# The Rock Cycle

Science, Earth & Space Sciences — Year 8

## Content Description

Describe the key processes of the rock cycle, including the timescales over which they occur, and examine how the properties of sedimentary, igneous and metamorphic rocks reflect their formation and influence their use (AC9S8U04)

## VR Learning Activities

**Listening and Understanding:** Students begin by discovering the fascinating process of the **rock cycle**—a continuous transformation between **igneous**, **sedimentary**, and **metamorphic** rocks over **millions of years**. Through rich narration and visual storytelling, students learn how **natural forces like heat, pressure, weathering, and erosion** shape rocks and influence their characteristics. From the **formation of igneous rock through the cooling of magma**, to the layering of **sedimentary rock**, and the transformation into **metamorphic rock** under extreme conditions, students uncover how each rock type tells a unique story of Earth's geological history.

**Interactive Exploration:** In a virtual environment, students engage directly with the rock cycle by **scanning different rock samples** to unlock detailed information. Each interaction highlights how **formation processes affect rock properties**—for example, how **granite's large crystals form from slow cooling**, or how **sandstone layers capture the passage of time and life**.

**Questioning and Critical Thinking:** Students engage with thought-provoking questions that challenge them. These questions support a deeper understanding of the **processes and timescales involved** in the rock cycle, encouraging students to **think critically** about Earth's constantly changing surface and the evidence found in rocks.

## Key Learning Areas

**Formation of Rocks:** Understanding how igneous, sedimentary, and metamorphic rocks form through processes such as cooling, weathering, compaction, and heat and pressure.
**Geological Processes and Timescales:** Exploring the slow, continuous nature of the rock cycle and recognising that changes in rock types occur over thousands to millions of years.
**Properties and Characteristics:** Investigating how the physical features of each rock type—such as texture, layering, and crystal size—are shaped by their formation process.
**Natural Forces:** Examining the role of heat, pressure, weathering, and erosion in transforming rocks and shaping the Earth's surface.
**Uses and Practical Applications:** Discovering how the properties of rocks influence their everyday uses in construction, artwork, and tools.
**Fossils and Earth's History:** Learning how sedimentary rocks can contain fossils that provide clues about past environments and life on Earth.
**Interactive Exploration:** Engaging with virtual tools and simulations to scan rock types, observe changes over time, and understand rock properties in context.
**Critical Thinking and Questioning:** Encouraging students to reflect on how natural processes shape the Earth, ask scientific questions, and evaluate evidence from rock samples.
**Scientific Vocabulary and Communication:** Building confidence in using scientific terms to describe rock formation, properties, and processes within the rock cycle.