

At Keyham Barton the primary goal of our science curriculum is to spark curiosity, enthusiasm and understanding in our children about themselves and the increasingly connected world around them. We aim to promote respect for both our living and non-living world by enabling our students to live wisely and think deeply in order to care for our common home as highlighted in Pope Francis' letter, entitled 'Laudato Si'.

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 and skills, as informed by the National Curriculum, that have been identified within each unit and across each year group, to ensure that they are ready for the next phase of their science learning and to provide them with the foundation for understanding our rapidly changing world, from the challenge of climate change and loss of biodiversity, to renewable energy and the exploration of other planets.

IMPLEMENTATION

At Keyham Barton, all teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in this subject. Our whole school approach to the teaching and learning of science involves the following: Knowledge organisers are prepared by the subject lead, including the objectives to be taught each lesson, key questions and common misconceptions and shared with the class teachers and children to ensure progression across and within year groups.

Science is taught in planned blocks by the class teacher with a project-based approach geared towards answering the 'big question' for that unit. These lessons are delivered weekly in key stages one and two, and in EYFS the children learn about science and the world around them through tailored play-based activities.

Through our planning, we provide opportunities for different types of scientific enquiry that allow children to apply their

knowledge, and find out answers to our big questions for themselves. Planning involves teachers creating engaging lessons, using concrete resources and diagrams to aid understanding of key scientific knowledge. Teachers use precise questioning in class to assess pupils' conceptual understanding and skills, and to identify gaps in learning. The children select their own tasks from the options given in order to provide an appropriate challenge to all learners.

Working Scientifically skills are embedded into our lesson blocks, (as well as being taught discretely for half a term in every two year cycle to fill any cohort-specific gaps), to ensure that skills are systematically developed throughout the children's time at Keyham Barton and new vocabulary and challenging concepts are introduced through direct teaching in which teachers model how to use scientific equipment, and demonstrate the various skills first hand.

At the end of each topic, key knowledge is reviewed by the children; assessed by the teacher using Plymouth Science Hub assessments, and consolidated, where necessary, before moving on.

Science

IMPACT

We aim for our children to achieve their full potential in science and marvel at the awe and wonder of how science is embedded within every aspect of our daily lives. An example of this could be seen during our 22-23 Science Week during which we explored this year's theme of 'Connections' by connecting as a school to pass a message from EYFS up to Y6 using scientific skills and concepts.

We want the children to recall the rich learning experiences they have been provided with and know that each taught concept provides a new, or builds on an existing, learning block. At Keyham Barton, we want our children to think critically, ask questions and use their metacognitive learning abilities by embedding Rosenshine's Principles throughout each lesson. Our pupils know how to apply key learning skills, such as perseverance, embracing challenge and making connections with what they already know and as a result they are able to confidently master each lesson's objective, as well as being able to discuss and reflect on the big question that each unit is based around at the start of each new lesson.

Children leave Keyham Barton eager to engage with the challenges that await them in their KS3 science lessons and beyond, and with an awareness of how scientists and their discoveries have changed, and will continue to change, our lives for the better. Average Plymouth Science Hub assessment scores of 60%+ in 22-23: Year 3/4 = 72% and Year 6 = 80%.