ISP Curriculum Statement

Subject: Science

INTENT	
Through our science curriculum we aim for pupils to: • 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 • Become equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.	
Teaching of knowledge and skills **See whole school progression maps for curriculum content*	The pupils at Ireleth St Peter's will be taught how to use a range of science equipment and technology confidently and accurately. They will develop a range of working scientifically skills including questioning; making observations; planning and performing tests; recording and presenting results and examining evidence to make and justify scientific conclusions. The knowledge and skills the pupils learn are transferrable and will support their learning in other subjects, thereby deepening their understanding of the world around them. For example, when the focus is Animals Including Humans, children in our mixed EYFS and Year 1 class will be taught how to identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. However, pupils in Year 6 will be taught to describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro- organisms, plants and animals.
Application of skills	Throughout their time at ISP, pupils will be given regular opportunities to practice and apply their working scientifically skills. They will experience a range of different enquiry types: observing changes over time; grouping and classifying; noticing patterns; fair and comparative tests and researching of secondary sources. Cross-curricular links will allow skills to be transferrable and consolidated between curriculum subjects. They will also have opportunity to apply their growing knowledge of scientific vocabulary through practical, collaborative, presentation and written tasks.
Vocabulary	ISP pupils will understand and use a range of appropriate scientific vocabulary to discuss, communicate and justify their ideas. They will also understand the vocabulary relevant to the scientific method and associated with working scientifically.

IMPLEMENTATION	
Curriculum approach	**Stimuli – resources, trips and visitors**
Pupils engage with science weekly and are guided, supported and stretched through the science topics	Pupils are taught about how the world has influenced scientists throughout history, including Sir Isaac

which build upon prior knowledge and working scientifically skills. Planning is carefully differentiated to enable SEND children to access the science curriculum whilst also enabling opportunities for pupils working at greater depth to broaden and apply their knowledge, skills and scientific vocabulary. The EYFS Curriculum for Understanding the World is taught in variety of ways through adult-led and adult-supported tasks and child-initiated learning in well-resourced provision areas, both indoors and outdoors. These provide opportunities for students to be challenged and learn through play by fostering active participation. Learning is delivered through termly topics and ISP's curriculum materials are used as a resource base to inform planning and delivery. Every year, we celebrate British Science Week by immersing ourselves in scientific investigations, experiments and opportunities to learn new skills.	Newton, Thomas Edison, Mary Anning, Charles Darwin, and Katherine Johnson, amongst others. Where possible, teaching is made relevant to children's everyday experiences and pupils are encouraged to question the structure and behaviour of the physical and natural world around them. Opportunities for Class Trips to various places throughout Cumbria will have cross-curricular links to science as they are planned based on current topics in each class.

Local Context	**Questioning**
Our science curriculum involves the local area and local people to support the learning of the National Curriculum. Unfortunately, due to the impact of COVID-19, we have not been able to have any educational visitors in school over the past 18 months. Teachers use their local area to help support the teaching of science as much as possible. Whether it is in KS1 with nature walks through our grounds to observe the changes in weather or in KS2 where the children may visit the beach to look at natural rock formations. Building upon this, the children in KS2 have opportunities to visit one of our local secondary schools during open days or transition opportunities to explore different scientific professions, such as a forensic scientist or a nutritionist.	We live in an increasingly scientific and technological age where children need to acquire the knowledge, skills and attitudes to prepare them for life in the 21st century. We, at Ireleth St Peter's Primary School believe that the teaching of science develops in children an interest and curiosity about the world in which they live and fosters in them a respect for the environment. In lessons, some questions may be closed, requiring a specific answer based on scientific knowledge. More often, questions are child-centred and open, allowing for a range of answers from children of all abilities and life experiences along with science investigations. Children are encouraged to understand that some questions may have more than one answer, which may be neither right nor wrong, and to consider what evidence is needed to support or refute an idea. In science, children are encouraged to ask questions and this can lead to discussions around "big" questions of a more philosophical and spiritual nature. E.g. How did life on Earth begin? Where did the first drop of water in the water cycle come from?

Sharing work	SMSC
Pupils' science work is recorded in science books (KS2) and curriculum folders (EYFS/KS1) and is shared between pupils and staff. In class, children also share their learning in a variety of ways: discussion, presentations (including PowerPoint and word processing), drawings and posters, information booklets; dance and drama. There are frequent opportunities to celebrate children's science work and show the process of their learning via display boards in school. Children's work is also responsibly shared online with parents using our website and social media platforms including Facebook and Class Dojo.	At the heart of science lessons are collaborative practical tasks that require respect and co-operation for shared decision making amongst pupils. Through discussing past and present scientists and their discoveries, children gain an understanding of the role and impact science and innovation have in society. In addition, this enables children to learn about other times and cultures, and the imagination, creativity, self-belief and perseverance necessary for these inspiring scientists to succeed. Some science topics require pupils to appreciate different viewpoints e.g., the theory of Evolution and creationism. Children are also encouraged to develop the working scientifically skill of using evidence to support or refute their ideas and thus to offer reasoned points of view. Some science topics lend themselves to the exploration of wider moral and social implications on the world e.g. the positive and negative impacts of humans on habitats and the environment. Throughout ISP (Animals including humans' topics) children learn about the importance of making the right choices with regards to a healthy lifestyle, including diet, exercise and drug safety (KS2).

IMPACT
Pupil voice
"I enjoyed our workshop with Professor Nitrate because it was really funny when the bottle flew high in the air!" – Year 3 pupil "I like doing experiments in lessons, it's really good." – Year 4 pupil "When I grow up, I want to be a professor and do loads of tests." – Year 1 pupil "My favourite subject is Science because I like finding out why things happen." – Year 5 pupil "I like how fun it is and all the amazing experiments and the fun, scientific investigations." – Year 6 pupil "I like when we draw diagrams and test things." – Year 2 pupil "Science lessons are so fun!" – Reception pupil
Evidence of Knowledge and skills
Pupils understand how their science knowledge is relevant in the outside world and why it is important to learn about science. Pupils can demonstrate and apply their science knowledge. They are able to articulate both orally and in writing, clear explanations, reasoned opinions and researched information using acquired vocabulary from science lessons. Within the science curriculum, there are opportunities for all children to demonstrate their working scientifically skills, orally and in writing as well as during more practical and investigative tasks. Pupils are able

to apply their working scientifically skills to plan and perform different types of enquiries to answer a question. They are able to present their findings in a variety of ways e.g. results tables, scientific diagrams, graphs. Pupils can examine their findings and explain how and why they have reached their conclusions.
Breadth and Depth
Much opportunity is given for children to develop a deeper understanding, level of skill and appreciation of science. Pupils have developed their scientific ideas to and beyond the expected standard by the end of a science topic. Challenges are available to extend scientific skills within the classroom. Some children can use their skills and knowledge in other curriculum areas and to make links to other topics. Through reflecting on the subject, children are able to self-identify what skills they would like to improve and develop. Visits and visitors create further opportunities to consolidate and enrich scientific understanding. A dedicated whole school Science Week is an ideal opportunity for science to have a high profile and excellence in science to be shared.