



Science



INTENT

At Frogmore Infant School, we aim to provide all our children an inclusive science curriculum which enables them to confidently explore and discover the world around them, in order to develop a deeper understanding of the world in which we live. The exciting, practical, hand on experiences which we give, encourage curiosity and questioning. In addition, promoting the experience of exploring and investigating scientific phenomena, in a range of contexts, ensures a continually evolving knowledge and bank of core skills which equips our children for an ever-changing world as well as the knowledge and understanding needed for their educational journey.

IMPLEMENTATION

Lesson design

Our science curriculum is planned so that during explanations, teachers regularly connect new learning to what children have already learned. We ensure children have a secure knowledge of what has been taught before moving on to more content. We plan to anticipate misconceptions but also check for misconceptions during lessons and address these as they arise. Key scientific vocabulary is sequenced and planned over time.

Progression

Learning is carefully sequenced so that knowledge, skills and understanding build on previous learning. Our progression of skills and knowledge details the substantive and disciplinary knowledge required and ensures links with other subjects e.g. mathematics. Prior learning is referenced at the start of new units and key knowledge is woven over time so that learning can be revisited and links made to prior learning. We ensure new knowledge links with what children already know in science, so they build connected knowledge.

Scientific vocabulary

Research shows that explicitly teaching scientific vocabulary is a useful strategy to help children learn (EEF). It helps children to actively participate in lessons and to communicate their understanding. In addition to science lessons, we use key texts to reinforce vocabulary. To teach new vocabulary we model the new word in context as well as creating a context for new words to be learned.

EYFS

We ensure that our YR curriculum is specific about the knowledge that children learn in YR about the understanding of the world. The knowledge connects with what our children go on to learning in Year 1.

Reasoning and justification

We support children to develop these skills through the explain~ discuss~ re-explain process. We value their oral contributions and do not judge their progress in science around written work.

Curiosity

Science provides an excellent opportunity to tap into children's natural curiosity. We want our children to question, challenge and explore- to think like scientists.

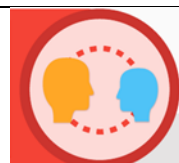
SEND

EEF Primary science

We have used the EEF's guidance to help us develop our approach to the teaching of science

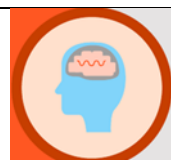
- **Develop children's scientific vocabulary:** we identify science specific vocabulary and explicitly teach new vocabulary and its meaning, creating opportunities for repeated use over time
- **Encourage children to explain their thinking:** we create a collaborative learning environment and value children's verbal responses
- **Guide children to work scientifically:** we explicitly teach the knowledge and skills required to work scientifically
- **Relate new learning to relevant, real word contexts:** we consider real-world contexts
- **Use assessment to support learning and responsive teaching:** we plan teaching that builds on existing knowledge and experiences. We use assessment to inform our teaching and feedback and summarise what children have learned against our planned criteria (learning outcomes)
- **Strengthen science teaching through effective professional development:** we identify development priorities and professional learning needs and provide support for these

EEF 5-a-day approach in science



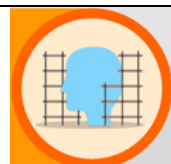
Explicit instruction

Clear and succinct explanations
Dual coding of key science vocabulary and links to known concepts/knowledge
Visual representations
Active learning through practical work



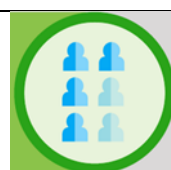
Cognitive and metacognitive strategies

Chunked tasks- break down into small steps
Retrieval tasks and recall of knowledge and vocabulary
Use of class learning journey to visually track learning



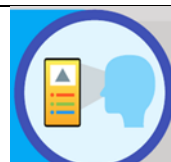
Scaffolding

Use of structured verbal sentence stems
Use of visual and tactile scaffolds
Skills in clear steps for each sequence of learning
Use of verbal scaffolds/teacher modelling to reteach and remind



Flexible grouping

Groupings where children can discuss, share ideas and reflect together



Using technology

Use of digital resources to support learning

IMPACT

The impact of our science curriculum is that children at Frogmore Infants School are equipped with the necessary attitudes, skills and knowledge that will enable them to be ready for the learning required at KS2 and beyond.

We shape our science curriculum to be fully inclusive to every child and ensure that children's ability to show what they have learnt and understood is not limited by their writing skills.

Happy learners, great achievers