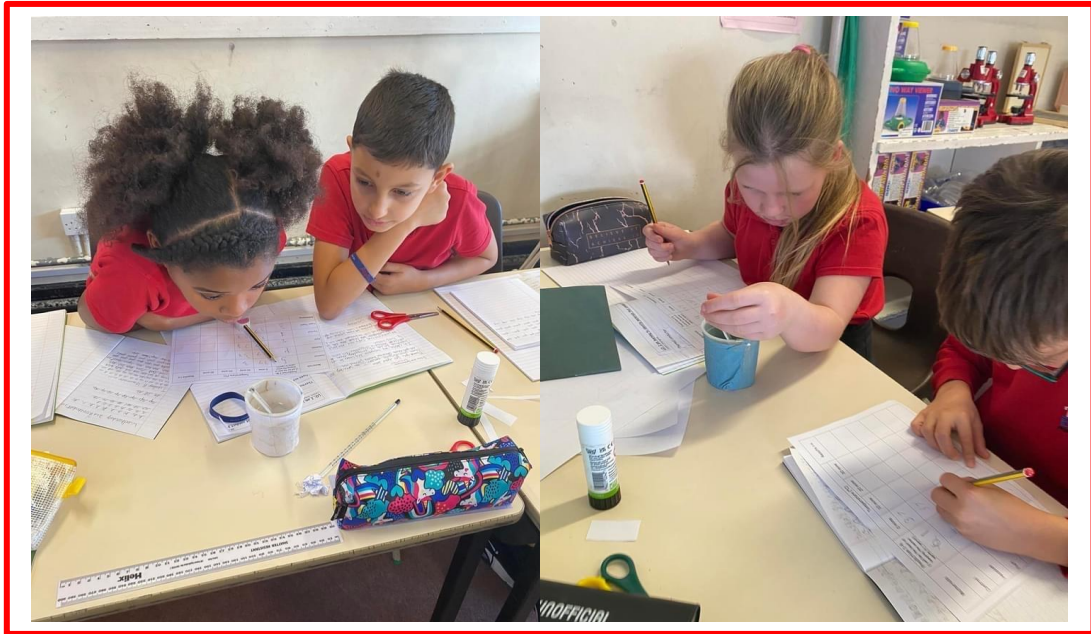


# Science



## Curriculum Booklet

# Science Intent

At Tanners Brook, we believe that science is a vital part of our pupil's learning as such, we aim to provide a high-quality science education embedded through meaningful and memorable learning experiences. We intend to provide all pupils with the key skills and knowledge required to support their understanding of scientific concepts and the world around them. This will help them to recognise the importance of science in their everyday lives.

At Tanners Brook, we want our children to be confident, reflective, and critical scientists. Pupils should therefore be driven by curiosity and genuine personal excitement. Our broad and balanced science curriculum will be delivered and embedded through interactive, engaging, and informative learning opportunities and will provide pupils with skills and key foundational knowledge and concepts they will need to become effective scientists. Through development of pupil metacognition and independence, we aim to enable children to make sense of and explain natural phenomena and occurrences, predict how things will behave, and analyse cause and effect. To support this, children will be encouraged to examine the world around them by asking a range important questions (i.e. why, how, what if..).

In line with the national curriculum, all pupil's at Tanners Brook will:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry, and physics.
- Develop understanding of the nature, processes, and methods of science.
- Use different types of scientific enquiry to help them answer scientific questions about the world around them.

- Develop the scientific knowledge required to understand the uses and implications of science today, and for the future.
- Apply their mathematical knowledge to their understanding of science. This will include collecting, presenting and analysing data.
- Develop their scientific vocabulary, which will support the acquisition of scientific knowledge and understanding.

To achieve this, the curriculum at Tanners Brook is:

- Ambitious for all pupils.
- Coherently planned and sequenced to highlight larger concepts and links in the learning.
- Designed and developed for pupils with special educational needs and/or disabilities so everyone can achieve their personal best.

At Tanners Brook, we recognise that science is vital to the world's future prosperity and, being in Southampton, children from Tanners Brook School will have access to a wealth of higher learning opportunities. They will also have a broad choice of diverse career opportunities within science-based disciplines such as medicine, engineering, scientific research. Our aim is to provide our pupils with the building blocks they need to be able to access these opportunities in the future and prepare our children for life in an increasingly scientific and technological world.

# Science Implementation

At Tanners Brook, all children will be provided with a broad and balanced science curriculum which reflects the equality and diversity policies and practice in school. The national curriculum will also be shaped by our school vision which encourages children to strive to achieve their personal best and make their community proud regardless of background, ability, and additional needs. As such, our science curriculum will be supported by clear skills and knowledge progression. Lessons will be coherently planned and sequenced to highlight larger concepts and aspects of science as well as linking to previous learning. This will ensure that skills and knowledge are built on year by year and sequenced appropriately to maximise learning retention for all children.

At Tanners Brook, we build on our children's natural curiosity and work with them to develop a scientific approach to problems. We encourage the children to do their personal best by nurturing open-mindedness, self-assessment, perseverance and developing the skills of investigation. We focus on the use of scientific language in all our verbal and written work. Teachers will ensure that all children are exposed to high quality teaching and learning experiences. These will hook the children's interest, enabling them to develop a sense of excitement and curiosity about natural phenomena. They will be encouraged to ask questions about the world around them and work scientifically to further their conceptual understanding and scientific knowledge.

At Tanners Brook, you will see:

- Science given prominence with weekly whole class Science lessons (supported by differentiation).

- Well planned science teaching embedded through meaningful, memorable, practical learning experiences.
- Lessons adapted and developed for pupils with special educational needs and/or disabilities to enable everyone to access the curriculum.
- Differentiated lessons and recording strategies to ensure all pupil needs are met and that writing is not a barrier to learning.
- Opportunities for pupils to develop and build on their scientific knowledge and develop their investigative skills, are increasingly independently.
- Links being made, both explicitly and through questioning, to prior learning.
- Science trips used to enhance the curriculum, where appropriate.
- Pupils exploring and accessing our school Science Hub. This will support knowledge and skills acquisition as well as retention.
- Curious pupils willing to question the world around them and work scientifically to further their conceptual understanding and scientific knowledge.
- Subject leaders being a champion for science and supporting colleagues.

# Science Impact

At Tanners Brook we recognise the importance of planning the science curriculum so that pupils build knowledge of key concepts and the relationships between them over many years. This will prevent pupils from seeing science as a list of isolated facts. We aim to build domain-specific knowledge which leads to expertise and allow pupils to remember content and skills long term. The impact of our curriculum will ensure that teachers give clear explanations built on what pupils already know and explicitly focus pupils' attention on the content being learned. Practical work will have a clear purpose, form part of a wider teaching sequence and will take place only when pupils have enough prior knowledge to learn from the activity.

Our broad and balanced curriculum starts right from the early years by introducing pupils to wide-ranging vocabulary to describe the natural world (these words should not be overly technical) and as pupils progress through the school they are explicitly taught the concepts and procedures needed to work scientifically. By the time our pupils leave Tanners Brook they will have developed and refined a wide variety of skills linked to both scientific knowledge and understanding, as well as scientific enquiry/investigative skills.

Our children would have experienced meaningful, memorable learning experiences and understanding of their local area, science related industry and careers. The impact of our curriculum will give our children a rich vocabulary which will enable them to articulate their understanding of taught concepts; it will also support our children to achieve their personal best so that they have high aspirations, which will see them through to further study, work and a successful adult life.

Going forward, we will develop assessment within this subject. This will be achieved through CPD and consultation with the Science Hub. We will also ensure our curriculum is both current and effective by frequently reviewing it.