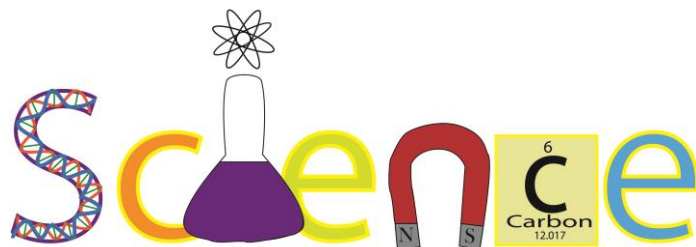


Aqueduct Primary School

Science Policy

2021



<i>Written/Reviewed</i>	<i>March 2021</i>
<i>Discussed and Agreed by Governing Body</i>	<i>March 2021</i>
<i>Discussed and Agreed by All Staff</i>	<i>March 2021</i>
<i>Next Review Date</i>	<i>March 2023</i>

Our Strapline

Building tomorrow, Leading the way ...

Our Values

Positivity, happiness, learning, kindness, **safety** and respect

Science Policy

Key principles

At Aqueduct Primary School we believe that science should;

- challenge what we already know
- be exciting, engage and fun
- relate to real life
- include opportunities to work outside the classroom
- be practical

Each of these key principles work together to form the basis of our science teaching and learning as a school. The Key principles were chosen by pupils, staff, parents and governors. Through studying science at Aqueduct we want children to gain a knowledge of the world around them and how it impacts their lives. We aim to educate the next generation of scientists by ensuring that the children value science and understand its importance in the world.

Scientific Investigation Cycle

We aim to ensure that the children develop observational skills through practical investigations and experiments. We aim to nurture their curiosity and foster critical thinking. All pupils across the school will take part in a scientific investigation at least once a term. In order to work scientifically through an investigations the children follow an investigation cycle. The cycle that we teach consists of:

- Asking an investigation question
- Completing an investigation planning board
- Selecting the **types of scientific enquiry** that supports the demands of the question
- Making a prediction
- Setting up a test
- Recording data and results
- Creating a detailed conclusion from what they have found

Each stage of the investigation cycle would vary in how it is recorded in book depending on the age and/or needs of the child. Investigations may be captured through photographic evidence, verbal feedback responses, computer based recording or collaborative work. Teachers should refer to this cycle throughout an investigation encouraging the children to reflect on what they have already done and what they will need to do next.

Types of Scientific Enquiry

In order to teach a range of enquiry skills, we teach our children that investigation questions can be answered by selecting the most appropriate enquiry type. These are:

- Comparative and fair testing
- Making things and developing systems
- Investigating new ideas
- Researching and using secondary sources
- Identifying and classifying things
- Looking for patterns and relationships
- Observing changes over time

During an investigation the children select the type of enquiry that is most appropriate for the question that they have created.

Science and Inclusion

At our school, we teach science to all children, whatever their ability and individual needs. Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our science teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this.

Science is for all abilities

We recognise that in all classes, children have a wide range of scientific abilities, and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways

- setting tasks which are open-ended and can have a variety of responses
- setting tasks of increasing difficulty (we do not expect all children to complete all tasks)
- grouping children by ability in the room, and setting different tasks for each ability group
- providing resources of different complexity, matched to the ability of the child
- using TAs to support the work of individual children or groups of children
- incorporating high order questions that apply to scientific thinking to extend the most able children in science

Monitoring and Review

The coordination and planning of the science curriculum are the responsibility of the subject leader, who also:

- supports colleagues in their teaching, by keeping informed about current developments in science and providing a strategic lead and direction for this subject;
- writes an annual Action Plan in which links to the strengths and weaknesses in science and indicates areas for further improvement.
- reviews evidence of the children's work, observes science lessons across the school and talks to children about their science learning.

Classroom Displays

Classroom displays will include a 'types of scientific enquiry' poster that teachers will refer to during investigations to support with selecting the most appropriate types for their question. The display will also include each of our key principles for teaching science. Science displays will reflect current learning taking place in class and link to each key principle where relevant.

Vocabulary

It is vital that key vocabulary is taught explicitly during a science topic. Therefore key vocabulary for each topic is provided for teachers on the Long Term Map. These are then added to success criteria's for each science lesson. Teachers will discuss and define the meaning of new vocabulary at the start of a topic and encourage the children to include this vocabulary in their work. Key vocabulary may also be shared on the science display in classrooms.

Assessment

Assessment for learning (AFL) is carried out at the start of a science topic. This allows teachers to identify what the children already know and retained from previous teaching. At the end of individual lessons teachers may use '**think greens**' (see Marking Policy) to assess or challenge what the children have learnt in that lesson.

At the end of a topic the children complete a **Flashback Assessment**. Here children are provided with the opportunity to reflect back upon their learning in that unit to see what

they have retained and the knowledge they have secured. Teachers are then able to plan for any misconceptions or gaps in knowledge which they identify.

Computing

Science provides many opportunities for using computing. At Aqueduct the children may use computing in science to:

- Data logging and recording results during an investigation, this may include creating bar charts of scatter graphs on a computer based programme.
- Using QR codes to scan on an iPad to find further information.
- Using Purple Mash to carry out science based activities, record results and take quizzes.
- Using computer based programmes to create fact files and biographies
- using the internet to research

Resources

All resources for teaching science can be located in the GP room with resources organised into topic boxes. The Long Term Map for science details what each topic box includes and where to find it in the GP room.

Equalities

Aqueduct Primary School will ensure that it complies with its duties under the Equality Act 2010 and have due regard to the need to eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the abovementioned Act.

Safeguarding

Aqueduct School is committed to safeguarding and promoting the welfare of children and expects all staff and volunteers to share this commitment. This means that we have an up to date Child Protection Policy and procedures in place which we refer to in our prospectus. All staff (including supply staff, volunteers and governors) must ensure that they are aware of these procedures. Families are welcome to read the Policy on the school website.

Our Designated Safeguard Leads (DSLs) are: Tammy Lockley, Jo Clarke. Cara Duppa, Ash Palin and Eloise Harrow (SENCO) and Lisa Batchelor (Inclusion Support Manager).