



SCIENCE POLICY
HOLTSMERE END JUNIOR SCHOOL
Autumn 2021
To be reviewed Summer 2023

Intent

It is our intention to enable all children to develop their scientific knowledge and practical skills across the full range of topics covered at KS2, allowing them to better understand the world of science. Children are challenged to achieve their full potential in lessons that allow them to feel safe and secure, whilst also providing activities that are exciting and practical.

The science curriculum has been planned to be mastery of a body of subject-specific knowledge designed specifically to meet the needs of our children.

At Holtsmere End Junior School we believe that the skills are the by-product of the knowledge, not its purpose.

Learning is defined as an alteration of the long-term memory. If nothing has altered in long term memory, nothing has been learned. Therefore, the science curriculum has been planned accordingly to 'make knowledge stick'.

At Holtsmere End Junior School we know that vocabulary size is related to academic success, and schooling is crucial for increasing the breadth of vocabulary. Skills and knowledge for the subject have been identified and are lesson specific. Skills start with an imperative verb eg. explore, consider, investigate...

Knowledge is 'to learn' and will be key facts.

Hooks to engage children will be planned for and should be varied with a focus on real artefacts where possible. Challenge and Choice should be included in most lessons, or some form of differentiation clearly identified. Differentiation will always focus on how children can demonstrate their subject specific ability and

not have a barrier to this, for example their ability to write. Planned opportunities for cross curricular writing will be included, where appropriate.

Implementation

Teaching time

All pupils at KS2 will be given 1.5 hours of science teaching time per week. Science is planned and taught based on the national curriculum topics seen below:

Overview of topics by year group

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	Forces and Magnets Yr 3 and 5	Animals inc Humans Yr 3, 4, 5 and 6	Plants Yr 3	Rocks Yr 3		Light Yr 3 and 6
Year 4	States of Matter Yr 4	Electricity Yr 4 and 6	Animals inc Humans Yr 3, 4, 5 and 6		Sound Yr 4	Living Things and their Habitats Yr 4, 5 and 6
Year 5	Earth and Space Yr 5	Properties and Changes of Materials Yr 5		Living Things and their Habitats Yr 4, 5 and 6	Animals inc Humans Yr 3, 4, 5 and 6	Forces Yr 3 and 5
Year 6	Living Things and their Habitats Yr 4, 5 and 6	Animals inc Humans Yr 3, 4, 5 and 6	Evolution and Inheritance Yr 6		Light Yr 3 and 6	Electricity Yr 4 and 6

The teaching of science will involve some direct teaching and whole class, group, paired or individual activities. Through a range of strategies, such as: enquiry, exploration, discussion and asking and answering questions, pupils are actively engaged in learning.

An effective Science lesson:

The teaching of science is successful at our school when:

- time is given for children to respond to their feedback from the previous lesson;
- the previous learning is recapped and consolidated before a new concept is introduced;

- the main teaching input includes modelling of the learning and challenges;
- time for independent or group activities where children have to evidence their learning is given;
- a whole class plenary takes place at the end which identifies their progress against the skills taught and clarifies any misunderstandings they may have;
- mini plenaries are used during lessons to remind the children to reflect on their learning.

Links between Science and other subjects

On occasions, children will be able to use the computer/iPads to present their results or findings on a topic or for research. They also use mathematical skills such as graph drawing to present results. Where possible, one of the three cross-curricular Unaided tasks per year in writing lessons will be based around the learning being carried out in science lessons to further enforce that knowledge.

School and Class Organisation

How we cater for pupils who are more able

More able pupils will be taught within their own class and stretched through differentiated group work and extra challenges. Children will be provided with a choice of challenges. The teacher of the class will direct higher level questions at these pupils during the lesson. Tables will be mixed ability to give higher ability children the chance to explain ideas and concepts to strengthen their own understanding.

Pupils with special educational needs and individual education plans

Children will be taught within their own class and work will be differentiated to their level. Word banks and pictures will be provided to aid their learning and the teacher will aim lower-level questions at them. Mixed ability tables will give them access to peer-to-peer support.

Resources

Science resources are stored in the Science cupboards in the dining room and this area is regularly checked. Staff will check availability of resources prior to the start of a topic and any resource shortages will be notified to the subject leader. The school grounds, which include a pond, woodland and grass area, are to be

used throughout the year to aid the delivery of the Life Processes and Living Things section of the NC.

Each class will use a variety of resources that will be used regularly to support their learning e.g: word banks, writing frames, pictures and displays.

Each classroom has a topic relevant display that provides key words, key information and pictures to aid pupils. The display should also contain examples of work.

A variety of computing resources will also be used to effectively support teaching and learning in Science. Class computers, interactive white-boards, visualisers and iPads are used to support, celebrate and clarify any misunderstandings in children's learning.

Management of Science

Role of the Subject Leader

The role of the subject leader is to:

- ensure teachers are familiar with the curriculum and help them to plan lessons;
- lead by example in the way they teach in their own classroom;
- monitor books and lesson plans, long-term overviews and provide feedback to staff;
- work co-operatively with the SENCO and TA's;
- ensure we have stock of key equipment and resources;
- observe colleagues with a view to identifying the support they may need to accelerate learning and to ensure the quality of teaching is at least good or outstanding;
- monitor progress data and identify key areas of strength and difficulty;
- attend Subject Leader training.

Impact

Assessment

We assess the children's progress by making informal judgements during lessons or through the work the pupils produce, against the attainment target outcomes identified in the skills and knowledge ladder (See separate skills and knowledge ladder). Once a half

term, the teacher makes a formal summary judgement about the attainment of each pupil in relation to the skills set out on the assessment sheets - these directly link to the skills and knowledge ladder. Marking and verbal feedback provide guidance to help progress.

Feedback and Marking

Teachers of Science are expected to mark all work in books and given next steps questions. Time will be given at the start of the following lesson for children to respond to that feedback. Teachers will respond to the children's answers.