



Chater Infant School

An exceptionally high performing professional and learning culture creating excellent achievement for all.

Science Policy

Rights Respecting School Agenda

We have the right to go to school
We have the right to learn.

Article 3 - The best interests of the child must be a top priority in all actions concerning children

Article 28 - Every child has the right to an education (from the National Convention on Rights of the Child)

This policy will be equality impact assessed with regard to disability, gender and race at the time of review and issues arising will be carried forward into the equality action plan.

Date agreed: June 2022

Date of next review: June 2024

Rights Respecting School Agenda

As a Rights Respecting School, the following articles are integral to our Design Technology Policy.

Article 3 - The best interests of the child must be a top priority in all actions concerning children.

Articles 9 – Children must not be separated from their parents against their will unless it is in their best interest.

Article 12 – Every child has the right to express their views, feelings and wishes in all matters affecting them, and have their views considered and taken seriously.

Article 16 – Every child has the right to privacy. The law should protect the child's privacy, family and home life, including protecting children from unlawful attacks that harm their reputation.

Article 18 – Both parents share responsibility for bringing up their children and should always consider what is best for the child.

Article 28 - Every child has the right to an education.

(From the National Convention on the Rights of the Child)

These articles have been simplified for the Chater Infant School Charter for children to follow:

We have the right to go to school;

We have the right to learn.

Statement of Intent

At Chater Infant School we are committed to providing all children with exciting learning experiences that are remembered for all the right reasons. We intend to create a Science curriculum that develops essential knowledge and transferrable skills as set out in the National Curriculum (Science Programme of Study). It is also our intent to promote the Spiritual, Moral, Social and Cultural development of pupils, as well as ensuring all children develop a Growth Mind Set. Furthermore, as subject leader it is my intention to ensure that children receive High Quality Teaching which prepares them for the opportunities, responsibilities and experiences of later life and enables rich, subject specific vocabulary to be developed. And finally, we intend to ensure that children at Chater achieve the best possible outcomes in Science throughout KS1 and EYFS.

Development of the Science Policy

This policy was written by the Science Subject Leader in collaboration with the headteacher and other members of the teaching staff team. Stakeholders have been involved in the review and development process of this policy. Staff and governors helped to formulate and agree this policy.

This policy should be read in conjunction with the following policies:

Teaching and Learning Policy, Homework Learning Policy, e-Safety and ICT Acceptable Use Policy, Assessment, Recording and Reporting Policy, Chater Infant School Equality Scheme, Child Protection Policy and the Safeguarding Policy.

Equality

The Equality Act 2010 covers the way the curriculum is delivered, as schools and other education providers must ensure that issues are taught in a way that does not subject pupils to discrimination. Schools have a duty under the Equality Act to ensure that teaching is accessible to all children and young people, including those who are lesbian, gay, bisexual

and transgender (LGBT). Inclusive Relationship and Health Education will foster good relations between pupils, tackle all types of prejudice – including homophobia – and promote understanding and respect. The Department for Education has produced advice on The Equality Act 2010 and schools (DfE, 2014b).

Schools have a legal duty to promote equality (Equality Act, 2010) and to combat bullying (Education Act, 2006) (which includes homophobic, sexist, sexual and transphobic bullying) and Section 4.2 of the National Curriculum (2014) states “Teachers should take account of their duties under equal opportunities legislation that covers race, disability, sex, religion or belief, sexual orientation, pregnancy and maternity, and gender reassignment.” “Schools should be alive to issues such as everyday sexism, misogyny, homophobia and gender stereotypes and take positive action to build a culture where these are not tolerated, and any occurrences are identified and tackled. Staff have an important role to play in modelling positive behaviours. School pastoral and behaviour policies should support all pupils.” (DfE, 2019)

Parental involvement

Parents are encouraged to support the implementation of Science learning where possible by encouraging home learning and using links on the school website. They are encouraged to discuss and promote relevant areas of learning/advances in Science.

We provide home access to two curriculum resources used in school – Espresso and Purple Mash- These resources provide numerous creative tools, curriculum-focused activities and programs for children to explore which will support and inspire Science learning both at school and at home. Home learning that is set for children regularly provides suggested use of these resources and reminders to parents of the need for e-safety when using the internet are provided regularly.

Roles and Responsibilities

The governing board is responsible for:

- Ensuring all pupils make progress in achieving the expected educational outcomes;
- Ensuring the curriculum is well led, effectively managed and well planned;
- Evaluating the quality of provision through regular and effective self-evaluation;
- Ensuring teaching is delivered in ways that are accessible to all pupils with SEND;
- Providing clear information for parents on subject content and their rights to request that their children are withdrawn;
- Making sure the subjects are resourced, staffed and timetabled in a way that ensures the school can fulfil its legal obligations.

The headteacher is responsible for:

- Ensuring that there is a Science Policy in place, and that it is regularly reviewed and updated to take into account new developments to the primary curriculum
- Ensure that the Science Policy, as written, is disseminated to the Science Leader, teaching staff and parents, for implementation;
- Hold the Science Leader to account for the effective formulation and implementation of the Science Policy, including budget expenditure;

- Intervene where it is apparent that the Science Policy is not being implemented according to its provisions.

The Science subject leader is responsible for:

- Effective formulation and implementation of the Science Policy;
- Managing the Science budget, and keeping appropriate records of expenditure in order to review them and make suggestions for the future;
- Securing and maintaining Science resources, and advising staff on the correct use of these resources;
- Offering help and support to all members of staff in their planning, teaching and assessment of Science;
- Keeping the headteacher and other stakeholders, such as parents, informed about the implementation of the primary Science curriculum;
- Keeping up-to-date with new developments in Science and communicating such information and developments to colleagues, including, where necessary, through the creation and delivery of bespoke training programmes;
- Attending appropriate in-service training.

All teachers are responsible for:

- Planning and delivering the requirements of the KS1 Science programmes of study and the EYFS Framework for Understanding the World (UW) to the best of their abilities;
- Setting high expectations for all their pupils, including pupils with special educational needs and/or disabilities (SEND), pupils from various social, cultural and linguistic backgrounds, and academically more able pupils;
- Encouraging pupils to apply their knowledge, skills and understanding of Science across the curriculum;
- Maintaining up-to-date records of both formative and summative assessment;
- Tailoring lesson delivery according to pupils' respective abilities.

Early Years Foundation Stage (EYFS)

Nursery and Reception classes work towards achieving the Early Learning Goals, (ELG). The Early Years Outcome statements contain seven areas of learning. One of these areas is called Understanding the World which relates to the following subject areas - Science, Geography, History, RE and Design and Technology.

By the end of Reception pupils should be able to:

- Explore the natural world around them, making observations and drawing pictures of animals and plants (The Natural World, ELG);
- 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 (The Natural World, ELG);
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter (The Natural World, ELG).

Key Stage One (KS1)

The Chater Infant School Science curriculum covers the National Curriculum Programmes of study in Year 1 and Year 2.

By the end of KS1 pupils should be able 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;
- gather and record data to help in answering questions;

By the end of Year 1 pupils should be taught to:

- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees (plants);
- identify and describe the basic structure of a variety of common flowering plants, including trees (plants)
- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals (animals, including humans)
- identify and name a variety of common animals that are carnivores, herbivores and omnivores (animals, including humans)
- describe and compare the structure of a variety of common animals (animals, including humans)
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense (animals, including humans)
- distinguish between an object and the material from which it is made (everyday materials)
- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (everyday materials)
- describe the simple physical properties of a variety of everyday materials (everyday materials)
- compare and group together a variety of everyday materials on the basis of their simple physical properties (everyday materials)
- observe changes across the 4 seasons (seasonal changes)
- observe and describe weather associated with the seasons and how day length varies (seasonal changes)

By the end of Year 2 pupils should be taught to:

- explore and compare the differences between things that are living, dead, and things that have never been alive (living things and their habitats)
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other (living things and their habitats)
- identify and name a variety of plants and animals in their habitats, including microhabitats (living things and their habitats)
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food (living things and their habitats)
- observe and describe how seeds and bulbs grow into mature plants (plants)

- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy (plants)
- notice that animals, including humans, have offspring which grow into adults (animals, including humans)
- find out about and describe the basic needs of animals, including humans, for survival (animals, including humans)
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene (animals, including humans)
- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses (uses of everyday materials)
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (uses of everyday materials)

Curriculum Delivery

We use a range of teaching and learning styles in Science lessons in order to develop the knowledge, skills and understanding of each child.

These include:

- Providing opportunities for children to work as a class, in pairs, individually or in ability or mixed ability groups
- Encouraging children to ask and answer scientific questions
- Encouraging children to communicate their findings in a variety of ways
- Providing suitable resources
- Modelling, teaching and reinforcing scientific vocabulary
- Giving children practical first hand and 'hands on' experiences
- A multi-sensory approach suitable for all learning styles
- Establishing what children already know to inform planning and teaching
- Providing opportunities for children to observe, measure, classify, predict, plan, investigate, consider evidence, hypothesise, compare and question
- Relating children's scientific understanding to everyday life both in school and out
- Regular opportunities for practical investigations

Medium Term Plans which give details for each Science lesson should include:

- Learning objectives and success criteria
- Questions
- Resources
- Vocabulary
- Delivery of lesson (including use of support staff, groupings, etc.)
- Focussed practical tasks (where appropriate)
- Differentiation (including SEND support/and personalised planning)
- Challenge
- Links with other subjects
- Self/peer assessment opportunities (where appropriate)

In the EYFS - Science involves children developing the knowledge, skills and understanding that help them to make sense of the world around them and can then be built upon in Key Stage 1. This is achieved through a series of first-hand play-based activities and experiences. For example, children will have access to and use a wide range of natural resources collected from our local environment. A cross curricular approach will be implemented to ensure that Science will be part of many areas of learning through either child-initiated play or adult led activities. Plans will be made for activities that encourage exploration, investigation, problem solving, critical thinking and decision making. And finally, they will be part of an environment which stimulates children's creativity, interests and enjoyment in Science, both indoors and outdoors.

In Key Stage 1 - Science is taught in blocks through each term. There are also opportunities for Science skills to be reinforced in other areas of the curriculum and subjects might well be combined when and where appropriate. Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school. The emphasis in our teaching of Science is on first-hand experience and we increasingly encourage the children to take control of their own learning.

Cross-curricular links

Science knowledge and skills are taught following guidance from the National Curriculum. However, through our cross-curricular approach to learning, Science is also taught through other subjects including English, Maths, History, Art, Design and Technology, Music, Computing and PSHE.

Curriculum Enrichment

School visits: TBC – email sent to all staff requesting this information on 07/06/2022.

Commented [RG1]: Science day/morning to be added

Resources

- Basic scientific resources are stored in each classroom.
- Larger, more expensive or less used items would be stored centrally in the cupboards in the hall.
- **Note:** It is the responsibility of the class teacher to manage the classroom resources, and it is the responsibility of the Science subject leader and resources manager to manage the central resources. Where possible, recycled materials are used.

Differentiation

We provide suitable learning opportunities for all pupils by matching the challenge of the task to the individual needs and abilities of each pupil. We will achieve this in a variety of ways, including:

- Making reasonable adjustments to the way in which we deliver the Science curriculum, such as providing vocabulary word mats or making additional relevant resources.
- Assigning learning support assistants to individual/groups of pupils, where appropriate, to enable greater access to learning.
- Using personalised planning for children with significant SEND.

Assessment

- Pupils in the EYFS will be assessed on a termly basis using the Early Years Outcomes statements relating to Understanding the World. Pupils at the end of Reception will be assessed using the Early Learning Goals statements.
- Pupils' knowledge and understanding of the primary Science curriculum will be assessed according to the provisions outlined in our Assessment, Recording and Reporting Policy.
- Ongoing formative assessment monitors pupil performance and progress during learning; the outcomes of which are used to ensure that work matches the individual needs and abilities of pupils.
- Summative assessment reviews pupils' progress and abilities, and will be undertaken at the end of each unit, term and school year.
- Pupils progress and end of year attainment will be tracked using the school's internal Science assessment at the end of each term.

Staff training

- The Science Leader will be responsible for the identification and delivery of staff training requirements.
- The Science Leader will remain up-to-date with the latest developments in Science through liaison with the HFL cluster groups, online material, attendance at relevant courses and disseminating newly acquired knowledge/skills to colleagues, where appropriate.

Monitoring and evaluation

We will review this policy on a two-year basis in line with our policy review schedule.