

### Intent: Science at New Horizons Academy

The intent of our science curriculum, at New Horizons Academy, is to foster a deep understanding and appreciation of scientific principles, concepts and practises among our learners. We want our pupils to be engaged and seek to provide ample opportunities for discussion based and practical learning, enabling our pupils to investigate, experiment and work scientifically as well as gaining knowledge about the world around them.

We aim to:

- **Engage and Inspire:** Cultivate curiosity and ignite a passion for learning through hands-on experiments and stimulating discussions, tailored to engage students who have faced challenges in traditional education settings.
- **Promote Inquiry Skills:** Equip students with the skills necessary for scientific inquiry, enabling them to ask pertinent questions, and develop critical thinking abilities essential for everyday life and future learning pathways.
- **Cater to Diverse Needs:** Recognise the varied academic and personal backgrounds of our students by delivering a curriculum that supports diverse needs, allowing all learners to achieve personal and academic growth.
- **Prepare for Future Success:** Ensure that all students acquire essential scientific knowledge and understanding, while also promoting transferable skills such as problem-solving, teamwork, and resilience that are crucial for their future education and life after school.

### Implementation: Science at New Horizons Academy

\*Note. WRS units may not appear in the same order on their website as they appear here.

#### **Autumn 1**

This term will aim to fully engage our children and develop their love of learning and science through practical investigations using an array of different resources such as investigations taken from the [British Science Week website](#). In this term, we aim to foster a positive culture and view of science which may previously have been a barrier for our children.

#### **Autumn 2- Summer 1**

The learning undertaken from Autumn 2 term through to Summer 1, will look to continue the development of our children's curiosity and love of science but also look to expand their knowledge and understanding, using the WRS units. The use of these resources will help to provide more structured and classroom based learning to

help support and develop our children's ability to learn in this type of environment, allow the children develop their skills, knowledge and understanding of the science topics taught and continue to develop their engagement with science through the use of investigations and experiments.

Across Autumn 2 and Spring 1, children will cover the same area (Animals including humans & Living things and their Habitats). In Spring 2 and Summer 1, the units and themes covered will diversify slightly to help further develop specific skills and knowledge and prepare students for the next step in their educational journey.

### **Summer 2**

This term will aim to: continue developing the children's engagement, solidify their love of science and consolidate their knowledge, understanding and skills through project based learning. The project may be based on a topic from the children's learning from the current academic year that will consolidate and extend their knowledge in this area or a topic that the class have collectively agreed upon which they have not covered in the academic year but have interest in. These projects will involve a presentation, practical work and class based learning. There will also be opportunities in this term to develop their knowledge and understanding of sustainability within this term.

## **Impact - Science at New Horizons Academy**

At New Horizons Academy, the impact of our science curriculum is seen in the transformation of our pupils from hesitant learners into inquisitive, resilient, and scientifically literate investigators. By moving from high-engagement practicals to structured units and finally to independent projects, we ensure that students leave us with both the knowledge and the "working scientifically" skills required for their next educational stage.

### **Impact: The Difference We Make**

The impact of our curriculum is evidenced through the following outcomes:

#### **Breaking Down Barriers to Learning**

The high-engagement throughout the year has a direct impact on student attitudes. Pupils who previously viewed science as "too difficult" or "not for them" develop a newfound curiosity.

#### **Proficiency in "Working Scientifically"**

As students progress through the adapted White Rose Science units, they move beyond simple observation. They develop the ability to:

- **Ask Pertinent Questions:** Formulating their own "what if" scenarios.
- **Plan and Conduct Experiments:** Understanding how to use equipment safely and effectively.
- **Analyse Results:** Moving from seeing an outcome to explaining *why* it happened using scientific vocabulary.

### **Depth of Knowledge and Retention**

By focusing on core themes—such as *Animals including Humans* and *Living Things and their Habitats*—over an extended period, we ensure knowledge is embedded in long-term memory. The impact is seen in "retrieval" sessions where students can confidently recall and apply facts about life cycles, healthy bodies, and environmental systems.

### **Personal Agency and Communication (Summer Project Impact)**

The Summer 2 project-based learning allows students to take "ownership" of their science. The impact of this is seen in:

- **Confidence:** Students presenting their findings to peers and staff.
- **Collaboration:** Improved teamwork as they negotiate roles within a project.
- **Sustainability Awareness:** A growing sense of responsibility toward the environment, demonstrating that they can contribute positively to a "lawful and inclusive society."

### **Transferable Resilience**

Scientific experimentation inherently involves "failure" when a hypothesis is proven wrong. Our curriculum fosters the resilience to see these moments as learning opportunities. This resilience transfers to other subjects, as students become more comfortable with the trial-and-error process of learning in general.

### **Measuring Impact**

We measure the success of our science curriculum through a variety of qualitative and quantitative lenses:

- Practical Assessment: Observing students "in the act" of investigating—how they handle equipment and follow a process.
- Pupil Voice: Interviews where students can explain a scientific concept in their own words or describe an experiment they enjoyed.
- Work Samples: Learning shows a progression from simple recorded observations to more detailed investigations and studies.