

# Science

## Principles and Purpose of the Science Curriculum

The science team at The John Roan School are committed to be excellent in all we do to ensure we assist all students to be scientifically informed citizens acquiring knowledge through scientific inquiry and to acquire skills and cultural capital through engaging, accessible, diverse and an appropriately challenging curriculum.

We pledge to have high ambitions for all students' ensuring we are skilled to guide students to make and exceed progress targets and to celebrate success and build self-esteem through enquiry and better understanding of the world in which we live.

Our curriculum will empower students to be confident analytical thinkers and to create learning environments where students feel safe to take intellectual risks so that they are confident to be involved and determined members of the community and to pursue their ambitions.

**Here we explore the John Roan curriculum principles in the context of the science curriculum:**

- **Entitlement:** The science curriculum covers the National Curriculum with additional content added to maximize inquiry and analytical thinking.
- **Coherence:** Units are sequenced to introduce knowledge, new ideas and skills in a way that begins with some of the simplest concepts and skills and builds to more complex concepts and skills including a range of vertical concepts developed over time in a variety of contexts.
- **Mastery:** Reviewing prior knowledge is threaded throughout all units, with concepts and skills revisited, built upon, and developed in new contexts. Vertical concepts are clearly sign posted within lessons and teachers are skilled to effectively communicate when these concepts are being interleaved.
- **Adaptability:** All lesson materials are regularly reviewed during designated curriculum time, with advice included to support teachers of varying levels of experience and subject expertise to feel confident in lesson delivery. Lesson include scaffolded examples to provide inclusivity and assessment tools to identify gaps in learning.
- **Representation:** A diverse range of names, images and scientists are used in resources throughout the curriculum so that students from all backgrounds recognise the relevance of science.
- **Education with character:** The science curriculum raises several ethical, culturally significant, and sensitive questions to encourage students to explore ideas and issues that go beyond the curriculum. Lessons are sign posted with explicit cultural capital links to ensure that Education with Character is referred to when relevant.

## Roadmap of the Science Curriculum

The roadmap diagram on the following page sets out the route that students take through our curriculum.

# Key Stage 3

