Science at Sandfield Close - our Science Policy

Aims:

We live in an increasingly scientific and technological age where children need to acquire the knowledge, skills and attitudes to prepare them for life. We, at Sandfield Close Primary School, believe that the teaching of science develops in children an interest and curiosity about the world in which they live, and fosters in them a respect for the environment.

Through the framework of the National Curriculum, science aims to:

- *Develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics*
- *Develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them*
- *Equip children with the scientific knowledge required to understand **the uses and implications** of science, today and for the future.*

At Sandfiled Close we also aim to:

- *Develop through, practical work, the skills of observation, prediction, investigation, interpretation, communication, questioning and hypothesizing, and increased use of precise measurement skills and IT.*
- *Enable children to develop their skills of co-operation through working with others, and to encourage where possible, ways for children to explore science in forms which are relevant and meaningful to them.*
- *Encourage children to treat the living and non-living environment with respect and sensitivity.*
- *To enable children to appreciate that we do not always know the answers and results when carrying out scientific enquiry.*

Equal Opportunities and Inclusion:

At Sandfield Close Primary School we are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture or class. We aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through questioning. By being given enhancing and enriching activities, more able children will be able to progress to a higher level skills and knowledge appropriate to their abilities.

Inventory:

The inventory is up dated every term and an up to date list is kept on the Science Noticeboard in the Staffroom. This includes resources, ict programmes and a separate list of guided reading books. The equipment is kept in the mobile near the Key Stage 2 playground.

Health and Safety:

All staff are responsible of assessing and controlling risk in scientific activities. This should form a part of teachers' planning. All staff should make themselves aware of the following; -

- *ASE's' "**Be Safe**" safety booklet. (located on the Science board in the Staffroom) Appropriate reminders will be given to children about potential hazards and care of the equipment they are using.*
- *All schools in Leicester City are subscribed to CLEAPPS, their website offers further advice.*
- *With regards to 'burning' the headteacher and Premises Officer need to be consulted prior to the experiment.*
- *Any trips should have been planned with due regard to the school policy on taking children on outings.*

Marking and Recording:

In Science, as with other subjects, the teacher's questions and the pupil's responses allow the teacher to assess where the children are and what misconceptions they have. The lesson then needs to build upon this.

Some lessons can begin with a learning objective and success criteria but sometimes, in Science, you may want to use this as your plenary.

Please use AfL techniques that you already use in literacy and numeracy, eg traffic lights, thumbs up, give me 5 etc

Please try and use other assessment techniques that are useful for science, as a starter or as part of a plenary .

- *Explorify*
- *Odd One Out*
- *PMI – Positive, Minus and Interesting*
- *Before, before, after, after*
- *What if . . .?*

Open questions (Question mountain, higher order thinking (HOT) questions).

Assessment and Record Keeping:

Assessment for learning is continuous throughout the planning, teaching and learning cycle. Children are assessed using a variety of methods:-

- *Observing children at work, individually, in pairs, in a group, and in classes.*
- *Questioning, talking and listening to children*
- *Considering work/ materials / investigations produced by children together with discussion about this with them.*
- *End of unit assessment tests or other assessments (writing a song/ poem, creating a concept map).*

Most science lessons should include investigation/experimentation/ enquiry/practical work. Written/recorded work should be approximately 10 minutes in an hour lesson but will depend upon the nature of the lesson.

Children's work should include;

- *Self assessment – looking at the success criteria*
- *Peer assessment – again with the success criteria – 2 good things and 1 improvement (2 stars and a wish)*
- *Verbal feedback from the teacher.*
- *A teacher's written comment should be on approximately every 3rd piece of written work. For example 1 lesson of 2 hours per week means that work should have a written comment about every 3 weeks. (At least twice a half term).*

Science Currciulum:

We at Sandfield are using a combination of the National curriculum Programmes of Study, and teacher's own planning. It is understood that 'Working Scientifically' will be taught within the programmes of study. Those in ***bold*** *are non-statutory.*

<table>
<tr><td>Foundation Stage 2</td><td>Understanding the World</td><td>Light and Dark

Growing Plants</td><td>Ourselves

Sorting materials</td></tr>
<tr><td rowspan="3">Year 1</td><td colspan="3"></td></tr>
<tr><td colspan="3">Seasonal change</td></tr>
<tr><td>Animals, including humans</td><td>Everyday materials

Pushes and pulls</td><td>Plants

Sound</td></tr>
<tr><td>Year 2</td><td>Safety with Electricity

Uses of everyday materials</td><td>Living things and their habitats

Animals, including humans</td><td>Plants

Forces and movement</td></tr>
<tr><td>Year 3</td><td>Rocks

Light</td><td>Forces and magnets

Animals, including humans</td><td>Plants</td></tr>
<tr><td>Year 4</td><td>Animals, including humans

Electricity</td><td>States of Matter

Sound</td><td>Living things and their habitats</td></tr>
<tr><td>Year 5</td><td>Living things and their habitats

Forces</td><td>Earth and Space

Animals, including humans Year 6 unit on heart and circulation</td><td>Properties and changes of materials</td></tr>
<tr><td>Year 6</td><td>Electricity

Light</td><td>Living things and their habitats

Evolution and inheritance</td><td>Animals, including humans Year 5 unit on puberty and growing older</td></tr>
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Sandfield's Principles of Science

Sandfield's is going well when children are encouraged to be curious lifelong learners with an interest in the world around them.

Science should…

Promote questions

Be practical

Be outside

Relate to the real world

Be cross curricular

Have misconceptions addressed

Use key vocabulary

Have confident teachers

Have children who enjoy and want to know more.

Agreed by Staff November 2018
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