

# **Baines' Endowed Church of England Primary Academy**

## **Science Policy**

At Baines' Endowed Church of England Primary Academy, we aim to develop self-belief and self-confidence in all our pupils and staff, through our mission that:

*"With God, nothing is impossible" Luke 1:37*

To support our pupils, staff, parents and governors in their quest to achieve the 'impossible', we will teach, guide and nurture our community in the following twelve values:

generosity	compassion	courage	forgiveness
friendship	respect	thankfulness	trust
perseverance	justice	service	truthfulness

At Baines' Endowed, we believe that by valuing all God's children and teaching them to learn, develop and grow in the Gospel values, we will allow them the opportunity to believe that, with the help and love of God the Father, God the Son and God the Holy Spirit, they can achieve what they aim to achieve.

## **Intent**

*Science at Baines' is a rich and varied subject, underpinned by the essential skills of 'working scientifically', and it is taught on a weekly basis as a core subject.*

*The intent of Science at Baines' is:*

- *To enable all children to learn, and develop their skills, to the best of their ability.*
- *To promote a positive attitude towards learning, so that children enjoy coming to school, and acquire a solid basis for lifelong learning.*
- *To motivate pupils by arousing a sense of awe, curiosity and wonder.*
- *To allow children to apply the basic skills of English, Maths and ICT through Science.*
- *To enable children to be creative and to develop their own thinking.*
- *Retain and develop their natural sense of curiosity about the world around them.*
- *Develop a set of attitudes which will promote scientific ways of thinking, including open endedness, perseverance, objectivity and a recognition of the importance of teamwork.*
- *Come to understand the nature of "working scientifically" (Curriculum 2014) through enquiry skills and types, involving: observation, the making and testing of hypotheses, the design of fair and controlled experiments, the drawing of meaningful conclusions through critical reasoning and the evaluation of evidence.*
- *Become effective communicators of scientific ideas, facts and data.*
- *Begin to build up a body of scientific knowledge, understanding and vocabulary, that will serve as a foundation for future enquiry.*

- *Encourage children to aspire to a career in STEM, through opportunities, breaking stereotypes and providing children with real life experiences.*

## **Implementation**

*Science is taught as a discreet, core subject, with a focus on developing children's 'working scientifically' skills. These skills equip children with the abilities to be able to think like a scientist, from devising questions for investigations to planning full experiments, considering variables, making predictions and fair testing.*

*Subject knowledge is spread across Biology, Chemistry and Physics in EYFS, KS1 and KS2 and progression of knowledge and skills is supported with the 'Kent Scheme of Work' planning and staff professional development.*

*Planning is differentiated to meet the needs of all pupils, including SEND and children with disadvantaged backgrounds. Differentiation is focused on science skills, allowing children to thrive in the subject without barriers in their learning.*

*Key scientific terminology and a focus on scientific vocabulary is evident in all lessons and vocabulary is discussed at the outset of a topic area, through KWL grids and word banks. This is further supported by the use of symbols, for enquiry skills (Primary Science Teaching Trust) during teaching and learning.*

*In the EYFS we start to develop blocks of knowledge and concepts alongside the development of enquiry skills and characteristics of effective learning. Early Years practitioners record children's thoughts and observations on 'Understanding The World', specifically 'The Natural World' subsection (EYFS Curriculum 2021) in topic themed floorbooks and on Tapestry observations.*

*Children across school have the opportunity to meet real scientists to develop their understanding of careers in the 'real world' go on science trails, educational visits, engage in practical activities, plan scientific investigations that are centred around their interests and curiosities and take part in our exciting 'Science week' each year. Through Science week we have developed strong links with BAE, Victrex, UCLan, The Royal Astronomical Society, Blackpool and the Fylde College, Lancaster University, Bupa, Love My Beach, Junior Park Rangers and North West Ambulance Service.*

*Science ambassadors, representing the science team, are also chosen from each class to celebrate children's achievements in science lessons. The Science ambassadors support class teachers during 'Science Week' starting with a WOW experiment, they nominate 'Science Contributor of the Week' for each class and they also have the opportunity to share their ideas prior to the event and give feedback to the science leaders post event. They have the opportunity to support the Science leaders in maintaining the organisation of the science storage area. Ambassadors are able to support class teachers (where appropriate) in the setting up of lessons.*

*Science leaders run science clubs throughout the year, covering most year groups. This is a chance for pupils to enjoy fun, practical science in an extra-curricular setting.*

*The science team are passionate about embracing opportunities to continually develop the subject and keep colleagues up-to-date with advancements. This is implemented through*

CPD; our science team have strong links with STEM, The Primary Science Teaching Trust and The Ogden Trust, attending courses run by each and also being a fellow of the PSTT college. Baines' has also had a strong link with the Blackpool Science Network, chairing the meetings for several years. In 2021 we were awarded the Primary Science Quality Mark GILT accreditation, after a year-long programme of development for the subject and professional development for all staff.

At Baines', we encourage imaginative and innovative application of skills and strive to promote a passion for science and its application in past, present and future technologies.

## **Impact**

Pupils are assessed in their progress in science on a termly basis in line with Maths, English and RE as core subjects. Staff use an assessment ladder based on the National Curriculum expectations of the development of scientific enquiry skills which is included in each pupil's book, to track progress and report judgements to pupil progress managers and SLT. TAPs Tasks from The University of Bath are available alongside planning for practitioners to use to help inform judgements.

Alongside our termly assessment staff also track pupils on our in school 'Teacher Assessment Framework Tracker'. This allows colleagues in Year Two and Year Six to assess scientific understanding from the whole Key Stage, helping them to form judgements at the end of the Key Stage. Children in Year 2 and Year 6 are assessed against the end of Key Stage judgements and the statutory 'Teacher Assessment Framework'.

Science leaders regularly monitor the subject across school through;

- Learning walks
- Work moderation and scrutiny
- Planning scrutiny
- Lesson observations
- Staff meetings and training
- Staff questionnaires and feedback
- Pupil questionnaires and discussions

## **Review**

Policy to be reviewed September 2022 by Mrs K Littler/Mrs J Rowland (Science team)

signed ..... date ..... subject lead

signed ..... date ..... chair of governors