

High Tunstall College of Science Curriculum Intent

Subject: Geography Year: 9 Half term: 1

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| **Unit: Natural Planet – Geography Rocks** |
| **Be an #excellentgeographer** |
| **Big Concepts**Place, Scale, Environment, Interconnection, Change | **Filters**Social, Economic, Environmental | **Tools**Problem-solving, Numeracy &Literacy, Team-work, Spatial Awareness,Self-management |
| **Key ideas** | **Progress** |
|  | **R** | **A** | **G** |
| Geology is the study of rocks. |   |   |   |
| The Geological Timescale describes the timing of events that have taken place throughout Earth’s history and is divided into eras and periods. |   |   |   |
| Igneous, sedimentary and metamorphic rocks change as part of the rock cycle. |  |  |  |
| The processes of erosion and weathering have led to the creation of limestone landforms above and below ground. |  |  |  |
| Limestone in the Yorkshire Dales has created a range of opportunities and challenges that need to be managed. |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | **The rocks of Yellowstone National Park**To think about what we already know about rocks.To recognise and name some rocks, their features and landscapes.To describe the Geology of the UK and North East England. | Description of appearance and features of different rocks and minerals. | Geology, National Park, Quartz, Chalcedony, Haematite, Calcite, Obsidian, Pyrites, Sandstone, Pumice |
| **2** | **The Geological Timescale**To understand how the geological timescale is divided into eras and periods.To name key events in the Earth’s history and when they occurred. | Retrieval PracticeConstructed geological timescale colour-coded by era with key events and rock formations visually represented. | Cenozoic, Era, Geological timescale, Mesozoic, Palaeozoic, Period |
| **3** | **Igneous, Metamorphic and Sedimentary Rocks****Frayer Model: Era**To name the three types of rocks.To describe and explain how the three types of rock are formed and their characteristics. | Matching activity to sort formation, characteristics and examples of igneous, sedimentary and metamorphic rock. | Igneous, Metamorphic, Sedimentary |
| **4** | **The Rock Cycle**To describe the rock cycle and name the key processes.To explain how igneous, sedimentary and metamorphic rocks change as part of the rock cycle. | Retrieval PracticeMap from memory rock cycle.Completion of rock cycle diagram with key processes, rock types and examples.Extended writing task to describe ‘journey’ around the rock cycle. | Cementation, Compacting, Erosion, Heat, Melting, Pressure, Weathering |
| **5** | **Limestone and Weathering****Frayer Model: Sedimentary Rock**To be able to describe the location of limestone scenery found in the UKTo describe and explain the effects of chemical and physical weathering on exposed limestone. | Description of pattern of limestone scenery in UK and Ireland.Explanation of weathering processes focusing on carbonationCreative writing task to describe interaction of weather and rock. | Calcium carbonate, Chemical Weathering, Carbonic Acid, Landscape, Limestone, Scenery, Sedimentary Rock |
| **6** | **Limestone Pavement**To describe the pattern of limestone scenery in the UK and Ireland.To identify and describe the key characteristics of limestone pavement. | **Triple Challenge**Labelled diagram of key features of limestone pavement.Design of ‘chocolate bar’ to represent features of limestone pavement at Malham Cove. | Bedding plane, Clint, Glaciation, Gryke, Joint, Limestone Pavement, Permeable |
| **7** | **Limestone Caves**To identify and describe underground limestone features.To explain how stalagmites, stalactites and pillars are formed. | Retrieval PracticeAnnotated diagram to explain formation of stalactites and stalagmites as a result of weathering processes.Construction of limestone cave and key features from Play Doh. | Calcium Carbonate, Cave, Cavern, Chemical Solution, Pillar, Sink Hole, Stalactite, Stalagmite, Underground River |
| **8** | **Rocks and OS Maps****Frayer Model: Limestone**To identify limestone features and different rock landscapes on an OS map.To use grid references, height and distance to describe a route on an OS Map. | Written description of area around Malham from OS map.Completion of Duke of Edinburgh ‘route-card’ using grid reference, height and distance map skills in Malham area.Analysis of how different rock types may be represented on OS Maps. | Contour Line, Grid References, Impermeable, Limestone Pavement, Permeable, Potholes, River, Scar, Shake Holes, Spot Height, Stream, Swallow Hole |
| **9** | **The Uses of Limestone**To identify and describe uses for limestone.To explain how and why limestone is used. | Retrieval PracticeData collection sheet with information on different uses of limestone.Visual representation of different uses of limestone. | Construction, Healthcare, Leisure, Neutralising, Tourism |
| **10** | **Land Use and Conflict in the Yorkshire Dales****Frayer Model: Quarry**To describe and explain land use and conflict and within the National Park.To discuss and compare management strategies. | Advantages and disadvantages of the Tour de Yorkshire.Proposing of management strategies for sources of conflict in National Park. | Congestion, Conflict, Honeypot, Land Owners, Land Use, Management, National Park, Opinion, Viewpoint |
| **11** | **Malham Quarry - Yay or Nay!**To categorise the advantages and disadvantages of quarrying limestone.To assess whether the proposed limestone quarrying in Malham should go ahead. | **Triple Challenge**Categorisation of arguments for and against a new limestone quarry.Analysis of different interest groups and contribution to class debate.Extended writing to explain own viewpoint using evidence. | Development, Planning Permission, Proposal, Quarry |