# Worlingham CEVC Primary School
## SCIENCE POLICY

*Like a tree firmly planted by streams of living water we will grow in knowledge, love, faith and wisdom.* Based on Psalm 1:

**Aims and Objectives**
Science is a subject which stimulates a child's desire to find out more about the world around them. It encourages them to ask and answer questions, investigate their immediate environment and make sense of the wider world around them.

We provide enriching opportunities for children to further their learning through practical first hand experiences in addition to using books and the Internet.

The Science curriculum at Worlingham CEVC Primary School will:
https://www.gov.uk/national-curriculum
https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study

- Encourage the children to develop their knowledge, skills and understanding through exploration and investigation.
- Develop an enquiring mind, one that asks and answers questions to help solve problems.
- Teach children to apply scientific skills and concepts to other curriculum areas.
- Develop the children's ability to draw conclusions from their work.
- Teach children Science through a planned, relevant and accessible curriculum.

**Scientific Enquiry**
Across all phases, pupils will be taught to think in a scientific manner. Pupils will be taught how to collect evidence through observations and measurements and use these to help them draw conclusions and to then raise further questions resulting from their work.

**Types of Enquiry**
There are 5 types of scientific enquiry which children should be aware of from year 1 to year 6. In KS1 teachers should expose children to the 5 types and make clear what type of enquiry they are undertaking. In LKS2, children should be able to identify what type of enquiry they are using. In UKS2, children should be able to choose which type of enquiry to use to explore an enquiry question independently. The enquiry types are as follows:

- Observing changes over time
- Grouping and classifying
- Identifying patterns
- Research
- Comparative and Fair testing

Each class should have the '5 types of enquiry' poster displayed on their science working wall.

**TASC wheel**
At Key Stages 1 and 2 pupils will be taught the skills necessary to complete the process of the TASC wheel. The TASC wheel ensures science is taught consistently throughout the school, allowing the children to lead their learning through different investigative processes. Whilst Key Stage 2 have 8 processes within the TASC wheel, Key stage 1 will follow a simplified TASC

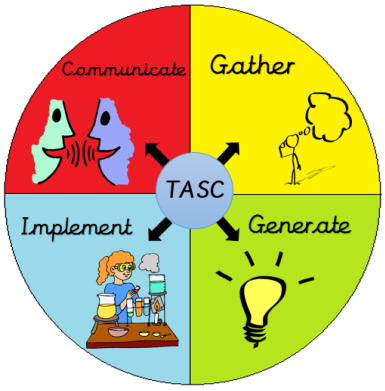
wheel, ensuring that learning focuses on 4 main processes. This also ensures the progression of Science through the year groups, adding more scientific processes as the children move higher up the school.

**Key Stage 2 TASC wheel**


These processes involve:

1. **Gather-** What the children already know, assessing prior knowledge to build upon.
2. **Identify-** What is the task? Individual enquiry questions and strands of learning.
3. **Generating** – e.g. asking of questions and making predictions.
4. **Deciding**- What is the best way to approach the task? Sharing ideas and collaborating to decide whose ideas will best explore the enquiry question.
5. **Implementing-** e.g. carrying out experiments, fair testing, researching a topic.
6. **Evaluating** – e.g. making comparisons to identify any simple patterns, comparing what happened with what they expected would happen and reviewing their work and explaining what they did to others.
7. **Communicating** – e.g. recording systematic observations and measurements. The children will check their results, repeating processes where necessary and communicate their findings in a variety of ways including I.C.T. appropriate to the task.
8. **Learning from experience**- reviewing the learning at the end of a topic, discussing and reviewing the scientific "journey".

**Key Stage 1 TASC wheel**




The 4 Key Stage 1 processes involve:

1. **Gather**- What the children already know, assessing prior knowledge to build upon.
2. **Generating** – e.g. asking of questions and making predictions..
3. **Implementing-** e.g. carrying out experiments, fair testing, researching a topic, identify any simple patterns, comparing what happened with what they expected would happen and reviewing their work and explaining what they did to others.

4. **Communicating** – e.g. recording systematic observations and measurements. The children will check their results, repeating processes where necessary and communicate their findings in a variety of ways including I.C.T. appropriate to the task.

Mark stickers are colour coded within books to indicate which process within the TASC wheel is being worked on within each lesson.

**Health and Safety**
Pupils will be taught the need for working safely both in and outside of the classroom. They will be taught to assess the hazards and risks connected to activities they undertake and to take the necessary action to reduce risk to themselves and others.
It is the responsibility of the class teacher to ensure that all reasonable steps have been taken to minimise risk to themselves, other staff and pupils.

**Learning Across the Curriculum**
The teaching of Science should be specific to the learning intention/objective as identified by the class teacher. Links should be made where appropriate to other areas of the curriculum so that the children are able to apply their skills to a range of contexts e.g. opportunities for non-fiction writing, development of research skills, data handling and the presentation of results using I.C.T. Aspects of P.S.H.E. & Citizenship can be accessed through the Science curriculum e.g. the understanding that household products including medicines can be harmful if not used properly or that living things have needs and the responsibility we have towards them.

**Science week**
Each year, there will be a week where the entire school takes on a scientific topic to explore. Learning during the themed week is practical, incorporating other curriculum areas such as PE/maths. The week will also enhance literacy work through reading, researching and writing based on the topic.

**Teaching and Learning**
Through a planned, differentiated curriculum the class teacher will teach Science with an emphasis on practical investigation. The class teacher will employ a range of strategies to meet the set learning objective/intention, which may include individual, group, or class work, planned and guided experimental work or take a more supportive role during open investigational work.

**Planning**
The pupils in Key Stages 1 and 2 follow the programmes of study from the New National Curriculum. These are organised into a two-year rolling programme in KS1, and specific year groups in KS2 and build upon previous experiences.

**Early Years Foundation Stage**
Children in the Foundation Stage develop their scientific understanding through carefully planned activities and experiences as described within the Foundation Stage Curriculum. The children are encouraged to ask and answer questions about what they experience in order to clarify and further develop their understanding.

**SEN**
All pupils have access to the Science curriculum. Through carefully planned activities and differentiation all pupils are able to develop their scientific knowledge, skills and understanding. Higher ability children are given appropriate challenge through extension activities to take their learning forward.

**Resources**
Books and reference materials are stored in a shared cupboard in topic boxes and labelled trays. Access to the Internet to research information allows children to take their learning forward with up to date information presented in a variety of ways. Teachers are encouraged to use the Discovery and the Wow rooms.

If any resources are found to be faulty/broken or are in need of replacement, class teachers must inform the Subject Leaders. The outdoor environment as well as out of school educational centres are used to further children's learning. These visits are planned to ensure maximum benefit and take place with the support and guidance of the Educational Visits Co-ordinator.

**Assessment**
Effective assessment is used to inform future planning, teaching and learning. Assessment can include observations of children working, questioning of children, listening to group discussions and assessing the outcome of a piece of work. Children are also assessed through the TASC wheel processes where verbal and written feedback is given. These summative assessments will be used to complete end of year reports and transfer information between classes and schools.

**Monitoring and Evaluation**
Monitoring the effectiveness of the Science curriculum will be achieved through a work scrutiny, lesson observations, teacher assessments and discussions with pupils. Issues arising from the monitoring and evaluation process will be used to inform future needs in the S.I.P. for Science.

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