Science Policy

MISSION STATEMENT:

- To provide a happy safe caring environment for pupils and staff.
- To encourage each child to fulfil their potential.
- To create an environment in which every child's efforts and achievements can be celebrated.
- To develop an inclusive curriculum with enjoyment and excellence at its heart.
- To encourage all children to be independent learners.

RATIONALE

At Acorns we aim to provide quality, fun and engaging learning experiences and ensure that all children have the opportunity to experience and develop learning and skills at an appropriate level, in a safe, but stimulating environment. The indoor and outdoor learning environments provide access to appropriate continuous provision, focused and guided activities which are tailored to meet the varying needs of our children. A sensory diet curriculum has been developed throughout EYFS, KS1 and KS2, to encompass learning needs, styles and adapt our provision accordingly. It is an integral component of our curriculum at Acorns Primary school.

AIMS AND PURPOSE

The National Curriculum for Science aim is to:

- Develop enquiring minds and the ability to question,
- Build on their natural curiosity, and develop language to communicate their findings
- Learn to use equipment safely and sensibly
- Develop links with other subject areas throughout the curriculum
- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics

- Develop and understanding of the nature, processes and methods of Science through a range of quality learning experiences which help them question and learn about the world around them.
- To equip them with the scientific knowledge required to help them understand the use and implications of Science, today and in the future.

SCIENCE AT ACORNS PRIMARY

Children are naturally fascinated by everything in the world around them and this natural curiosity is what we hope to encourage in our learners through our Science curriculum. We are developing an enticing and engaging learning environment where working in an investigative way can be encouraged and promoted safely. At Acorns our pupils learn best when this curiosity is given time and opportunity to be explored. When they can be given multiple opportunities to interact with their environment and can be shown different ways to explore, engage and question what they find. The skills they begin to develop are key skills such as making observations, predictions and evaluating first hand observations. Working scientifically like this, and having the communication skills to facilitate it are of equal importance to developing knowledge and understanding. Therefore Science is present throughout our curriculum as a whole. It contributes significantly to pupils' enjoyment and understanding of the world and aids their understanding of their place within it.
Our aim is to make Science accessible to all pupils through either discrete subject teaching, continuous provision or more intrinsically within our ASD and PMLD curriculums. We are always striving to offer new opportunities to build on these experiences and develop knowledge and understanding. Therefore at Acorns we develop fun and engaging ways to promote Science inside and outside of the classroom, with a focus on practical work, first-hand experiences in a range of contexts and special events designed to inspire and engage learners.

Acorns has based our teaching on the National Curriculum Programmes of Study and this is particularly helpful with ensuring that there is sufficient breadth and coverage as well as the required fluidity and progression. The programmes of study describe a sequence of knowledge and concepts.

While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.

The National Curriculum document for Science sets out a clear, full and statutory requirement for all children. It determines the content of what will be taught, and sets attainment targets for learning. The programmes of study set out what should be taught at Key Stage 1 and 2 and The Foundation Stage programmes of study for Understanding of the World are set out in the EYFS.

Nursery/Foundation Stage
Children enter Reception classes in the September after their fourth birthday. The EYFS in Reception sets out the learning objectives for the seven areas of learning:

- Physical Development
- Expressive Arts and Design
- Personal, Social and Emotional Development
- Literacy
- Understanding of the World
- Communication and Language.
- Mathematics

Key Stage 1 & 2
Science coverage in KS1 &2 will be taught in units according to class group (see Curriculum coverage diagram). Teachers should continue to use an enquiry based approach to the subject, encouraging the pupils to 'Work Scientifically'. They should ensure they deliver an appropriately motivating and differentiated curriculum for their class and cover all elements of each strand where ever possible. After meeting with our Senior Management Team to discuss how the new curriculum suited the needs of our children, it was decided that certain elements are not applicable for the majority of our current pupils and have therefore been removed as units from the Curriculum Coverage for Acorns School. They will however, be touched upon within other units, as an extension for the most able pupils.

Primary Science will be taught as a discrete lesson in most classes and as part of cross-curricular themes and activities where appropriate. Science has known links with many other areas of our curriculum including Maths, Geography, English, Art and Design Technology and may look significantly different to lessons in a mainstream setting. At Acorns we provide opportunities for Science in activities such as: Wellie walks, role play, sensory diet activities, tac pac, music, sensory room sessions, outdoor learning, adventurous play, sensory stories, community visits, vestibular, Bucket activities amongst others.

Planning & Class Organisation

Class teachers are responsible for producing medium term plans for Science (termly/half termly) from the long term plan featured below. The National Curriculum Programmes of Study provide a more detailed outline of the potential content for each unit. The specific range of skills and progression within these PoS forms the basis of what is taught and in what sequence. Teachers should use their indepth knowledge of their children and their previous assessment to judge where in this sequence the children are and plan a unit of work that offers the potential to reinforce and scaffold previous learning and teach new knowledge, skills and understanding with an appropriate level of challenge. Plans will clearly show next steps for each child and the learning experiences and activities which will facilitate the development of these. They should aim to provide a variety of learning experiences, sufficient time, reinforcement, adult support and a range of contexts. They should also consider how new vocabulary will be introduced i.e. signs/symbols etc. The Subject leader will consult and offer guidance to all staff through discussion, resources and planning.

Classroom Organisation

Children will be grouped as appropriate for the task in order to encourage flexibility and fluidity:

- Ability groups
- Mixed ability groups
- Mixed ability partners
- Ability partners
- Individuals
- Whole class groups

Resources
Science resources are stored in the outside shed (key 14) and are stored in labelled boxes. All resources should be returned to the correct box when finished with. Advice on available resources and ICT programs available will be available from the subject coordinator.

Assessment
In the Foundation Stage At the end of the foundation stage (reception) children are assessed against the Early Learning Goals. Individual learning journeys are completed, which include a mix of photographic evidence, observations and examples of work. In EYFS, KS1 and KS2 we currently use BSquared/EFL to assess a pupil's progress formally at the beginning and end of each year. Comparing this data allows us to track progress and inform future planning for each child. Evidence For Learning allows us to capture evidence to support this assessment and allows all staff to contribute to the assessment process. It also offers an opportunity to tag Science skills being developed in other curriculum areas. More informal assessment takes place throughout each day through adult observation, assessment tasks and the annotation of pupils work where appropriate.

Recording
Children's recording will take many forms according to the nature of the activity and the ability of the class:

- Verbal
- Pictorial
- Diagrammatic
- Graphical
- Written
- Symbolic
- I.C.T.
- Photographic

Reporting
Parents are invited to attend an Annual Review to discuss their child's progress and set Annual Review Targets. Parent's evenings are held in the summer term to share achievements and progress. Parents also receive Interim progress reports in the spring term and an Annual Report at the end of each Summer Term. These provide information about attainment in each area and provides photographic evidence to support this.

Equal Opportunities
The Governors and staff are committed to provide the full range of opportunities for all pupils regardless of gender, disability, ethnicity, social, cultural or religious background.

The Role of the Science Co-ordinator:

- To review changes to the National Curriculum requirements with SMT and advise on their implementation throughout EYFS/KS1 & KS2.
- To implement the Science Action Plan
- Attend relevant CPD courses for Science as appropriate in line with the School Development plan.
- Arrange staff meetings to discuss the continuing development of Science and provide support and INSET where necessary.
- Manage the school's Science resources and organise these resources to ensure that our children can learn effectively in and through Science.
- Monitor the learning and teaching in Science and provide support for staff when necessary.
- Take a lead role in organizing Science Events in school in line with LA and national initiatives.
- Liaise with other GLD schools for moderation and developing the science curriculum.
- Endeavour to involve parents/ carers in their children's learning in and through science.
- Analyse end of unit assessment and progression data in order to set new priorities for development of Science in subsequent years.

Science Policy – Reviewed January 2020

Curriculum Mapping – Science 2020

	EYFS	1/2		3/4		5/6		Woodlands
Autumn	Magical Ocean Animals and sea creatures	Working Scientifically Seasonal Changes Plants		Working Scientifically Seasonal Changes Plants		Working Scientifically Seasonal Changes Plants		Once upon a time
	Colour my world Materials Christmas	Ourselves	Electricity/Light & Sound	Ourselves	Electricity/Light & Sound	Ourselves	Electricity/Light & Sound	
Spring	Transport Floating and sinking / motion/forces	Working Scientifically Seasonal Changes Plants		Working Scientifically Seasonal Changes Plants		Working Scientifically Seasonal Changes Plants		The magic carpet
	Easter Light and dark	Living Things (animals) and their Habitats		Living Things and their Habitats		Living Things and their Habitats	Evolution and Inheritance	
Summer	Minibeasts Animals/ habitats	Working Scientifically Seasonal Changes Plants		Working Scientifically Seasonal Changes Plants		Working Scientifically Seasonal Changes Plants		The perfect picnic
	All about me Senses / human biology	Everyday Materials	Forces	Uses of Everyday Materials	Forces	Properties and Changes of Materials	Forces and Magnets	