/Y7 teachers and SENCo.
- 10.2 The science co-ordinator also attends Blackpool network meetings enabling the school to share ideas, resources and best practice.

11. Assessment and recording

- 11.1 We assess children's work in science by making informal judgements as we observe and question them during lessons. On completion of a piece of work, activity or investigation, the teacher marks the work and comments as necessary with challenging questions to stretch the children's understanding. Additional AFL resources like retrieval grids and testbase questions are also used throughout the topic to aid understanding. At the end of a unit of work s/he makes a summary judgement about the work of each pupil in relation to the National Curriculum level of attainment. We use these grades as the basis for assessing the progress of each child and we pass this information on to the next teacher at the end of the year. A best fit science level is recorded at the end of each half term on specific topic based assessment sheets written by the subject co-ordinator below: This is a much clearer way of recording levels and also allows coverage of both objectives and working scientifically skills to be monitored.

These will prove to be a very useful tool for achieving maximum learning in the classroom and targeted interventions.

The tracking will be kept on the staff server and the co-ordinator will notify staff each half term to ensure full completion for a set deadline.

Once data is analysed by the co-ordinator and SMT, questions will be sent to each year group, similar to that of pupil progress, to ascertain what measures will be put in place to close gaps and also to gain what works well.



Year 3 Forces and Magnet Science Assessment

Learning Objectives Year 3 and 4

The overall focus of science lessons from Year 3 is to enable pupils to explore their scientific view of the world around them. They should develop through exploring, talking about, testing and developing ideas about everyday phenomena and relationships between living things and their surroundings, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make their decisions about which types of scientific enquiry are likely to be the best ways of answering them, including planning changes over time, making patterns, grouping and classifying things, carrying out simple comparison and fair tests and finding links and using secondary sources of information. They should draw simple conclusions, evaluate their scientific language, look for links and look for order in what they have found and **explain things** in detailed responses of the limitations of the assessment of science, but most often be based on what is directly related to children's science content in the programme of study. Throughout the topic and activities, examples from how scientific methods and skills **apply to the world** to explain elements of the **world around us** should be used and pupils should be encouraged to apply their understanding and explain knowledge.

Working scientifically

During years 3 and 4, pupils **apply their skills** use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 1. **asking relevant questions and using different types of scientific enquiries to answer them**
- 2. **setting up simple practical enquiries, comparisons and fair tests**
- 3. **making systematic and careful observations and where appropriate, taking accurate measurements using standard units, using a range of equipment, recording their observations and data logically**
- 4. **planning, recording, classifying and presenting data in a variety of ways to help in answering questions**
- 5. **reporting findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables**
- 6. **reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions**
- 7. **using results to draw simple conclusions, make predictions for new cases, suggest improvements and raise further questions**
- 8. **identifying differences, similarities or changes related to simple scientific ideas and processes**
- 9. **using a range of scientific evidence to answer questions or to support their findings.**

Practical materials

- 1. Compare how things move in different ways.
- 2. Explain that some forces need contact between two objects, but magnetic forces act at a distance.
- 3. Observe how magnets attract or repel each other and attract some materials and not others.
- 4. Compare and group together a variety of everyday materials **based on their properties** they are attracted to or repelled, and identify some magnetic materials.
- 5. Describe magnets as having two poles.
- 6. Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Beginning	Developing	Secure
<ul style="list-style-type: none"> 1. Identify things that are moving. 2. Describe how things move. 3. Identify things that are not moving. 4. Identify things that are moving and things that are not moving. 	<ul style="list-style-type: none"> 1. Identify things that are moving and things that are not moving. 2. Describe how things move. 3. Identify things that are moving and things that are not moving. 4. Identify things that are moving and things that are not moving. 5. Identify things that are moving and things that are not moving. 6. Identify things that are moving and things that are not moving. 7. Identify things that are moving and things that are not moving. 8. Identify things that are moving and things that are not moving. 9. Identify things that are moving and things that are not moving. 10. Identify things that are moving and things that are not moving. 	<ul style="list-style-type: none"> 1. Identify things that are moving and things that are not moving. 2. Describe how things move. 3. Identify things that are moving and things that are not moving. 4. Identify things that are moving and things that are not moving. 5. Identify things that are moving and things that are not moving. 6. Identify things that are moving and things that are not moving. 7. Identify things that are moving and things that are not moving. 8. Identify things that are moving and things that are not moving. 9. Identify things that are moving and things that are not moving. 10. Identify things that are moving and things that are not moving.

At the end of the academic year, teachers will use the assessment sheets for each topic taught throughout the year to inform them of their final 'best fit' judgement that is input on OTrack. Once the relevant 'best fit' judgement is entered, the percentage of pupils who achieve emerging, expected or exceeding per statement is displayed, which will inform the following teacher.

- 11.2 Year 6 will undertake a sample SATS test the week after SATS in order to measure the progress a child has made and help to alert teachers in the transition period to secondary school to specific areas where children may need extra support, for maximum learning to continue and areas to be worked on. This will also inform ourselves of specific areas for improvement across school.

Although science sampling tests will not take place in 2019, a new approach is to be brought in, in a new format:

For those schools who are selected, there will be three papers:

Biology: 25 minutes, 22 marks

Chemistry: 25 minutes, 22 marks

Physics: 25 minutes, 22 marks

Each paper will take a maximum of 25 minutes to complete.

These are 'questions in a physics/chemistry/biology context', for example:

Biology: 'Describe the differences in the life cycle of an amphibian and a mammal'

Chemistry: 'Group a list of materials according to whether they are solid, liquid or gas'

Physics: 'Predict whether two magnets will attract or repel each other, based on where the poles are facing'

It is therefore important for us to continue rigorous testing and checking full understanding for each topic in order to prepare children. The science co-ordinator will be continuing to keep updating staff with relevant changes and materials that will help teach and support the above.

- 11.3 The science subject leader keeps samples of children's work in a portfolio and uses these to demonstrate what the expected level of achievement is in science for each age group in the school.

Regular moderating and sharing good practice during staff meetings will also help staff to gauge a consistent approach to the teaching and recording of science across year groups.

12 Time

- 12.1 Time allocation to science is that all classes either allocate at least one afternoon per week for Science at both Key Stage 1 and Key Stage 2, or teach science in weekly blocks, if more suitable for a cross curricular approach if this fits in with certain other topics being taught. Although there are no official time guidelines for this subject, it is recommended that a **minimum of 2 hours** is given to Science in order to fulfil the requirements set out in the National Curriculum and also for it to be a prioritised, being a core subject.

13. Resources

- 13.1 We have sufficient resources for all science teaching units in the school. We keep these in the resource room. A wide range of resources to support teachers as well as real life and creative investigations are also on the staff server for ease of access. The school library and class libraries also provide a good source of science topic books and ICT software and internet activities to support children's individual research. The science co-ordinator consults staff on a regular basis with regard to resources as well as keeping abreast of the latest developments in science to ensure the school has the best available resources to ensure effective delivery of the curriculum. This is reflected in yearly curriculum bids to ensure maximum support and practical work being undertaken.

14. Monitoring and Evaluation

- 14.1 It is the responsibility of the science subject co-ordinator to monitor the standards of children's work and the quality of teaching in science. A variety of monitoring strategies will be used including pupil and teacher questionnaires, discussions with children, observation of the learning environment, learning walks and work samples on a formal and informal basis to ensure adequate progression and skills being taught. The yearly action plan refers to timeframes for different criteria being monitored. The science subject leader is also responsible for supporting colleagues in the teaching of Science, being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. If requested, the science subject leader could have specially-allocated time for fulfilling the task of reviewing samples of children's work, monitoring planning and visiting classes to observe teaching in the subject in accordance with the School Improvement Plan priorities.

15. Health and Safety

- 15.1 Lessons are planned in accordance with the schools health and safety policy and guidelines and CLEAPSS recommendations for Primary Schools. Staff members can refer to the Be Safe book for more information.

16 INSET and Professional Development

- 16.1 INSET is decided in line with the School Improvement Plan, School Self Evaluation and budget allocation.
- 16.2 The science co-ordinator will assess and address staff training needs as part of the annual action plan process or in response to individual training needs and requests throughout the year. Individual teachers should attempt to continually develop their own skill set and knowledge, identify their own needs and inform the co-ordinator. Money is set aside from the science budget each year in order to support staff with professional development, offering support, guidance and ideas, often from an external source during an INSET day.