



## Intent- we aim to:

Give all children the opportunity to be inquisitive and discover new concepts to better understand the world around them.

Through practical scientific enquiry and exciting resources we want to develop children's scientific knowledge, vocabulary and skills.

We want to equip them with not only the minimum statutory requirements but also important life skills, for example how to work collaboratively with others, which will help them to fully contribute to society.

We hope to inspire our young minds to realize the importance of science in their lives.

We aim for all children to love science and have no limits on their ambitions in the future.



## Implementation- how do we achieve our aims?

### Subject Delivery

We have developed a sequential science curriculum which not only meets the minimum statutory requirements of the national curriculum but also extends to meet the needs of our children, with outside learning, trips, special days and cross-curricular opportunities. The topics are logically sequenced through the year and builds on knowledge and skills so there is a clear progression year on year. KS1 spends at least 1 hour and KS2 1 ½ hours stand-alone science teaching per week. In EYFS knowledge and understanding of the world is one of the main strands that runs continuously throughout their curriculum.

### Curriculum Resources

We use a wide range of resources to create an exciting and engaging curriculum. This includes planning and delivery tools like; STEM, Hamilton trust and Twinkl who have high quality resources. We also have a wide range of physical resources that are audited regularly to make sure they meet the requirements of our curriculum. Teachers are given the essential knowledge, skills and vocabulary for each topic and then given the freedom to use their creativity in how they deliver the lessons.

### Core Concepts

Running through the science curriculum are 3 main areas, which are; Biology, Chemistry and Physics. However inter twinning these areas are 6 key concepts that are integral to the teaching of scientific skills. These are the skills that will help our pupils to become better Scientists and be able to investigate the world around them.

#### Main areas



Biology Chemistry Physics

#### Core concepts



Observations    Classifying and Pattern Seeking    Comparative and fair testing    Questioning    Recording data    Analysing data

## Assessment and Feedback

Science is assessed continually throughout the year. We informally assess the children at the beginning of each topic to gauge their previous knowledge. Then throughout the topic we use questioning and a range of activities to formatively assess.

At the end of each topic the teachers use the unit overviews to assess if the child is working towards, expected or greater depth by checking the statements against the work produced in their books and in class. This is done separately for subject knowledge and working scientifically skills.

Marking is focussed on securing and extending scientific knowledge or skills but also may allude to grammatical or spelling errors.

## Cultural Links

Within our science curriculum and throughout special days, we make sure that we show a diverse range of races and cultures when speaking about different scientists or places. As our school is predominantly white British we want to broaden the children's knowledge of the range of cultures that are within our world and give them the opportunity to experience things they haven't before. We have plaques up around the school that show inspirational people from a range of cultures, which many are scientists. This is to try and inspire children from all cultures and break down any stereotypes surrounding gender, race or culture.

## Enrichment

Classes plan a range of trips and workshops to enrich the science curriculum. This includes science museums, chocolate factories, space centres, forest walks and sound workshops where they make their own musical instruments. We try and use our green local area as often as possible to enhance our plants or animal topics. We are starting a gardening club for those children who show interest in this area. We also have special science days in school to make children aware of inspiring scientists or science related jobs, for example we had a team of Forensic Scientists in and the children had to help solve the mystery using forensic techniques.

## Inclusion

Our Science curriculum aims to give all children the opportunity to be inquisitive and discover new concepts through practical scientific enquiry and exciting resources. Best practice is that all children do the same or similar task, otherwise SEND children may not get the same opportunities as the others. SEND children can really benefit from good Science teaching, as the lessons can be very practical, hands on and can encourage creative and critical thinking. We have quite a few children on our SEND register where Science is one of their stronger subjects and it gives them an opportunity to share their knowledge. We support SEND children with various strategies including Adult support, less resources, longer time, options of how to record and access to scientific vocabulary.

## Enhancement

Using our academically challenging lessons and a robust assessment system, teachers are able to 'deepen' children's understanding of a topic. For children who attain highly in science, activities are matched accordingly to stretch them. For example, we let children take the lead more and more with investigations, coming up with different methods to answer questions and deciding how to record their results. This develops their skills in fair testing and analysing data to answer a question.