

# Subject on a Page- Science

## Intent – we aim to...

Teach skills that progress through each phase of KS2

Enable children to confidently question and discover the world around them

Develop our core 5R Values

Provide children with the vocabulary needed to be able to articulate their thoughts, questions and understanding

Give children the tools needed to analyse scientific concepts and explain their findings

Provide children with the skills needed to work scientifically to help them answer questions about the world around them including choosing and using equipment safely and appropriately

Learn from past and present scientist and understand that science learnt in school could lead to a successful career.

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## Implementation – How do we achieve our aims?

### Planning

Science is taught on a weekly basis and our curriculum is designed as a two year rolling programme with children covering each topic once during their time in each phase of KS2. Every KS phase will build upon learning from prior years therefore developing a depth of understanding and progression of knowledge and skills. Where appropriate, science lessons form part of the whole school topic but where this fit is not appropriate, science is taught discreetly. Lessons are carefully planned to ensure they meet the objectives of the National Curriculum with opportunities for working scientifically using each of the five enquiry types.

### Working Scientifically

Working scientifically involves the processes of science, including understanding the sorts of scientific questions; the design of experiments; reasoning and arguing with scientific evidence; presenting data in a range of formats and analysing and interpreting data. Working scientifically at BJA involves:

- Comparative & fair testing
- Observing over time
- Pattern Seeking
- Identifying, classifying & grouping
- Research using secondary sources

### Assessment

Ongoing formative assessment is used constantly in order for teachers to identify next steps and pick up on any scientific misconceptions. Teachers are provided with the progression of learning so that they know what has come before and what comes after. At the end of a unit, children complete an end of unit test which teachers use to assess understanding and this is recorded on EAZMAG. WS skills are assessed on an ongoing basis, also recorded on EAZMAG.

### Vocabulary

The key vocabulary for each unit is progressive throughout each phase of KS2. This vocabulary is displayed on our classroom displays and features on each topic's knowledge organiser. Children are encouraged to use and spell key vocabulary with accuracy.

### Extra Curr Opps

School visits are arranged to support the science and whole school curriculum. These have included Magna, The National Space Centre and a visit from an inflatable planetarium. The Skype A Scientist website is used to make contact with scientists in the world of work and provide experiences for our children to reinforce and deepen learning.

### Values

- Resilience: Investigations give us the opportunity to try out our ideas and make changes when things don't go right the first time.
- Respect: We respect other people's ideas and suggestions.
- Relationships: We work together in a team to carry out investigations.
- Reflection: When writing conclusions about what we have learnt, we reflect on our findings and on our prior scientific knowledge.
- Responsibility: We use equipment and resources responsibly and safely. We take care of our work including spelling and presentation of written work.

### SEND

Our SEND pupils access the science curriculum via their teacher's assessment. Lessons are carefully planned and resourced so our SEND children can access their learning with scaffolding, that engages and challenges them. As our curriculum is progressive and skills are mapped out across the Key Stage phases, teachers can track back to support learners working at a level below their chronological age. Teachers and Teaching Assistants support groups and often remove the barrier of recording work by scribing for individuals and / or groups. Our clear assessment of science allows children to be taught based on their scientific skills rather than their skills in any other subject. Just because a child has a special educational need in reading, for example, this doesn't mean they cannot be greater depth in science.

## Impact – How do we know if we've achieved our aims?

Children's learning shows a progression of skills and knowledge

Lessons are planned creatively to engage learners and encourage children to question

Children can talk about how they demonstrate the 5Rs in their science lessons

Vocabulary is provided on topic knowledge organisers and class displays and referred to

Opportunities for modelling the structure of responses to scientific findings

All 5 enquiry types are planned for. Children are made aware of these.

A wide range of scientists feature on our knowledge organisers, representing different genders and ethnicities. Skype a Scientist sessions planned to provide opportunities to speak to 'Real Life Scientists'

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