Science Overview 2020

The school uses the national scheme of work for science, along with Hamilton trust, as the basis of the curriculum planning. The national scheme has been adapted to the local circumstances of the school in that we make use of the local environment – our field area and tree area. It is taught via the following units over a 2 year rolling programme.

KS 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Area of study Yr A	Identifying and classifying animals Wild and wonderful creatures	Animals including humans Amazing Me! Working scientifically	Everyday materials Brilliant builders Working scientifically	Weather Weather art Working scientifically	Plants Growing Things	Everyday materials Comparing Materials Working scientifically
Yr B	Identifying and classifying animals People and their pets	Living things and their habitats Habitats and Homes	Everyday materials Working scientifically Exploring Changes	Seasonal Changes Wild weather Working scientifically	Plants (Living things and their habitats) Food Chains	Plants Art and Nature Working scientifically
KS 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Area of study Yr A	Animals including humans The circle of life. Working scientifically	Living things and their habitats Habitat helpers Working scientifically	Sound Sounds spectacular Working scientifically	Electricity Electric personalities Working scientifically	Light and shadow Shining the light Working scientifically	Plants Greatly green growers Working scientifically
Yr B	Rocks and soils This planet rocks! Working scientifically	Forces and magnets Magnetic fun and games. Working scientifically	Animals and Habitats A world of living things. Working scientifically	States of matter What's the matter? Working scientifically	Animals including humans Fit for success. Working scientifically	Plants Feast of flowers, fruit & seeds. Working scientifically

Intent

We believe that all pupils at Lawnside Academy must have regular access to science appropriate to their age and stage of development. Learning opportunities will follow and build upon the National Curriculum guidelines.

It is our vision to distil a lifelong love of science within our pupils. Science has changed our lives and is vital to the world's future prosperity. At Lawnside Academy we work hard to provide a rich and varied curriculum to challenge and meet the needs of our children. We believe all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. From EYFS up to KS2 (Year 4) our pupils will build up a body of key foundational knowledge and concepts, pupils are encouraged to

recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. We provide our children with wider opportunities in science, through Science week, Science club and school trips. We monitor our schools progress in science regularly in line with our science policy.

Implementation

We maintain a high level of subject knowledge of science in our school by having at least one member in each key stage with degree knowledge .

Teachers use assessment on Target Tracker for learning to tailor lessons around our children and help us plan for next steps.

In our school we strongly encourage all pupils to use specific topic related vocabulary and enable Send pupils to have prior learning of these.

Through effective teaching of science, we develop children's knowledge and key skills during each topic.

With effective subject management we are a well-equipped and resourced school (finances allowing).

Regular monitoring shows that our children understand and apply key scientific principles within their work – done by pupil interviews and book scrutinise.

Children are provided with regular opportunities to develop strategies for questioning and thinking.

Attainment targets - 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.

Schools are not required by law to teach the content indicated as being 'non-statutory'.

Subject content

Key stage 1

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping

and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at key stage 1.

Lower key stage 2 – years 3 and 4

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

'Working scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.

Impact

Children enjoy and are enthusiastic about science in our school.

There is a clear progression of children's work and teachers' expectations in our school.

Children's work shows a range of topics and evidence of the curriculum coverage for all science topics.

Children are becoming increasingly independent in science, selecting their own tools and materials, completing pupil lead investigations and choosing their own strategies for recording.

Oral feedback from teachers has impact on our pupils, often with next step questions to push learning on.

Standards in science at the end of the key stages are good and issues arising are addressed effectively in school.

Our SLT and governors are kept up to date with developments in the way science is run in our school with subject reports, action plans and review meetings.

Reviewed by L Barnes March 2020