**Report for Governors - Science at Tithe Barn Primary School.**

**1. OVERALL PICTURE OF CURRENT PRACTISE**

**Purpose of study**

**Aims**

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 The aim of science teaching is to develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. To develop understanding of the nature process and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. To equip children with the scientific knowledge required to understand the uses and implications of science, today and for the future. A clear vision for the teaching and learning of science at Tithe Barn has been developed as part of the PSQM journey.

**Objectives**

* to develop the natural curiosity of children about the world around them;
* to develop questioning and enquiring minds through a range of enjoyable an interesting experiences;
* to help children develop the skills to make systematic enquiries;
* to provide opportunities for children to apply theoretical ideas to the solving of practical problems;
* to enable children to develop an increasing attention to accuracy;
* to foster a positive attitude to science and increase pupils’ understanding of how science is used in the wider world;
* to provide a range of relevant experiences allowing pupils to acquire knowledge, skills and understanding in the key areas of Scientific Enquiry, Life Processes and Living Things, Materials and their Properties, and Physical Processes through a variety of teaching and learning strategies;
* to develop the accurate use of scientific vocabulary;
* to meet the needs of each child so that they will reach their full potential.
* to engender a sense of awe and wonder with Science

**HOW SCIENCE IS TAUGHT AT TITHE BARN**

## Teaching and learning

 **During Foundation Stage:** Children begin to show curiosity about living things, objects and events they observe. They investigate objects and materials by using their senses. They ask questions about why things happen and how they work. The Early Learning Goals are part of ‘understanding the World’

 **During KS1:** the principle focus is to enable children to experience and observe phenomena, looking closely at the natural and human-constructed world around them. They are encouraged to be curious and ask questions about what they notice. They will use different types of scientific enquiry and will begin to use simple scientific language to talk about what they have found out. Most of the learning about science is done through first-hand practical experiences. ]

 **During lower KS2:** children will be given the opportunity to use a variety of scientific enquiry to broaden their scientific view of the world around them. They should ask their own questions about what they observe and make some of their own decisions about which type of scientific enquiry to use, in order to answer them in the best ways. Children should also draw simple conclusions and use some scientific language.

 **During upper KS2:** children will be given the opportunity to develop a deeper understanding of a wide range of scientific ideas. They will encounter more abstract ideas and begin to recognise that scientific ideas help them predict and understand how the world operates. They select appropriate ways to answer scientific questions using different types of scientific enquiry. Using the correct vocabulary, children will be able to draw their own conclusions based on data and observations and will use evidence to justify their ideas and explain their findings.

**Planning**

Science is a core subject in the National Curriculum. We use the national programmes of study as the basis for our curriculum planning in Science. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit, and we plan progression into the scheme of work, so that the children are increasingly challenged as they move through the school.

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|  | **Autumn Term** | **Spring Term** | **Summer Term** |
| Reception | Looking at similarities and differences, patterns and change.  | Human bodyKeeping healthyPlants and animals  | LifecyclesAnimals on the farm |
| Year 1 | Animals incl humans – parts of the body/sensesSeasonal Change | Materials – names and propertiesAnimals incl humans– Seasonal Change | PlantsSeasonal Changes |
| Year 2 | Properties and everyday uses of materials | Animals including humans – keeping healthy and hygiene. Living things and their habitiats | Plants  |
| Year 3 | Rocks and soilsFossils | Animals incl humansPlants |  Light Forces and Magnets |
| Year 4 | States of matter | SoundElectricity  | HabitatsHuman digestion/teeth |
| Year 5/6 a) | electricitymaterials | animals including humans – reproduction and lifecycles | Animals including humans – nutrition and lifestyles |
| Year 5/6 b) | Earth and spaceLight  | Evolution and inheritance. Living things – adaptation/habitats | Forces. |

**HOW SCIENCE IS ASSESSED**

Science is a core subject and ongoing assessment of the subject has always been a part of good practice. Assessment enables the teacher to match work to the abilities of the pupils as they progress. At the end of each unit taught, an assessment will be used in order to assess learning against unit objectives. Teacher assessment will be ongoing through observation and discussion as some pupils are unable to display their abilities through tests. Particular attention will be paid to the observation of practical work to ensure the children are developing the skills of scientific enquiry. Written or verbal feedback is given to the child to help guide his or her progress. Older children are encouraged to make judgements about how they can improve their own work.

After completing the PSQM this year and attending network meetings I have further ways to enhance our currents assessments in school and this is reflected in the action plan. There will be a particular focus on assessing working scientifically skills.

**KEEPING INFORMED ABOUT SCIENCE/CPD**

I am part of the Science subject leadership group and have attended the network meetings throughout the last 4 years. I am also booked on to attend all meetings this academic year. I am given time at staff meetings to share any updates and resources with staff and I have created folders on the network to add and relevant documents for each year group.

Staff attended training on the 5 enquiry types and working scientifically in the Spring Term which was very useful and received positive feedback.

I have taken part in the PSQM this year we has given me access to lots of information around the teaching and learning of Science that has been useful for my own classroom practice as well as well as raising the profile and quality of Science throughout school.

# 2. MONITORING, EVALUATION AND REVIEW

**LESSON OBSERVATION OF SCIENCE**

Through carrying out a wider range of monitoring activities, I now know more than ever before about science across school. I have a termly planned schedule and time in staff meetings to address areas for development. During lesson observations and book scutinies I was able to see that Science in each year group is well planned in line with the National Curriculum and links are made with the wider curriculum – for example, rocks links to the History and Geography topics in Year 3. Staff are also confidently using the Snap Science scheme to support teaching and learning in Science and lessons include prior learning, what they are teaching. The five enquiry types and working scientifically are also reflected in planning and lessons.

 **SAMPLES OF SCIENCE**

The exemplar file to showcase Science at Tithe Barn continues to grow I have collected evidence of some of the amazing learning done this year in every year group. It has been particularly impressive to see how the staff adapt their curriculum to include SEND children. There are photos and videos of science being taught throughout school on the server and on my Google Drive.

**SCIENCE PLANNING**

All staff use a consistent format for medium term planning that can be accessed on Staff share in the Curriculum folders.

The new Snap Science Teaching framework helps support staff to ensure all of the NC programs of study are covered and they have all of the necessary resources.

**WHAT TEACHERS SAY ABOUT TEACHING SCIENCE**

Staff are much more confident with the working scientifically area of Science after the training and have spoken about how the resources shared have really helped them develop this area of teaching and learning in their classrooms.

**PUPIL VOICE**

The children at Tithe Barn have always spoken very positively about their learning in Science and this continues to be the case. When we had a visit in Year 3 from Tony North he was amazed at the children’s knowledge and interest in rocks and soils! This year I ran a KS1 Science Club and the feedback from children and parents was fantastic. I’ve also started doing STEAM challenges each term to include the wider school community in science learning outside of school. One of the children said “It was the most fun and interesting homework I have ever done!”

**RESOURCES**

Science resources are clearly stored and labelled in the ICT suite. I am currently in the process of auditing equipment so that I can retain what is usable and replace what is not. The children have access to high quality texts that support their learning in science.

**3. CONCLUSION**

**PRIORITIES FOR FUTURE DEVELOPMENT OF SCIENCE**

* To use PLAN EYFS resources to develop planning and progression in the foundation stage.
* To improve the use of formative assessment of working scientifically skills.
* To continue to engage all children in activities to develop their science capital.

**GOVERNOR MONITORING**

I had a meeting with the Science Governor in the summer term to update her on the process of the PSQM journey and to discuss her understanding of Science Capital.