NPSB Science Menu

Why do we prioritise Science at NPSB?

"The important thing is to never stop questioning" (Albert Einstein). Science is the understanding of our world. It has changed our world. Science generates solutions for everyday life and helps us to answer the great mysteries of the universe. It is a collective endeavour and equips pupils with the necessary skills and knowledge for life and the future world. Our Science curriculum aims to:

- develop a life-long love of science that will help children build a positive and resilient attitude to problem solving
- develop necessary life-long, transferable skills that will allow pupils to access a range of opportunities in their lives.
- help pupils make sense of the world and to prepare them for the future.
- develop critical thinkers who demonstrate love for asking questions and investigating the answers.
  develop children who use and understand scientific language and recognise its importance as a language for communication and thinking
- enable children to apply their learning to real life situations and roles
- give children the building blocks that they need to become well-rounded individuals.
- learn about our responsibility to the Global Family.
- develop pupils who are keen to take responsibility for their own learning using a virtues-led approach.
- help to break down the barriers that they may face in life and to minimise and eliminate the gap for disadvantaged pupils.

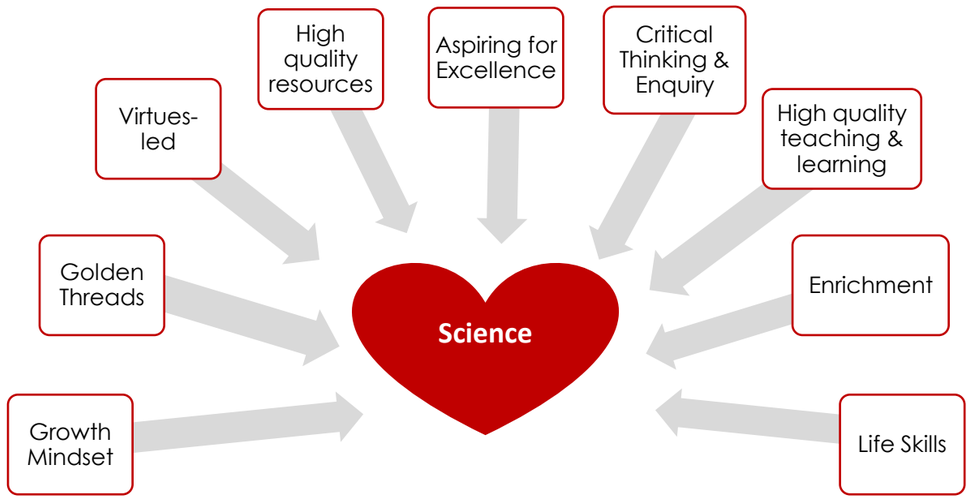
Knowledge and Skills of a Scientist:

Physics knowledge: seasons and seasonal changes, light, sound, forces and magnets, electricity, Earth and space.

Biology knowledge: Animals (including humans), living things and their habitats, Plants, evolution and inheritance.

Chemistry knowledge: Materials, properties of materials, changes of materials, rocks, states of matter,

Working Scientifically skills: Predicting, observing, measuring, recording, concluding, analysing, evaluating, researching, questioning.



Virtues Links

Creativity to solve problems, answer questions and create new designs and concepts.

Resilience and **determination** to keep trying and preserving when problem solving and answering questions, and when developing our skills, knowledge and ideas.

Respect and **kindness** towards ourselves and others when sharing thinking, reasoning and ideas, and when mistakes are made.

Understand how **collaboration** and **commitment** helped scientists to solve problems and develop our world. To know how to apply these virtues within our own learning.

Striving for **excellence** and using **diligence** in all learning and outcomes by always trying our very best.

Golden Threads:

GT1 – Love & Forgiveness vs Enmity & Hate GT2 – Peace & Collaboration vs Conflict & War GT3 – Trust in 'the Divine' / 'God'

Well-Structured	**A**mbitious & Inclusive	**L**ife-Long Learners	**K**nowing more & sremembering more	**S**ubject knowledge and skills
• Well-sequenced progression of knowledge and skills document. • Vocabulary progression document. • Lesson expectation document that outlines effective ways to teach Science. • Purposefully planned units of work to link and build on learning – guided by Outstanding Science scheme. • Key concepts are progressively built on.	• Lessons led through an enquiry question to promote critical thinking and curiosity. Opportunities for discussion. • Higher-order questioning • Children selecting their own level of challenge [hard and harder activities]. • Enable table resources and working walls to support learning. High quality Science resources and books. • Inclusive enrichment opportunities. For example, Mad Science assemblies, STEM week, borrow the moon sample from NASA, Education visits (such as the Think Tank and Space Museum) and Young Peoples Science Book Award judging panel.	• Golden Thread enquiry questions: "How has the collaboration of scientists contributed and advanced scientific research?" "Has some scientific theories caused conflict within our world?" • Lessons linked to virtues • Leaders of learning • Creating global citizens – understanding our responsibility to our global family. • Enrichment opportunities that foster a love of Science: STEM Guest speakers and visitors, Science section in our newsletters, Science menu during STEM week.	• *'The Big Picture'* to capture the end goal of each unit and link current learning to previously taught knowledge and skills. • *'Can You Still…?'* is an opportunity to retrieve and practise previously learned knowledge and skills relevant to the topic being studied. • STEM Week as part of British Science Week incorporates the revisiting and application of previously taught knowledge and skills.	• High-quality teaching and learning • All staff involved in high-quality professional development and training. • High-quality questioning and enquiry questions. • Opportunities to revisit previously taught knowledge and skills : Can you still..? • Cross-curricular links: Scientist Study – Reading and Writing. Recording data and measuring – Maths. Keeping healthy – PSHCE. Materials – DT. • Key concepts are explicitly taught, explained and modelled. • Opportunities to work as a scientist.