



Policy for Science at Fallings Park



Whole School Vision

Fallings Park's curriculum is designed to enable all pupils to work towards our mission statement: *Learn Today For Tomorrow's Success*. As we want our children to thrive and contribute to both the school and local communities, our curriculum provides memorable, knowledge-rich learning experiences in every stage of school life, within and outside the classroom.

The primary focus of our curriculum is to provide a purpose and relevance to learning, whilst making connections between all subject areas. Our school intends to empower students to embrace every learning opportunity, achieve their personal best and build their social, emotional, mental and physical well-being through a wide variety of experiences. This will provide our children with the foundations to become curious and creative thinkers; respectful and reflective individuals and be self-motivated learners.

Intent

Our intention when planning and delivering the science curriculum is to foster and develop our pupils' curiosity in the subject, whilst equipping pupils with knowledge, skills and understanding they need to become competent scientists. Throughout the programmes of study, the children acquire and develop the key knowledge that has been identified within each unit that links to the three areas of science: biology, chemistry and physics. Teachers will activate prior knowledge in science and make links to other curriculum areas to provide opportunities for children to make connections and remember more. They will develop deeper knowledge of key skills and master their learning through stimulating and challenging wider experiences. We aim to increase children's aspirations in science and make connections to their own lives by providing children with examples of a range of diverse scientists and careers in science. We will ensure that the Working Scientifically skills are built-on and developed so that they can apply their knowledge of science when using equipment, building arguments and explaining concepts confidently using scientific vocabulary. We encourage children to ask questions and to be curious about the world around them.

We aim to:

- develop children's ability to learn to question and discuss scientific issues that may affect their own lives
- develop children's understanding of the effects of their actions on the environment
- develop pupils' enjoyment and interest in science
- develop an appreciation of its contribution to all aspects of everyday life
- build on pupils' curiosity in, and sense of awe at, the natural world
- use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science

- introduce pupils to the language and vocabulary of science
- develop pupils' basic practical skills and their ability to make accurate and appropriate measurements
- develop pupils' use of computing in their science studies.
- extend the learning environment for our pupils by using areas in school and the locality
- promote a 'healthy lifestyle' in our pupils.

Implementation

Subject Leadership

S. Darlington and R. Smith take the lead in policy development of Science, using enthusiasts and specialists where appropriate. This activity is supported by the Curriculum Team.

Senior Leaders, Year Leaders and subject enthusiasts support colleagues in the teaching of Science. They monitor coverage, differentiation and ensure the teaching of Science is taking place. They keep up to date with developments in Science and disseminate information to colleagues as appropriate. Year Leaders track progress using TCAs in Science and advise Senior Leaders on action needed.

Organisation

- Children will spend one hour and 30 minutes per week in both KS1 and KS2 studying Science
- Science in the Early Years Foundation Stage is planned using the Early Years Curriculum: 'Understanding of the World'.
- Additional elements of Science may be taught during our Cornerstones topics.
- Science will link to other subjects, such as: Maths, English, History, Geography, PSHE; this will ensure Science is seen in more real life situations.

Planning

- The Science Curriculum is based upon the National Curriculum 2014 and on occasion Cornerstones;
- At Fallings Park Primary School, to deliver the National Curriculum, staff promotes a broad and balanced science education which enables progression and continuity between year groups.
- We aim to teach science in ways that are imaginative, purposeful, well managed and enjoyable.

Within the structure:

- a) Groups are either mixed ability with differentiation by role or ability grouped with differentiation by objective, task or outcome;
- b) Relevant discussion is encouraged;
- c) Vocabulary is explicitly shared with children and on their success criteria;
- d) Groups are encouraged to present their findings in a variety of ways.

Pupils are taught in a class setting with differentiation provided by teachers, additional teaching assistants or mixed ability pairings. Differentiation can be catered for in a range of ways, such as:

- Setting common tasks that are open-ended and can have a variety of answers
- Setting tasks of increasing difficulty, where not all children can complete all tasks

- Grouping children by ability and setting different tasks for each group
 - Providing a range of challenges through the provision of a variety of resources, individual, paired and group work
 - Consulting with pupils about their needs and interests
- Homework is not formally for Science, however links should be made where appropriate to Curriculum subjects in Maths and English homework.
 - Excellence in Science is celebrated through:
 - a) Display, e.g. in classrooms, corridors and good work boards;
 - b) Presentation of certificates, e.g. awards assembly.
 - c) Children's workbooks.

Science Coverage

- At Fallings Park Primary School, teachers are responsible for adapting, personalising and resourcing the medium term plans that are provided.
- All teachers plan sequences of learning in Science so that they build on prior learning.
- Children of all abilities have the opportunity to develop their skills and knowledge in each unit and through planned progression, we offer increased challenge as they move up through school.
- Teachers will give clear and accurate explanations and offer skilful questioning, whilst making links between science and other subjects.
- Topics have been chosen and carefully placed in the long term plan to enable children to make links between others areas of study across the curriculum (see appendix – Whole school Curriculum Plan 2015-2016);

Science Resources

- Science are stored centrally in the Science and DT resource room.
- Appropriate resources are removed and placed in classrooms when required by a particular scheme of work. Following use, they are then replaced centrally in the resources room.
- A Science working wall displaying work, questions and vocabulary are in every classroom.
- Year Leaders and teachers are responsible for ordering resources that are specific to their topic that are unable to be stored.

Impact

Assessment, Recording and Reporting

Children will be assessed against the Milestones (these Milestones have been written in partnership with the Wolverhampton Science Working Party and L. Mutta). The Milestones are split into Working Towards, Working At and Greater Depth. The success criteria are written using the Milestones, and are used by children and the teacher to assess progress at the end of each lesson.

Progression

Whenever a milestone has been achieved by a child, this will be double ticked so child is aware of their own progress and next steps.

Reporting in Science to parents (this is done on a termly basis through Parents' Evenings and annually through a written report) will focus upon each child's:

- a) Attitudes to Science;
- b) Progress in attaining targets and will highlight the ability to investigate independently;
- c) Knowledge and understanding of each unit. This will be tested at the end of each unit;
- d) Milestone assessments are carried out termly on all children and are passed up year upon year.

Termly Curriculum Assessment and Milestones

Teachers will plan a series of progressive lessons using the Milestones ensuring differentiation of skills has been implemented (INSET staff Training Sept 2019 supported this). By the end of each year group, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant Age Related Expectations. Using these milestones differentiation according to the child's ability will allow children a secure understanding of the subject.

Assessment is input into Termly Curriculum Assessment spreadsheet (found on the Shared area) in order for teachers to plan for progression and monitor progress. These TCAs are passed to the next teaching team in order to ensure knowledge skills are built upon and not repeated.

Subject Leaders will use this data to track and monitor their subject over time and identify any issues that they need to action and will then review the impact this has had. This will ensure there is consistency across the school in the assessment of all Curriculum Subjects.

Equal Opportunities

The teaching of Science closely follows the school's equal opportunity policy. Teachers are advised to carry out lessons that give all pupils access to a range of different learning styles. Written learning resources are carefully chosen so as to include all pupils. All pupils are encouraged to take part fully, in all Science lessons across the school.