



## Science: Teaching and Learning

*The following document outlines Aylesford Primary School's approach to teaching science*

A high-quality Science education provides foundations for understanding the world. Through building key knowledge and understanding of concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of curiosity about natural phenomena.

### **Aims:**

- For staff to work cooperatively to deliver a broad and balanced Science education which incorporates a range of teaching styles to suit individual needs. For children to have the right to equal opportunities in Science in our school regardless of their background, religion, race, gender, physical or intellectual ability
- For children to become curious about the world around them and the things that they observe, experience and explore.
- For children to use their experiences to develop understanding of the key scientific ideas.
- For children to develop skills of sorting, classifying, planning, predicting, questioning and drawing conclusions from data.
- For children to acquire and refine practical skills necessary to investigate ideas and questions safely.
- For children to practice mathematical skills and enhance literacy skills (where possible) within real contexts.
- For children to develop language skills through talking about their work and presenting their findings.
- For children to use progressively technical scientific and mathematical vocabulary and draw diagrams and charts to communicate scientific ideas.
- For children to use a range of media including ICT to extract scientific information.
- For children to work cooperatively with others, listening to their ideas and treating these with respect.
- For children to develop respect for the environment and living things, including themselves and each other.
- For children to develop responsibility for their own health and safety and that of others when undertaking scientific activities.

### **Teaching and Learning:**

There are a variety of ways in which the teaching may be effective and our school aims to encourage learning through investigation, with an emphasis on first-hand experience. Science lessons have no imposed formal structure but should typically contain some of the following elements:



**Discussion:** what they already know from experience, what they have learnt so far, what they will be finding out next. Where necessary, mind mapping and question boards are appropriate methods for recording these discussions if desired.

**Teaching:** directly to the whole class or through group or individual work. Practical tasks or investigative work: working within groups or individually, practicing scientific skills, finding out answers, being encouraged to think scientifically. Where groups are required, the teacher should consider which type of grouping will best suit the needs of the children.

**Recording:** writing about what they have found out, drawing charts and tables and diagrams, using the computer and other media to record what they have done or found out about.

**Communication:** sharing ideas, predictions, knowledge, and what they have found out with each other, the teacher, other classes and adults as appropriate.

#### **Assessment:**

It is the responsibility of the class teacher to maintain an overview of each child's progress in Science.

**Formative assessment:** Assessment in Science can take both formal and informal forms. Informal assessment can be done through observations of the children, marking their work and questioning children to identify what they have understood. Recordings of significant progress or events can also be evidenced in the lesson evaluation. Other recordings may be made into a separate mark book/observations book if desired.

#### **Summative assessment:**

Formal assessment is currently being reviewed as the school is implementing a new system.

#### **Role of Science coordinator:**

- To be enthusiastic about Science and demonstrate good practices.
- To work alongside colleagues in planning where needed (progress and activities).
- To work alongside teachers in the classroom (this will depend on release time and other available help).
- To coordinate and arrange staff in-service training as required.
- To audit resources, identify needs and order equipment in school after consultation with colleagues.
- To "sample" the work of children across the age range (curriculum monitoring).



- To review and evaluate the effectiveness of teaching and learning of Science.
- To provide guidance on the implementation of the Science policy.
- To suggest appropriate assessment activities where needed.
- To provide support to those colleagues who request/require it, including help with planning and organization. To monitor the planning and delivery of lessons.

**Role of SLT:**

- To use the available data to track, monitor and evaluate students
- To ensure that appropriate support and intervention is available for students who come in below age related expectations.