Bramley Park Academy

Science Policy

Policy reviewed by: M Gregory

Ethos

At Bramley Park Academy, we understand that it is important to enable each pupil to develop, within their own capabilities, the Scientific knowledge, concepts, skills and attitudes to make sense of the world around them. At Bramley Park, we encourage children to be inquisitive throughout their time at the school and beyond. The Science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and nonliving. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We aim to ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings. By doing this we aim to encourage children's natural curiosity in the world around them so they explore their own scientific understanding and develop as careful, logical and reasoned thinkers.

What we teach

Throughout school, science is taught following the National Curriculum 2014. Learning objectives are taken from the National Curriculum to ensure high expectations for all children. Staff have been provided with a Long Term Plan, detailing the relevant objectives to be taught within their topics, these are also available on Staff SharePoint, google drive and the school's website. These have been carefully mapped by the Curriculum team to ensure full coverage in each year group and are reviewed yearly.

The 2014 national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific skills required to understand the uses and implications of science, today and for the future.

How we teach

Science should be taught in accordance with Bramley Park Academy's creative curriculum ethos and anchored around scientific inquiry. Science learning should be child-led and incorporate (where appropriate) learning outside the classroom, creative and enriched learning as experiences are a driver for our curriculum. A variety of teaching techniques should be incorporated into learning to allow all learners to access the curriculum.

All year groups have been provided with knowledge organisers for each topic. Therefore, when a topic is driven by science the knowledge organiser will include age appropriate scientific language and children will be exposed to this on a daily basis. These are also used as a method of AfL through the use of mini quizzes and other useful assessment tools at the start and end of the lesson. This has seen an increase in the amount of scientific facts and statements that children can recall and has equally improved the standard of scientific vocabulary used within our classrooms. The science lead has developed assessment with a clear focus on 'key knowledge', to avoid cognitive overload and to ensure that the teaching and learning of science has purposeful outcomes. Adaptations within the curriculum are made by class teachers and leaders to ensure that all children are able to access the curriculum and achieve the objectives in sciences, regardless of ability or need.

The school uses the National Curriculum guidance to ensure all areas of the curriculum are covered, adapted to suit teaching styles and child's interests and embedded within the topic based learning each half term.

Class teachers should use the 'Working Scientifically Progression' and 'Progression in Scientific Writing' documents available to them to ensure that children are working at/towards the expected standard and to enhance and develop their confidence in accessing and delivering a rich, balanced and outstanding Science curriculum.

How we assess

Children's starting points are identified at the beginning of each science topic and the children are able to convey and record what they know already. At the end of the block, children's knowledge is checked in line with the key knowledge identified prior to the teaching block. Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary and teachers ensure that this is developed within each lesson and throughout each science topic. The science curriculum ensures that children are provided with regular opportunities to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. Through use of the KWL strategy, children are also able to suggest what they would like to learn at the start of each teaching sequence and this ensures that teachers are able to adapt the programme of study to ensure that this is informed by children's interests and to maximise their engagement with and motivation to study science.

Assessment for learning is continuous throughout the planning, teaching and learning cycle. However children are more formally assessed half termly in KS1 and KS2 using a variety of methods:-

- Observing children at work, individually, in pairs, in a group, and in classes.
- Questioning, talking and listening to children
- Considering work/materials / investigations produced by children together with discussion about this with them.

All year groups are provided with assessment sheets which are displayed in every child's topic books and are referred to as a means of checking the coverage of all objectives as well as being a reminder of the next steps to learning. At the end of each

half-term children are assessed as either working at Believe, Persevere or Achieve depending on whether they are working at the expected standard, below or above.

How we monitor

The Science Coordinator will carry out regular QA in accordance with the school's QA cycle. This includes pupil voice, book scrutiny, lesson observations and learning walks. Good practice in science will be shared within school to ensure this has a positive impact on pupil learning.

Resources

Central practical resources are stored in the Science area. These need to be available and class teachers will need to requisition topic specific equipment identified during planning.
At the beginning of each year, each member of staff will take responsibility for their year/age group and ensure that all components are available for the following year.

Health and Safety

All staff are responsible for the general health and safety of pupils in their classrooms and beyond during science lessons as per academy policy. The school adopts the guidelines of 'Be Safe', the ASE publication can be found in the subject leader file which is clearly identified in the Science Area.

At Bramley Park Academy we are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture or class.

This policy should be read in conjunction with the policies in support of SEND, PP EAL etc in support of vulnerable groups.