



Intent

In line with the 2014 National Curriculum for Science, our aim is to provide a high-quality science education. Throughout the programmes of study, the children will acquire and develop key knowledge that has been identified within each unit and across each year group. The key knowledge identified by each year group is informed by the national curriculum and builds towards identified phase 'end points' in accordance with NC expectations. Key skills are also mapped for each year group and are progressive throughout the school.

The curriculum is designed to ensure that children are able to acquire key scientific knowledge through practical experiences; using equipment, conducting experiments, building arguments and explaining concepts confidently. Golden Valley's approach to science takes account of the school's own context, ensuring access to people with specialist expertise and places of scientific interest. Cross-curricular opportunities are also identified and planned to ensure contextual relevance. Children are encouraged to ask questions and find out answers to big questions for themselves, reflecting on that which they have discovered. The knowledge they acquire is deepened through the use of essential scientific enquiry skills.

We will promote a science capital where the children will leave Golden Valley with a positive approach to learning about science, seeing the significance of science in their own lives and recognising the links between science and other STEM subjects.

Our intent is that...

- Children will develop scientific knowledge and understanding of scientific concepts through a questioning and investigative approach.
- Children will be curious to learn about the world around them, linking scientific concepts to their everyday life.
- Children will recognise that there are different disciplines within science.

Role of the Subject Leader

The Science Subject Leader and Senior Leadership Team (SLT) will assess and address staff training needs as part of the School Development Plan. The Science Subject Leader will attend subject specific network meetings as part of their CPD and will, in turn, cascade this training to teachers through staff meetings. Individual teachers should continually develop their own skills and knowledge, identify their own needs and notify the subject leader to make requests for additional training or support throughout the year. This may include completing 'Reach Out' CPD units.

The subject leader will oversee the ordering of new equipment and replenishing core items. They will also ensure high standards across the science curriculum through effective monitoring, modelling of lessons, pupil interviews and support with planning, as appropriate.



Implementation

Teaching and Learning

At Golden Valley, science is discretely taught using a blocked curriculum approach which can be seen on the whole school science overview. This ensures children are able to develop depth in their knowledge and skills over the duration of each of their science topics. Science skills are further developed in other curriculum areas, for example maths, and teachers make links between science and other curriculum areas wherever possible.

The science subject leader and curriculum lead work together to co-ordinate and support the development of science throughout the school. It remains the responsibility of each teacher to deliver appropriate science activities and to monitor and record pupil progress in science.

Planning and Resources

Planning: The science curriculum is mapped to ensure alignment with the national curriculum content and programmes of study.

Planning is a collaborative process and each class teacher plans with their year group partner. Teachers use the Lighthouse Schools' Partnership science lesson planning which is based on the PLAN knowledge matrices. When planning, the school's own context is also considered and opportunities for learning outside the classroom are maximised to further support the contextual relevance of the science curriculum. Science visits, or workshops in school, also help to make these direct links between the children's science learning and science in the outside world. Teachers aim to nurture children's curiosity through planning science weeks, focused activities on specific scientists or WOW days.

The teaching of science in EYFS is in accordance with the EYFS national framework. Teachers plan activities which will ensure progression occurs as the children move into KS1 and National Curriculum objectives. Children are guided to make sense of their physical world and community through opportunities to explore, observe and find out about people, places, technology and the environment.

Resources

High quality science resources to support the teaching of all units and topics from EYFS to Year Six are used consistently and maintained by the subject leader. These are kept in a central store and are labelled and easily accessible to all staff. As well as these, the EYFS classes have a range of resources for easy access to children during exploration.

Equal Opportunities and Inclusion

Golden Valley Primary School will ensure that all children are provided with equitable learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. We work hard to generate an inclusive environment where pupils and staff show respect for one another. All pupils have equal access to science and all staff members follow the equal opportunities



policy. Resources for children with SEND and children who are working above Age Related Expectations (ARE) are made available to support and challenge appropriately.

All children have the right to access the science curriculum and teachers adapt their teaching and learning tasks and activities to ensure appropriate level of challenge is provided for all pupils. Supporting adults are also deployed effectively to ensure focused support where this is necessary. Teachers use a range of inclusion strategies, including paired work, open questions and direct, differentiated questioning and the activation of prior knowledge and contextual learning.

Additionally, in our approach to all teaching and learning, we use adapted resources wherever possible such as visual timetables, different coloured backgrounds and screen printouts.

Parents and Carers

Parental input is highly valued and parents/carers are regularly invited and welcomed into school to share their own expertise with the children. Members of the wider community with specialist expertise and knowledge are also encouraged to raise the profile of science in our school through on-line interviews, assemblies or workshops.

The support that parents and carers provide in supporting their children at home with science based homework is also recognised and valued.

Impact

Our approach to the science curriculum results in a fun, engaging, and high-quality education that provides children with the foundations and knowledge for understanding the world. Pupils share and evaluate their own work as well as that of their peers. Evidence such as this is used to inform future planning and teachers are able to revisit misconceptions and knowledge gaps in science when revisiting science topics in successive year groups. This supports varied paces of learning and ensures that all pupils make good progress.

Children will leave Golden Valley with a positive approach to learning about science, seeing the significance of science in their own lives and recognising the links between science and other STEM subjects. They will be equipped to pursue a wide range of interests and vocations in STEM subjects in the next stage of their lives.

Teachers carefully track the coverage of each area of study and use forms of assessment to understand the impact of their teaching.

Formative Assessment

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study as set out in the National Curriculum. These are set out as statutory requirements.

We also draw on the non-statutory requirements to extend our children and provide an appropriate level of challenge. Pupils' knowledge of the concepts covered by the programme of study may not



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be immediately apparent in the work they produce. The use of open questioning allows teachers to both assess and develop their grasp of concepts. Children receive effective feedback through teacher assessment, both orally and through written feedback.

In EYFS, we assess the children's Understanding of the World according to the 'Development Matters' statements.

Summative Assessment

Teachers complete termly science assessment sheets specific to the unit taught. The science subject leader monitors assessments across the school, providing advice and support for teachers as appropriate. These assessments are then used to inform future planning and to enable accurate records to be kept. Evidence of children's work may be recorded in their curriculum books, whilst some areas may be evidenced through teacher observation during the lesson.

Version 2

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