

WINGROVE PRIMARY SCHOOL



Policy Statement for Science

Subject leader: Sara Blashford

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Rationale

The study of science is an essential part of the school curriculum, enabling children to develop an understanding of science to acquire scientific skills and foster positive attitudes towards science. We recognise the importance of developing children's scientific knowledge and skills through first hand practical activity (experiments) which are enjoyable and meaningful. Science must start from the views which children hold and give them opportunities to change their views and ultimately their understanding. Through the teaching of science children should develop skills to explore and understand the world in which they live.

Aims

- To develop scientific knowledge.
- To develop the scientific skills of investigating, observing, measuring, communicating, prediction, recording and interpreting.
- To encourage collaboration, co-operation and the sharing of ideas.
- To provide children with the opportunities to communicate their ideas and work.
- To extend the children's natural curiosity and wonder about the world.
- To encourage the development of positive attitudes to science.
- To develop the use of scientific language, recording and techniques.

We are continually aiming to raise the standards of achievement of all pupils in Wingrove School.

The National Curriculum

The National Curriculum describes what must be taught in Key Stages One and Two. Each teacher at Wingrove School follows this detailed guidance thus ensuring continuity and progression in the teaching and learning of science.

In the Foundation Stage (Nursery and Reception) the curriculum is guided by the Early Learning Goals which lead directly into the National Curriculum.

Planning

Planning is undertaken at three levels:

Long term planning is based on the yearly teaching programmes set out in the National Curriculum.

Short term planning is carried out weekly in year group teams. These plans are incorporated into our school creative curriculum planning sheets and include the learning objective, the activities chosen as the vehicle for achieving the objectives, differentiation, special resources and any key vocabulary or questions. Each lesson ends with a focussed plenary.

Planning is monitored by subject leader and the Headteacher.

Cross Curricular Links

In order to create a cohesive and meaningful learning programme for our children, we try to identify links during the planning stage and give children the opportunity to use their subject knowledge and skills in real contexts.

Teaching Methods and Approaches

Lessons follow a logical format with an introduction, direct teaching, main activity and plenary. It is made clear to the children at the start of the lesson exactly what it is they will learn as the objectives are shared with them.

The teaching at Wingrove provides opportunities for:

- Group work
- Paired work, including mixed ability and similar ability pairs
- Whole class teaching
- Individual work

The pupils engage in:

- The development of mental skill and strategy
- Written recording
- Practical work
- Investigational work
- Problem solving
- Scientific focussed discussion
- Consolidation of basic skills and routines

At Wingrove School we recognise the importance of establishing a secure foundation in science and of teaching and using vocabulary appropriate to the task. We endeavour to set work that is challenging, motivating and which encourages the pupils to talk about what they have been doing.

Each child from Year 1 to Year 6 has a Science book where all work is recorded across each subject area. New scientific vocabulary is recorded in the back of the child's book, including the definition for the older children. This can be added to during each lesson or when new vocabulary is taught, it can be used to remind children of the terminology used in each lesson.

Organisation

Science in the nursery and reception classes (Knowledge and Understanding) is planned and delivered as a cross-curricular topic in line with the early learning goals.

In KS1 and KS2, science is mainly planned and taught in accordance with the new national curriculum, making links to topic themes where appropriate. Assertive mentoring plays a key role in the organisation of science teaching. Part of each national curriculum unit is taught on a termly basis, progressing each term. This ensures our children have a secure understanding of each unit by the end of each academic year.

We recognise that differentiation involves adjusting teaching to meet the learning needs of individual children. Differentiation should be taken into account when planning work, it is not possible to match every task to the ability of every child but there are certain strategies that can be adopted to ensure that most children are working at the right level.

Differentiation Techniques

- Differentiation by outcome
- Differentiation by task.
- Differentiation by teacher input.

Strategies to assist differentiation

- Groupings by ability, setting targets at different levels.
- Graded tasks on familiar term.
- Open ended investigations.
- Mixed ability group, children supporting each other.
- Different methods of recording.
- Adapting mathematical demands on investigations.
- Incorporating extension activities into planning.
- More able working independently so teacher supports a particular group of children.

Display

We recognise the important role display has in informing, stimulating, motivating and celebrating the work of our pupils. Displays have an important role in helping to introduce new concepts or consolidate previously visited ones. They should include scientific vocabulary for each unit, be informative and interactive.

Assessment and Record Keeping

At Wingrove we are continually assessing our pupils and recording their progress. Assessment outcomes are used to inform the next cycle of planning thus ensuring a match of work to the needs of the pupils and ensuring progress. Assessments are carried out on three levels:

Short term assessments are an informal part of every lesson. Teachers assess understanding through observation, talking with children, questioning and marking work. The learning objectives for each lesson will be made clear to pupils and revisited in the plenary.

Medium Term assessments are carried out at the end of each term. After completing a block of work, the children are then assessed using an assertive mentoring stage test. These results are then analysed using a AM spreadsheet. The child's attainment will be passed on to his/her next class.

Assessment outcomes are analysed by subject leaders and provide the focus for development within the subject for the coming year. At Wingrove we are continually assessing our pupils and recording their progress in each child's individual skills passport detailing their skills, at the end of each unit. (See Skills Passport)

Reporting

At the end of KS1 and KS2 each pupil's level of attainment and effort is recorded on their annual report. EYFS includes a summary of their child's progress in science over the year. A copy of the child's annual report is given to the parent.

Resources

Resources for each unit are stored in phase areas in labelled unit boxes. Science information books are located in a section of the library. Materials are regularly reviewed for condition and relevance and then up-dated as appropriate. The subject leader orders materials and resources within the budget allocation as determined by the development plan and after consultation with colleagues.

Equal Opportunities

As a staff we endeavour to maintain an awareness of, and to provide for, equal opportunities for all pupils in science. We aim to take into account cultural background, gender and any special need, both in our teaching attitudes and in the published materials we use with our pupils.

Children with Specific Needs (English as an Additional Language or Special Educational Needs)

Wherever possible we aim to fully include all pupils with in all lessons so that they benefit from listening and participating with others in demonstration, discussion and explanation. Where necessary, teachers will, in consultation with the specialist Inclusion Manager, draw up an individual plan for the child. Where appropriate, children may work on an individualised programme with support or specialist staff. Children may also receive targeted support within the classroom.

Specific planning to meet the needs of such children is identified in the teachers' short term planning. This may take the form of simplified or modified tasks or the use of support staff.

More Able Pupils

Children, in nearly all cases will be taught within the appropriate peer group. They are extended through differentiated work using objectives from the next year. In extreme cases children may be taught in another year group. Children in Y6 can extend to work from the Y7 objectives.

Homework

Science does not form a specific part of the school's homework policy, however teachers may wish to encourage children to further their own research, to develop ideas begun in the lesson or to bring contributions to another lesson.

Science Week

Each year, Wingrove takes part in National Science Week (STEAM) during the month of March. The subject leader applies for many grants and funding before the event and then plans the week for the whole school. The week includes specialist visitors coming into school to deliver talks or workshops for the children. The week is always a success and the children have lots of fun and enjoyment. The aim is to raise the profile of science for all children, giving them access to extra investigations and experiments across the course of the week.