

## Curriculum maps with Christian and school ethos links

Subject: Geology A-level

Year: 12 and 13

	Autumn yr 12		Spring yr 12		Summer yr 12	
	Cycle A	Cycle B	Cycle C	Cycle D	Cycle E	Cycle F
<b>Topics and links</b>	<p><b>2.1 Minerals &amp; Rocks:</b> Understanding the basic building blocks of rocks, and preparing the fundamentals for future modules.</p> <p><i>'The best geologist is the one who has seen the most rocks.'</i> – Prof. H.H. Read</p>	<p><b>2.2 Fossils:</b> Understanding the links between organisms and their environments, and how important fossils are in understanding the history of life.</p> <p><b>3.1 Earth Structure:</b> Linking knowledge from different principles to help uncover the structure of the Earth.</p>	<p><b>3.2 Plate Tectonics:</b> Understanding how as an active planet the Earth loses heat and how this links to features we see on the surface.</p> <p><b>3.3 Geological Structures:</b> Introducing knowledge of types of structures and how this can be explained to regional or global activities.</p>	<p><b>4.1 Sedimentary Environments in Time:</b> Understanding how applying processes we see occurring today, can explain what is seen in the rock record.</p> <p><i>'The present is the key to the past'</i> – Charles Lyell, 1833</p>	<p><b>4.2 Geochronology:</b> Understanding how correlating various techniques can provide a way of dating rock sequences.</p> <p><i>'...we find no vestige of a beginning – no prospect of an end'</i> – James Hutton, 1795</p>	<p><b>5.3 Igneous Petrology:</b> Developing knowledge of igneous rocks to understand magma evolution and layered intrusions.</p> <p><b>5.4 Metamorphic Petrology:</b> Understanding how index minerals can identify the causes of change and history of regions.</p>
<b>Links with Values and Christian ethos and spiritual development opportunities</b>	<p>What make up the basic building blocks in your life? What is fundamental to you?</p>	<p>To understand where we are and how we got there, we need to look back at the journey we have taken.</p> <p>There is always more to something than what we can see on the surface. The more you search the clearer your vision becomes.</p>	<p>Stresses and the strain they cause can change things for a short time, forever or even break them. What can we take away from these periods of stress and the events that cause them?</p>	<p>How can we learn to show empathy and understanding towards others by understanding how their actions in the past shape who they are or what they have done today?</p>	<p>To understand how we become what we are, it is important to reflect back at our origins and the events that shaped us.</p>	

	Autumn yr 13		Spring yr 13		Summer yr 13
	Cycle A	Cycle B	Cycle C	Cycle D	
<b>Topics and links</b>	<p><b>5.1 Applied Sedimentology:</b> Understanding how predictive models can be drawn from modern analogues, some processes no longer occur.</p> <p><b>5.2 Fluids:</b> Understanding the fundamentals of groundwater movement and storage.</p> <p><b>5.5 Mining:</b> Understanding the balance needed between extracting vital resources and the impacts that this has.</p>	<p><b>6.1 Geohazards:</b> Understanding the impacts that geological processes have on people and how we can prepare, predict and try to mitigate the impacts we face.</p> <p><b>6.2.1 Geotechnics:</b> Understanding the importance of testing for weaknesses before engineering projects to help prevent failures.</p>	<p><b>6.2.2 Engineering Geology:</b> Understanding the challenges of completing engineering projects.</p> <p><b>7.1 Basin Analysis Concepts:</b> Understanding how the Earth continues to change over time, despite its apparent permanence, including the appearance and disappearance of life.</p>	<p><b>7.2 Basin Analysis in Practice:</b> Reviewing and applying prior knowledge to uncovering the history of sedimentary basins.</p>	Exam preparation and resilience
<b>Links with Values and Christian ethos and spiritual development opportunities</b>	How do we balance responsibilities/desires with the potential negative impacts they might have.	It is possible for something small to escalate. What can be done to manage the potential impacts 'smaller' issues could raise.	Nothing lasts forever. We strive for stability and it can be difficult to accept change. So what can learn from changes and how can we be prepared for new challenges?	How can we use what is already familiar to us to help us face new challenges.	A time to reflect and review. To be courageous and resilient in the face of challenges. To show kindness and respect towards others while working for a shared goal.

#### Sixth form Geology

- Courage:** Becoming confident to face challenges in a challenging science environment.
- Forgiveness:** Working in teams and accepting mistakes of team members.
- Honesty:** Working independently. Students honest with themselves as well as those around them.
- Kindness:** Working with peers, helping them when they struggle.
- Respect:** Respecting the opinions of others.
- Empathy:** Understanding that different pupils come from different backgrounds in science. Understanding how issues raised in science make others feel.
- Resilience:** Completing tasks even though the style of challenge may seem daunting and new. Being able to evaluate work and learn from mistakes.