

# Science Curriculum Rationale

At Our Lady of the Assumption we are scientists! We want our children to love science. We want them to have no limits to what their ambitions are and grow up wanting to be astronauts, forensic scientists, toxicologists or microbiologists. We want them to embody our core values. We all believe that: “if you can DREAM it, you can do it”. The science curriculum has been carefully crafted so that our children develop their scientific capital. We want our children to remember their science lessons in our school, to cherish these memories and embrace the scientific opportunities they are presented with! **For the last year we have enjoyed science workshops for pupils and parents in Reception and Year 1. Families have worked together on a variety of exciting science investigations. What memorable learning experiences they have been!**

## Curriculum Intent

The science curriculum promotes curiosity and a love and thirst for learning. It is ambitious and empowers our children to become independent and resilient – like all curriculum areas.

We want to equip them with not only the minimum statutory requirements of the science National Curriculum but to prepare them for the opportunities, responsibilities and experiences of later life.

We want our children to use the vibrancy of our great city to learn from other cultures, respect diversity, co-operate with one another and appreciate what they have. We achieve this by providing a strong SMSC curriculum, with British Values and our core values placed at the heart of everything we do. This often feeds into the science curriculum.

We enrich their time in our school with memorable, unforgettable experiences and provide opportunities which are normally out of reach – this piques their interests and passions. We firmly believe that it is not just about what happens in the classroom, it is about the added value we offer to really inspire our children.

## Curriculum Implementation

In 2019, an audit of the science curriculum was conducted. On the back of the findings from this audit, the science curriculum has been carefully built and the learning opportunities and assessment milestones for each year group crafted to ensure progression and repetition in terms of embedding key learning, knowledge and skills.

Science subject specific characteristics, which we expect the children to demonstrate, have been developed and shared with all stakeholders. These characteristics underpin all work in science and form a focal point for display areas and provide a common subject specific vocabulary for staff and pupils. These characteristics are:

- **The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.**
- **Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.**

- **Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.**
- **High levels of originality, imagination or innovation in the application of skills.**
- **The ability to undertake practical work in a variety of contexts, including fieldwork.**
- **A passion for science and its application in past, present and future technologies.**

We empower our staff to organise their own year group curriculums under the guidance of our subject leaders. Teachers are best placed to make these judgements. Staff develop year group specific long-term curriculum maps which identify when the different subjects and topics will be taught across the academic year. The vast majority of subjects are taught discretely but staff make meaningful links across subjects. They link prior knowledge to new learning to deepen children's learning. Our short-term plans are produced on a weekly and daily basis. We use these to set out the learning objectives for each lesson, identifying engaging activities and resources which will be used to achieve them.

We encourage staff to teach a weekly science lesson. This helps to ensure sufficient time is allocated to science and that scientific subject matter can be revisited frequently. We believe that by crafting our curriculum this way, we improve the potential for our children to retain what they have been taught, to alter their long-term memory and thus improve the rates of progress they make.

Children throughout the school enjoyed partaking in our Journey themed Science week, during which they worked Scientifically to carry out a variety of practical investigations. Reception and Year 1 children participated in Science workshops during which they were encouraged to try out new experiences with their parents and carers.

## **Curriculum Impact**

We use both formative and summative assessment information in every science lesson. Staff use this information to inform their short-term planning. This helps us provide the best possible support for all of our pupils, including the more able. The assessment milestones for each phase have been carefully mapped out and further broken down for each year group. This means that skills in science are progressive and build year on year.

Our staff use science formative assessment grids to systematically assess what the children know as the topic progresses and inform their future planning. These formative assessment grids then inform summative assessment judgements for each topic.

Assessment information is collected frequently and analysed as part of our monitoring cycle. This process provides an accurate and comprehensive understanding of the quality of education in science. A comprehensive monitoring cycle is developed at the beginning of each academic year. This identifies when monitoring is undertaken. Monitoring in science includes: book scrutinies, lesson observations and/or learning walks, Our Lady of the Assumption pupil/parent and/or staff voice.

All of this information is gathered and reviewed. It is used to inform further curriculum developments and provision is adapted accordingly.

**At Our Lady of the Assumption Primary School, we are SCIENTISTS!**