Hamp Nursery and Infants School

Science Policy 2025/26

Introduction

At Hamp Nursery and Infants school our curriculum has been developed to meet the requirements of the 2014 National Curriculum for KS1 and the Early Years 2020 framework for Nursery and Reception. It includes not only the formal requirements of the National curriculum but also a range of extra activities that the school organises in order to enrich and enhance the experiences and learning of our children in their local context. It also includes the "hidden curriculum" or what the children learn from the way they are treated and expected to behave. We believe that children learn best when their learning is fun and meaningful. Our new curriculum has been planned to ensure the children acquire both knowledge and skills. It is a cross-curricular approach centering around each "Literacy Tree" story, with a specific question heading to stimulate curiosity and interest. It is carefully structured to ensure the progression of knowledge and skills with opportunities planned to provide opportunity to build upon these skills and knowledge and to firmly embed both, helping our children to develop a life-long love for learning.

We nurture our children on their journey and encourage them to be creative, unique, open-minded and independent individuals, respectful of themselves and of others in our school, our local community and the wider world. We take our responsibility to prepare children for life in modern Britain very seriously and ensure that the fundamental British Values are introduced, discussed and lived out through the ethos and work of our school. We are fully inclusive at Hamp Nursery & Infants School and highly value the individuality of all our pupils and staff. Our curriculum has the flexibility to ensure all our children can become successful lifelong learners able to make a positive contribution to society and to future generations.

Rationale

Science makes an increasing contribution to all aspects of life. Children are naturally fascinated by everything in the world around them and by helping them to investigate and explore, we can develop their knowledge and understanding.

At Hamp Nursery and Infant School our aims are:

- To build on our children's natural curiosity
- To use focused exploration and investigation to acquire scientific knowledge, understanding and skills
- To stimulate children to explore and question
- To promote good speaking and listening
- To use the outdoor space effectively
- To use time and resources efficiently

Curriculum Intent

It is our intention at Hamp Nursery and Infant School that children's develop knowledge and skills through scientific enquiry. We aim to build upon our children's natural curiosity, to stimulate them to explore and question. We aim to promote good speaking and listening and use our outdoor area effectively.
A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring,

predict how things will behave, and analyse causes.
Within the curriculum we will provide opportunities for children to revisit and embed prior learning and build upon and deepen their skills and knowledge.

Curriculum Implementation

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. In addition, we have planned experiences and specific learning opportunities to meet the needs of our pupils within the context of where they live.

We have planned our curriculum around our Literacy Tree stories, to be introduced with a different question to stimulate learning across all areas of the curriculum. Each of these "Topic Plans" includes all areas of the curriculum and must be taught as a whole unit, in order to provide the planned opportunities to revisit and build upon knowledge and skills so that they are fully embedded and our children become confident and able learners.

EYFS

In order to support progression through the school we have planned that EYFS practitioners will provide opportunities for pupils to explore the following areas:

- Plants and environments
- Animals (domestic and wild)
- Ourselves
- The Four Seasons
- Light and Dark
- Forces e.g. push and pull, floating and sinking

In the Early Years Foundation Stage teachers must plan activities to meet the Early Learning Goal. Teachers should follow the children's interests and provide opportunities for them to explore the natural world where appropriate. The new curriculum maintains flexibility to meet the children's interests as appropriate.

Children should be given opportunities to work scientifically. They should be encouraged to talk about what they experience and make simple observations. They should record their ideas using pictures and words where appropriate and undertake simple experiments. They should be supported to develop subject specific language and encouraged to talk about what they have found out. This will be supported through real objects and the use of STC.

The statutory requirements that must be taught in Year 1 and Year 2 are:

Year 1

- Animals (which could be split into Ourselves and Other Animals)
- Plants
- Materials
- Seasonal Change

Year 2

- Animals and Living Things
- Habitats
- Plants
- Materials

In each area there must be opportunities for children to work scientifically. They should plan and carry out simple tests and make observations. They should answer questions and join in with group discussions.

In addition to the statuary requirements we have planned our curriculum beyond the above areas with learning across all age groups to build upon, revisit and embed knowledge and skills.

Within the curriculum topic plans we have included scientific learning from other areas such as:

- Forces
- Electricity
- Planet Earth and Space
- Light and Sound

	Reception	Year 1	Year 2
Plants	The children will: • 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. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.	The children will be able to: • Name a variety of wild and garden plants • Name a variety of evergreen trees • Name the parts of a flower (e.g. flowers, blossom, petals, fruit, roots, bulb, seed, stem) • Describe the structure of a flower • Name the parts of a tree (e.g. roots, trunk, branches, bark) • Describe the structure of a tree	The children will be able to: • Observe and describe how seeds and bulbs grow into mature plants • Observe and understand why plants need water, light and suitable temperature to grow and stay healthy
Animals, including humans		• Name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Name a variety of common animals that are carnivores, herbivores and omnivores • Describe and compare the external features of common animals including fish, amphibians, reptiles, birds and mammals • Name, draw and label the basic parts of a human body (e.g. head, neck, arms, legs) • Name each body part associated with each sense • Compare different textures, sounds and smells • Use observations to compare and contrast and use them to identify and group animals by what they eat	• Match offspring to animals including humans • Find out and describe the basic needs of animals including humans for survival (water, food and air) • Describe the importance of human exercise, eating the right amounts of different types of food and hygiene • Make observations of growth • Explore and compare the differences between things that are living, dead and things that have never been alive
Everyday Materials		• Name objects and the materials they are made from • Name everyday materials • Identify everyday materials including wood, plastic, glass, metal, water and rock • Describe simple properties of everyday materials • Compare the properties of everyday materials • Group materials based on properties	• Identify suitability of everyday materials • Compare suitability of everyday materials including wood, metal, plastic, glass, rock, brick, paper, cardboard • Find out how shapes of solid objects from made from some materials can be changed e.g. squashing, bending • Identify different uses of the same materials e.g. Coins/ cans • Discuss that the same objects can be made from different

		• Explore and experiment the suitability of materials for purpose • Perform simple tests to explore suitability	materials e.g. spoon- metal or wood • Find out about people who have developed useful materials e.g. John Dunlop, Charles Macintosh • Compare uses of everyday materials in different environments
Seasonal changes		• Name the four seasons • Identify features of each season • Observe changes across the four seasons: Autumn, Winter, Spring, Summer • Name different weather types • Talk about changes in weather • Observe changes in weather across the four seasons • Record changes in weather • Record changes in seasons • Discuss day length as season change	
Living things and their habitats			• Name common habitats and the animals that live there (including Microhabitats) • Describe how habitats provide for basic • needs of plants and animals • Compare different habitats • Describe how animals obtain food from plants and other animals, exploring the use of a food chain • Name different sources of food
Working Scientifically		• Make observations • Explore and investigate characteristics • Describe using different senses • Uses appropriate vocabulary in group and individual discussions • Begin to answer questions • Begin to explain what they know • Complete records by filling out and drawing including charts, tables, diagrams and pictures • Uses simple equipment e.g. magnifying glasses • Perform tests • Sort in different ways • Begin to notice patterns and relationships	• Make detailed observations • Explore and investigate characteristics to compare and contrast characteristics • Describe using different senses, knowledge and own ideas in full sentences • Uses subject specific vocabulary in group • Answer a range of different types of questions including how and why • To make own choices for how to record and communicate findings • To make predictions and explore own ideas • Find things out using secondary sources Explain what they know • Gather data and keep records in a range of ways including charts, tables, diagrams and pictures some over time • To identify need for and use equipment appropriately • To perform a simple test, explaining what they have found out and how they found it out

			• Sort and classify given reasons for choices • Talk about pattern and relationship • Explore questions making sensible suggestions for how to find out.

In the EYFS Science is taught through the following stories and through continuous provision:

Cave Baby/Bringing the Rain to Kapiti Plain
I am Henry Finch/Look Up!
Billy and the Beast/I Want My Hat Back
Night Pirates/Lost and Found
The Extraordinary Gardener/The Tiny Seed
Naughty Bus/ I Will Never Not Ever Eat a Tomato

The following table shows an overview of each topic plan.

Cave Baby/Bringing the Rain to Kapiti Plain	I am Henry Finch/Look Up!	Billy and the Beast/I Want My Hat Back
-Discover nocturnal animals and describe features including owls, bats, badgers, hedgehogs and foxes. - Discuss what a habitat is and talk about features of a woodland habitat. Discuss similarities and differences across habitats in relation to woodlands. Name and describe features of animals within a woodland habitat. - Make observational drawings of trees and talk about tree growth. - Talk about seasonal change including weather and tree changes. - Talk about how to take care of the natural world. - Discuss day/night and light/ dark. - Name sources of light (science) including sun, torches, stars and lights. - Engage in small world space (stars/ night). - Participate in a 'camping' style activity where children can experience camping, den building, hot chocolates etc.	- Experience: local town walk, looking at bridges, Friday market - Talk about the features of environments, including towns - Talk about own experiences of their immediate environment - Recognise features of towns from aerial views - Compare and contrast environments (similarities and differences), including towns - Talk about how to look after the environments, such as recycling - Understand the importance of changing states, such as melting - Explore floating and sinking	- Talk about hot and cold environments and houses. Look at Antarctica and icy environments. - Talk about ice features and the changes states of matter. Ice experiments linked to igloos - Explore how light travels through materials when making our homes. - Talk about natural homes including homes for animals.
The Extraordinary Gardener/The Tiny Seed	**Night Pirates/Lost and Found**	**Naughty Bus/ I Will Never Not Ever Eat a Tomato**
-Find out about a Farm setting. -Name and describe farm animals and their young. -learn names of the seasons of the year. -Learn about farm jobs that take place during different seasons of the year. -Find out about different types of weather. - Explore what clothes we need to wear for weather conditions. -Comparing environment/habitats: 'Ponds'. Walk to the local pond. -Find out what the children observe e.g. ducks, geese, and swans. -Name and describe features of the creatures that live in a pond. -Find out about the life cycle of a frog. -Sequence pictures to show the growth.	- Recognise environments that are different to the one in which we live in, making comparisons between environments. - Explore ocean habitats, drawing pictures of under the sea animals. - Talk about how sea animals adapt to the ocean. - Talk features of 'Summer' including weather changes, trees, school environment, the sea side etc. - Discuss dinosaurs and past habitats, relating to changing states of matter - Participate in a 'seaside' day experiencing summer beach clothes, ice creams, seaside games and puppet shows.	-Explore plants and talk about different parts. -Plant flowers (sunflowers) Observe their growth. -Plant vegetables (carrots and turnip). - Discuss weather needed for plant and vegetable growth. - Observe the decay changing state of vegetables. (Science) explore senses language when tasting fruit and vegetables -Make a small world garden including growing grass, making shed, vegetable patch, bench, stepping stones. -Explore what minibeasts are hiding under a leaf of a plant/ under the ground.

In the Year 1 curriculum science is taught through the following stories:

Beegu/Pig the Pug
Where the Wild Things Are/ Julian is a Mermaid

Izzy Gismo/A Walk in London
The Sea Saw/ The Odd Egg
Stanley's Stick/Dinosaur and all that Rubbish
The Comet/Astro Girl

The following table shows an overview of each topic plan.

Where the Wild Things Are/ Julian is a Mermaid	The Comet/Astro Girl	Izzy Gismo/A Walk in London
Materials Name and describe a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. To describe the properties of everyday materials. To compare and group together a variety of materials on the basis of their physical properties. What materials would Max use to make a boat? What materials would not be suitable? Why? Make a variety of boats from a variety of materials to see which one float the best. Can they still float with a load? To explore the five sense and the human body, including food tasting.	**Animals** Day and night observations – Look at the differences between light and dark. Changes that occur between night and day. Investigate shadows. **Animals** – Link to day and night processes by looking at nocturnal and diurnal animals. Name a variety of common animals. Children to investigate the features of animals Eg. How do you know this is a bird? How do you know this is a reptile? Describe and compare the external features across a variety of animals. Understand the terms carnivores, herbivores or omnivores. Sort common animals into categories based on what they eat.	**Weather** Identify the seasonal and daily weather patterns of the UK. Name the different types of weather and discuss changes observed. Record the changes observed through keeping a weather diary. Explore weather by making and using equipment to gather information e.g. rain gauges, sun dials, wind socks or flags. Record a weather forecast/report – Links to computing.
The Sea Saw/ The Odd Egg	**Beegu/Pig the Pug**	**Stanley's Stick/Dinosaur and all that Rubbish**
Plants: To grow our own tomatoes and lettuce and identify healthy foods by looking at the story. To understand how seeds and bulbs grow into mature plants by planting different types of seeds. To name a variety of wild and garden plants e.g. Go outside for a walk and identify what flowers and plants we have in our school grounds. Name the parts and the structure of a flower e.g., by labelling pictures. Understand why plants needs water, light, suitable temperature to grow and stay healthy. To name the types of trees within the school environment by going on a walk around the grounds. To describe the different parts of a tree.	**Materials:** What objects are there in our school – what are they made from? Name everyday materials and describe their properties. Group different materials based on physical properties. Look at how materials for toys has changed over the years. Look at how a teddy bear may be made from a range of different materials. **Senses and the human body:** Which part of the body is associated with each sense? Demonstrate all 5 senses being used. Kitchen science, dissolving and absorbency.	**Seasonal Change** To name the four seasons and identify features of each one. Observe changes across the seasons: autumn, winter, spring and summer. E.g., go outside to observe changes to trees in outdoor area. Link seasons to geography. Also embedding/ introducing jungle animals and pets needs and care. E.g., investigating vets, discussing wild and domestic animals.

In the Year 2 curriculum science is taught through the following stories:

The Last Stop on Market Street/ The Journey Home
The Minpins/The Bear Under the Stairs
Rose Revere Engineer/ Iggy Peck Architect
Jim and the Beanstalk/ We are the Water Protectors
Lubna and Pebble/ Tadpoles Promise
Ocean Meets the Sky/ Dear Earth

Jim and the Beanstalk/ We are the Water Protectors	Ocean Meets the Sky/ Dear Earth	Rose Revere Engineer/ Iggy Peck Architect
Plants Planting potatoes and beans. Observe and describe how seeds and bulbs mature into	**Day and night processes** - find out why is it dark at night and light in day through exploration of the planet's rotation.	**Materials (The Bridge):** Identify suitability of materials to create and build bridges. Compare and discuss the suitability of materials e.g.,

plants. Create a diary of the seed that they are growing and how it changes over time. Find out and describe how plant need water, light and suitable temperature to grow healthy. Conduct an experiment where seeds are planted and not given these things, observe what happens. Name and explain the functions of different parts of plants. **Healthy Eating** Describe the importance for human of exercise, eating the right amount of different types of food and hygiene. Look at food pyramid.	Investigate how the planets of the solar system all rotate around the sun. Create an act out how the planets rotate around the sun. – This will link to the animation project. Exploration of the difference between planets and moons. Dinosaurs / evolution	why is paper not suitable for a bridge? Talk about and identify how the different uses of the same materials e.g., what else are bricks used for? Discuss that the same objects e.g., bridges can be made from different materials – wooden bridges, metal bridges etc. Find out how shapes of materials can be changed when goats are walking over the bridge e.g., squashing, bending, twisting. Compare uses of everyday materials in different environments. Investigate, design and test suitable materials to create a waterproof jacket for the goats when the troll tosses them into the water. Find out about people who have developed useful materials e.g., John Dunlop, Charles Macintosh. **Living Things: (Under the Bridge).** Who lives under the bridge? What is he like? Discuss and describe the important of exercise and hygiene to keep healthy. Talk about digestion and how the body uses food to get what it needs.
The Last Stop on Market Street/ The Journey Home	Lubna and Pebble/ Tadpoles Promise	The Minpins/The Bear Under the Stairs
Recap Animals from Year 1 – naming animals, carnivore/herbivore/omnivore, describe external features. Link this to the animals that are in the story and use this to create drawings and watercolour paintings of different animals found in each place. Find and describe the basic needs of animals including humans for survival (water, food and air). Look at animals in the story and how they get what they need in each place. Make observations of growth in humans and animals in the story and then extend to other animals and plants that could be in different setting. Match offspring to animals including humans. Explore and compare the differences between things that are living, dead and things that have never been alive. Look at the different places that are in the story and identify these things e.g., dead leaves, living animals, never been alive things like the bags that they take on the journey etc. Weather. Forest Animals. Seasons. Minibeasts. States of matter.	**Habitats**: Journey around the world to look at a variety of habitats. Identify and name plants and animals in their habitat. Discuss how different habitats are suited to particular plants and animals based on their needs. Look at eco system and how plants and animals within an environment can be codependent. Move on to discuss food chains – how to plants and animals get food from one another. Name sources of food and represent this in a simple food chain. Link food chains to the importance of protecting the environment and how extinction can lead to the collapse of a food chain/ ecosystem. Endangered animals and protected habitats.	Exploring colour through science. Explore the spectrum of colour, rainbows and conduct various kitchen experiments with a colour focus e.g. walking water experiment to create a rainbow, Skittles experiment.

Curriculum Impact

By implementing this Science Curriculum our pupil's will become confident scientists. They will understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. The children will be able to carry out simple tests and talk about what they have found out. They will develop vocabulary in line with their development that will support their understanding of scientific processes.

We will be able to measure this through our observations of the children and our assessment of their work. It will be recorded in ways that suit their development. This maybe through photographs or through written work. Science work will be marked and teachers will provide feedback to pupils about how to achieve the next step. Teachers will review their teaching of science and plan appropriate lessons based on development which will be seen in planning files.

The science co-ordinator will undertake planned work scrutiny to ensure that progression is seen through the school and will observe teachers and provide feedback and targets to improve. They will also gather evidence of the pupil's voice and return to check understanding has become embedded.

Speaking and Listening

At Hamp Nursery and Infants school we place a higher emphasis on the development of Speaking and listening skills. As well as its vital role in "Literacy Tree" this will be reflected in all areas of the curriculum, both in planning and in time allocation. As a whole staff we have worked on developing the teaching and practicing of Speaking and Listening throughout the school. All lessons will, in some part, provide opportunity for speaking and listening development. At the beginning of each new topic for the half term teachers will create a medium-term plan to show the areas of speaking and listening that will be taught during that topic area. These areas will then be taught and practiced throughout the half term during planned activities and lessons. Teachers will show where the planning of teaching and practicing of Speaking and Listening will take place in lessons by highlighting the text in purple on their planning.

Teachers and TAs will at all times demonstrate good models of spoken English and good models of interpersonal communication through story-telling, reading aloud, class and group discussions and one to one conversations with children and with other staff.

SEND

At Hamp Nursery and Infants School, we recognise that all pupils are entitled to high quality provision that enables them to achieve their potential across all subjects. We believe in positive interventions, removing barriers to learning and raising expectations and levels of achievement in order to provide a positive educational experience for all our pupils. All pupils follow the National Curriculum at a level, pace and challenge that is appropriate to their abilities.

High quality teaching, differentiated for individual pupils, is the first step in responding to pupils who have, or may have SEND. In the whole-class work and small-group work, teachers and teaching assistants will involve and support all pupils by differentiated questioning; by demonstrating skills in action and by reinforcing key points. Some children may receive pre-tutoring or may work in a small groups. In group time, additional needs will be addressed through tailored work in ability groups and the use of support staff, to consolidate key points. Where applicable, children who have been identified as having an individual or specific need may have a Pupil Passport and provision map with identified SEN support and short term targets.

EAL

At Hamp Nursery and Infants School, we are committed to ensuring that every child succeeds and reaches their full potential, irrespective of the barriers to learning that they may face. We are dedicated to raising the achievement and attainment of pupils with EAL, enabling them to maximise their progress and attainment within a positive, nurturing, secure and safe learning environment. Through quality first teaching based on experiences and talk, we aim to meet the language needs of our learners. Through effective planning, organisation, teaching and assessment procedures and the use of resources and strategies, we aim to meet the needs of pupils who have English as an Additional Language (EAL). Our goal is to promote language awareness and raise pupil attainment, progress and achievement.

Gifted and Talented

As a school we work to ensure that we are providing effective provision for Gifted and Talented children. Class Teachers will identify children they consider to be particularly able; gifted and talented

in their class. This can be any area of the curriculum where they demonstrate a particular strength or skill. These skills will be recognised to enable the children to be challenged to ensure that they reach their full potential. Class Teachers are responsible for extending the children's learning in their class. Class Teachers will inform the Gifted and Talented Co-ordinator who keeps a register of all class children's strengths in the school. Using this valuable information, the Co-ordinator will plan enrichment activities where required in liaison with Class Teachers and Subject Co-coordinators.

Diversity and Equality

At Hamp Nursery and Infants School we are committed to ensuring that all our children have equal opportunity to access all subjects at a level appropriate for their development and ability, regardless of race, gender identity, disability, religion or belief, sexual orientation, or socio-economic background. We designed the curriculum to be flexible in order to ensure that all children make good progress and achieve success. We teach our children what it means to be part of a diverse society and the importance of inclusion and equality, this is interwoven through our curriculum and promoted across all subject areas. All staff have an inclusive attitude and uphold this in their teaching ensuring all children are valued, represented and treated fairly. The SENDCO and EAL coordinator and Gifted and Talented coordinator provide additional support both within and out of the classroom setting.

Online Safety

At Hamp Nursery & Infant School, we have a whole school approach to online safety. As part of a broad and balanced curriculum, we have ensured that this is fully embedded and incorporated through all subjects and all aspects of school life.

Differentiation

The goal of differentiation is to ensure that all children have equal opportunities to be successful learners; that they are all able to meet their intended outcomes, make good progress and understand their next steps. At Hamp Nursery and Infants school we are committed to ensuring that every child succeeds, irrespective of their starting points or any barriers to learning. We value personal progress equally with academic progress and are careful to group the children in ways that promotes positivity and develops self-esteem. We are dedicated to providing quality-first teaching with appropriate differentiation to meet the needs of all our learners. There are four main learning styles; visual, auditory, kinesthetic and experiential. In our setting differentiation to meet the children's learning styles may take on many different forms. Children may work in whole classes, small groups or even individually. They may work indoors or outdoors; some may work practically with the support of resources, others may learn best through discussion or interaction, and some learn more formally by listening and following instructions. Class teachers have the flexibility and freedom to use their expert knowledge of the children they teach to plan in the way that best suits the needs of their individual learners. This may look differently in different classrooms; pace, depth of learning and expected outcomes will all be planned appropriately to meet the children's needs, ensuring they are all able to become confident successful learners. Adult support will be directed by the class teacher depending on the specific needs of the class and individuals. In all classes, teachers will plan focussed and engaging lessons that encourage children to learn. Lessons should be prepared in advance with a clear learning objective, which must be communicated to the children in all cases. Administrative tasks must be kept to a minimum and children should be involved in all parts of the lesson.

Outdoor Learning

At Hamp Nursery and Infants school we are committed to ensuring we utilise our large and small spaces both indoors and outside. We have a large field which includes several species of mature trees, our

forest school and wild area. These are continually being evolved and developed. These areas support learning in all areas of the curriculum.
Outdoor learning has been recognised as crucial to children's ability to learn successfully and for their well-being. At Hamp Nursery and Infants school, outdoor learning is an integral part of our children's learning and as such has been interwoven into all areas of our curriculum.

Written by: Mrs Michelle Foord– Autumn Term 2024

Approved by: Head - Autumn term 2025 _____

Approved by Chair of Governors _____

Review Date: Autumn 2026 or in line with any statutory changes.