



Science Policy

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Headteacher:		Date:	20/09/2023
Subject Leader:		Date:	20/09/2023

Date of Next Review:	September 2024
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Subject Leader:	Sheila Kitchen	Subject Assistant:	Mailli Connell
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1. The Nature of Science

Science is a practical way for children to find out about the world around them. It is a way of approaching both problems and new experiences in a logical and organised way. A hands-on approach to Science activities encourages children to actively explore and make connections in a cause and effect manner, allowing children to practise, anticipate and embed understanding and knowledge during their learning journey.

2. Safeguarding in Science

Health and Safety issues and control measures are discussed and addressed as part of the half-termly planning sessions with the Science team. They are also a part of every lesson, where support staff are reminded of the importance of safeguarding in Science. Science Room has a generic risk assessment which can be found on the shared drive and is reviewed annually.

Each teacher is made aware of the medical condition of pupils in their care. The Science Team check with class staff and recorded pupil care plans about any updated medical issues, as necessary (i.e.) allergies – food and touch.

3. The School Policy and National Curriculum

The school policy meets the requirements of the QCA guidelines, which match the learning styles and abilities of all pupils. At Amwell View School the strands of the Science National Curriculum are addressed at a pace and level appropriate to individual needs.

These are:

- Working Scientifically
- Plants
- Animals including Humans
- Living things and their Habitats
- Uses of Everyday Materials
- Properties and Changes of Materials
- States of Matter
- Earth and Space
- Light and Sound
- Forces and Magnets
- Electricity

The National Curriculum states that:

Science has changed our lives and is vital to the world's prosperity, and all pupils should be taught essential aspects of the knowledge, methods and 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.

Through teaching Science we aim to:-

- Help and encourage pupils to be aware of their surroundings
- Encourage observation skills



- Encourage pupils to investigate and enjoy finding out about themselves and their surroundings.
- Encourage a respect for the environment and for all living things
- Develop a sense of curiosity and stimulate the questioning aspect of communication
- Encourage pupils to predict possible outcomes and results
- Encourage pupils to record and evaluate their learning and draw conclusions from their results
- Develop pupils' self-esteem, self-confidence, initiative and perseverance
- Develop fine motor skills (through the manipulation of tools and apparatus)
- Encourage a wide variety of communication skills by co-operation and group learning
- Encourage pupils to communicate and comment on what they can see, do, hear and touch in symbolic sentences and key word phrases that consolidate their personal learning outcomes
- Develop intellectual and practical skills which will be relevant to pupils' daily lives enabling them to achieve as much independence as possible
- Develop cross curricular opportunities.

Understanding the World (UW) is one of the four specific areas of learning in the **EYFS** framework. It involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. At Amwell View School UW enables children to communicate and interact with the appropriate levels of support and talk explore what they want to do.

At Post-16 the Science curriculum focuses on accessing the CREST Award schemes, Star and Superstar practical activities. In the Star and Superstar activities the students are presented with challenges and scenarios that are related to their knowledge and understanding they need to test and comment on the outcomes.

4. Delivery of the curriculum

Science is taught to all pupils throughout the school by Sheila Kitchen in a specialist room. Since September 2020 all classes receive a 30-minute weekly lesson. Students 2 is divided into two and sometimes three separate groups with a lesson each, allowing for better group dynamics and more time focused on learning outcomes and activities.

The curriculum is delivered in a variety of ways, meeting the learning needs and abilities of each individual pupil, with a diagnosis of Autism, PMLD and SLD.

Modes of delivery may include:

- Visual presentation
- Practical experience
- Modelling
- Audio visual presentation
- ICT equipment including interactive whiteboard and multimedia
- A range of communication media - signs, symbols, augmentative tools such as GRID3 and VOCAs
- Auditory presentation
- Multi-sensory experience



- Investigative play
- Songs and rhymes
- The use of the wider community
- Kinaesthetic learning
- Extra-curricular clubs and activities

5. Staffing and Resources

Staffing

Sheila Kitchen is the Head of Science. She is responsible for planning and delivering the Science Curriculum to all pupils. Mailli Connell is the subject assistant, who supports with actions plans, learning walks and development of resources.

Resources

The school has a dedicated Science Room, which is where all pupils are taught. All science resources are stored in the science department. Within the Science Room is a darkened den for exploring light and dark. The Science Room has gas taps and 3 sinks. The Science Room is equipped with a large variety of appropriate equipment for the delivery of the Science Curriculum. These include a Smartboard, sound system, DSLR camera, three iPads, two builder's trays for outside and inside learning, sensory exploratory A-frames, and a Perspex safety viewing shield.

Other resources external to the science department available are: -

- School grounds including the Dell with an environmental studies shed
- Sensory room
- Off site visits (e.g. farm, museum, riverbank and field centres)
- Outside visitors (e.g. zoo keeper, external speakers)
- Other schools (e.g. to share good practice, moderate work and experience new environments)
- Junk materials
- School nurse
- Local Health Authority
- School Library Service
- Science and PSHE advisers
- Trampolines and outdoor exercise equipment
- Swimming pool
- Music classroom (for sounds topic)

The school also has a soft play environment, hair salon, dance studio and sensory room.

The school is surrounded by several small playgrounds, some of which contain fixed pieces of exercise equipment. An adventure playground is available to explore forces in action.

The school has access to St Margaretsbury field for larger environmental investigations such as sampling and setting off homemade water rockets.

The school has the use of three mini buses to transport pupils to off-site activities.



6. Cross Curricular Issues

Science can promote learning across the curriculum in all areas particularly: -

- Maths
- English
- Geography
- PSHE
- Music
- P.E.
- Design Technology

Activities from Science lessons, such as relating to force, environment, growth, body awareness and the wonders of space can enhance access and pupil generalisation of skills in reading, writing, playing ball games, moving my body to music and pointing to areas of my body that may need attention.

7. Assessment

Teachers are required to provide evidence of pupil progression for each academic year across all subjects (progression from a starting point – September-July). Specialist teachers assess pupils across the school in their subject.

Teachers plan half termly across the curriculum subjects to ensure differentiated learning outcomes for all pupils. Teachers will use formative and summative assessment to inform planning and ensure SMART and challenging learning outcomes are linked to planning and delivery. Teachers and TAs will use assessment for learning strategies to assess pupil progress throughout each lesson and the school day. The use of formative assessment for each child supports the monitoring of ongoing progress across a sequence of lessons. Evidence of progression will be added to Tapestry and shared with parents and carers.

All teachers use a consistent formative process to regularly set and review priority outcomes for pupils. Priority outcomes will be taken from the planning process above to ensure SMART and personalised learning outcomes. This process ensures that learning is meaningful to individuals and progress is made. The review of priority outcomes provides detailed qualitative evidence of pupil progression across all subjects and informs annual reviews and Education, Health and Care plans (EHCP). This process also ensures that pupils continue to be motivated and challenged within lessons as it will inform future planning and areas of practice that need to be developed to meet the needs of pupils.

Setting priority outcomes: A reflective annotation is written within Tapestry to provide a context to an individual's learning explaining;

- How, What, When - Context – How they have approached learning, the level of support the pupil has had, generalisation of skill, time frame. This is supported by media evidence which is shared by teachers and with parents and carers.

Teachers complete the Formative evidence of pupil progress form half termly. This form will provide pupil progress data highlighting how many priority targets were set and achieved. This enables the teacher and SLT to analyse the quality of the target and the progress made. This in turn will provide an insight into the quality of planning and differentiated delivery.



Evidence may take the form of a case study to summarise specific situations or events that have impacted an individual's education, such as, for example a significant trauma or illness that a pupil may have experienced during that academic year resulting in little or no progress.

As our chosen best fit summative tool, teachers will assess termly using Connecting Steps Engagement and Progression Steps. Information and data is held at school.

As a result of the data gathered teachers may use other tools that are more appropriate for individual pupils alongside which currently include the use of B Squared progressive criteria and or Routes for Learning(RfL).

Other assessments may include visual assessment tools, Childhood Autism Rating Scale (CARS), reading tests, receptive and expressive language tools (e.g. REEL) and Teacher Assessment. This data may determine movement to different educational provision, but consideration is given to the needs of the whole child and not just focused on assessment results. The functionality of pupils, their ability to regulate behaviour and to maintain skillsets is as much an aspect of attainment within the assessment and placement process as assessment results.

Routes for Learning (RfL)

Routes for Learning (RfL) is used as an additional tool to plan for progression for some identified pupils. RfL is a Welsh initiative developed by teachers to improve and assess social, communication and cognitive skills of learners with profound and multiple learning difficulties, and additional disabilities.

Route Maps offer a number of pathways for learning, encompassing early developmental milestones. Each pupil following RfL has their own personalised RfL Route Map.

RfL complements our existing Connecting Steps assessment tool by providing additional breadth to the early learning descriptors.

8. Pupils' Presentation and Recording

Pupils work may be presented through:

- Practical experience
- Demonstration
- Video
- Photo
- Oral/sign/gesture
- Pictorial
- Formal notation
- Computer generated
- Written
- Discussion
- Questioning
- Reflection of learning

Achievements may be recorded and celebrated in: -



- Work Scrutiny files
- Tapestry
- EHCP reviews
- Curriculum files/recorded data
- Parent teacher consultations
- Achievement assembly
- The giving of trophies and certificates.
- Assemblies

9. Review Procedures

The policy is to be reviewed, by the subject leaders, annually or earlier if necessary.