

Clockhouse Primary School

The Clockhouse Curriculum



Our Science Curriculum Rationale

What do we want for our children and how will we work together to achieve this?

The science curriculum at Clockhouse Primary School aims to inspire awe and wonder in all of the children and stakeholders. It takes the children on a fascinating journey to learn about the world and the wonders that it holds. It provides the opportunity to learn through discovery, observation, exploration, and asking questions about living things, materials and scientific phenomena which in turn builds a deeper understanding of how we can impact the world around us. The children at Clockhouse are encouraged to build their knowledge by solving problems, applying skills that are facilitated by the staff, and using their own lines of enquiry.

At our school, science learning, in addition to its practical applications, is held up as a valuable pursuit in its own right. We experience the joy of scientific discovery and nurture natural curiosity about the world around us. In doing this, we develop critical and creative thinking skills and challenge our children to identify questions and draw evidence-based conclusions using scientific methods.

We encourage the children to learn about topical developments, identify areas of science which they enjoy and think about how science impacts everything they do. Whilst following the national curriculum, we have produced a bespoke science curriculum that encompasses all that Clockhouse Primary School stands for. We challenge the children's thinking about the world, are there more ways to solve a problem, for example. This gives the children the opportunity to think 'outside of the box' and develop their scientific creativity. We understand that many children who enter Clockhouse Primary School have little or no experience of science, our aim as a school is to totally change that. To provide the children with memorable learning experiences that will ignite a passion for the sciences that they will then cultivate throughout their school life. We help to develop the children's scientific skills including measuring and observing, develop key learning skills e.g. resourcefulness, resilience, reflection and help us discover what they are capable of. In reviewing and evaluating our own and others' scientific evidence and data, we learn to identify limitations and improvements in our investigations. The collaborative approach in classrooms increases motivation amongst all children and provides opportunities for working in groups, where a variety of strengths can be drawn upon.

By the time the children leave the Clockhouse Primary School community we hope that they have a thirst to develop their scientific capital even further through secondary learning and beyond. We provide them with a tool kit which will serve them well in their scientific learning for the future, including a variety of transferable skills. This ultimately sets the children up to succeed along any pathway they choose.

What are we trying to achieve through the Clockhouse Science Curriculum? (*Intent*)

At Clockhouse Primary School all we do is underpinned by our values. These values support our 'Key Curriculum Drivers'. Our drivers are used to ensure all stakeholders know what we want for our children – our intent:

- **Challenge** – Children are challenged to consider their own thinking at Clockhouse. They are given opportunities to push the limits of their scientific knowledge to produce valid theories. Through practical activities they are encouraged to problem solve with limited teacher input. This promotes the importance of being able to face an issue and consider all of the factors to solve it. This is a transferable skill which can be used in many areas of the wider world.
- **Global Citizenship**- In science we promote the importance of global citizenship by considering our impact on the world around us, researching and reviewing the work of influential scientists in themed weeks. We introduce the children to global issues such as global warming, the use of plastics and the effect of pollution and deforestation on habitats around the world. This helps to produce an awareness of the fragility of our world, and how we can impact this.
- **Creativity** – At Clockhouse we place an emphasis on the children's independent science thinking. Often providing a problem to solve, the equipment with which to do it, and then allow the children to creatively

and collaboratively solve the problem. This allows the children to develop a sense of worth in their ideas and also spark their passion for science through their own concepts.

- **Aspiration** – The science learning curriculum at Clockhouse has no prejudices. It is accessible by all children and demonstrates to all of the children that anyone can be a scientist. This motivates our children to develop their own curiosity. They are encouraged to try out their ideas, test their theories and reflect on their successes.
- **Well-being** – Children are exposed to a variety of areas of science which question and extend the children's moral and emotional understanding of the world and how we affect it. Through discussions surrounding the environment and human impact the children are encouraged to consider their own thoughts and feelings about topical issues facing the scientific world. We aim to develop the children's sense of self and promote the love of the earth and how to protect it.
- **Cultural Capital** – By raising the children's science capital, we are developing their cultural capital as well. Through the study of a variety of sciences and scientists the children acquire a wide understanding of the possibilities that are available to them. The children are provided with access to many scientific experiences that they would not normally get, through talks from visitors, practical activities and school visits.

How is the Clockhouse Science Curriculum delivered? (*Implementation*)

- The science curriculum was developed by the science leader, in line with the national curriculum requirements. In addition, it deepens the children's independence through student led learning aspects.
- All teachers and year group leaders are responsible for the medium-term planning which is cross-referenced with assessment documents and the long-term planning to ensure a broad coverage. Weekly planning links to progression, age and phase.
- Lessons are scaffolded to meet the needs of all learners, ensuring that there is challenge for all.
- The subject leader carries out regular monitoring to ensure national curriculum expectations are met, but also that a development of the children's passion for science through memorable learning is also evident.
- Where possible, the science curriculum links to the thematic approach, and is underpinned by the school's golden threads weaved throughout the program of study.
- Prior knowledge is drawn upon to help cement the foundations for the future learning.
- The science leader promotes the love of science through a science extra-curricular club, the annual science week.
- Links are made with our community to help children build an understanding of how science works in the real world, and how the actions of humans affect the scientific world both positively and negatively.
- A well-stocked science cupboard, along with the knowledge and skills of the qualified science lead ensures teaching staff have the confidence and equipment to carry out practical activities which promote awe and wonder in the children.
- Teachers are encouraged to work with the science lead to help develop their planning to produce memorable science learning.
- The science capital at our school is enriched with an annual science week. This popular week motivates the children to discover a wide range of ideas, meet with visitors from different areas of the scientific community and work collaboratively with other children helping to develop their understanding in a multitude of ways

What difference is the Clockhouse Science Curriculum making? (*Impact*)

- From their different starting points, all children will make at least good progress and achieve their potential academically, emotionally, creatively, socially and physically. Knowledge, understanding and skills will be secured and embedded so that children attain highly.
- The children take great pride in their science work and are often found discussing what they have learnt during their science lessons.
- Due to the child led learning environment, children have developed resilience and independence to problem solve which will be a valuable transferable skill in their next stage of learning.
- Through the collaborative nature of science learning children are able to work within a team, making sure that each member of the team feels valued.