

**xSecondary Science Scheme of Work Proforma:**

**Module title / topic** \_\_\_\_\_ Rocks and Weathering (8G/H)\_\_\_\_\_

**Duration of scheme** \_\_\_\_\_ 9 lessons\_\_\_\_\_

**Year Group** \_\_\_\_\_ 8\_\_\_\_\_

**Set (if applicable)** \_\_\_\_\_ 4 and 2\_\_\_\_\_

Title	Learning Objectives	Learning Outcomes	NC ref.	Suggested Activities	Resources	Health & Safety	Links to Other Areas – Numeracy, Literacy, ICT and SMCS	Assessment	H/work
<b>Sedimentary Rocks</b>	Pupils will learn...  - How o look at what sedimentary rocks are and name some examples.	Pupils will be able to  -learn that sedimentary rock can be formed by pressure from layers of sediment resulting in the compaction and cementation of grains  -name sandstone, chalk and limestone as some examples of sedimentary rocks.	Ks3 Biology, Exploring science text book (pages 92-95, Rock textures topic). NC 4	As starter activity, pupils will see a video about rocks.  Pupils will look to some rock examples and build a rock passport card by completing the cards (page 320 resources).  -Class notes -As plenary pupils will understand the meaning of some topic main concepts to introduce the unit (word sheet page 312 resources).	Computer Video Power point White board Text book Exercise book Cards Felt tips Rocks (marble, slate, granite, limestone etc.)	Lesson totally safe for pupils.	Lesson will cross link with literacy science knowledge as well citizenship on a way to pupils get know the importance of not destroying environment. ICT skills used to plan lesson video.	1 <sup>st</sup> lesson to get know pupils misconceptions as well some subject knowledge about the topic.	No homework for this lesson.

<p><b>Metamorphic rocks</b></p>	<p>Pupils will learn...</p> <ul style="list-style-type: none"> <li>- To look at how metamorphic rocks are formed and be able to name some examples</li> </ul>	<p>Pupils will be able...</p> <ul style="list-style-type: none"> <li>- to learn that increasing temperature and pressure can cause some rocks to change in the solid state.</li> <li>- to describe metamorphic rocks as rocks being formed from pre-existing rocks during metamorphism, as a result of high pressure and/or high temperature.</li> <li>- to name marble, schist, slate and</li> </ul>	<p>Ks3 Biology, Exploring science text book (pages 96-97, Rock textures topic). NC 4</p>	<p>-Starter activity about limestone caves. Show some limestone landscapes. Introducing the unit by showing with a power point metamorphic rocks being formed.</p> <p>Pupils will observe some examples of metamorphic rocks (marble, slate and possibly schist and gneiss).</p> <p>As plenary a Worksheet with a table to complete with the right rock name.</p>	<p>Computer Video Power point White board Text book Exercise book worksheet limestone</p>	<p>Lesson safe for pupils.</p>	<p>Lesson will cross link with literacy science knowledge as well pupils will develop practical skills (Obtaining and considering evidences). Lesson with some ICT resources.</p>	<p>Pupils will have as an assessment target a worksheet that summarizes the topic.</p>	<p>Small summary sheet that pupils need to copy.</p>
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<p><b>Igneous Rocks</b></p>	<p>Pupils will learn...</p> <ul style="list-style-type: none"> <li>- To look at how igneous rocks are formed and name some examples of these.</li> </ul>	<p>Pupils will be able...</p> <ul style="list-style-type: none"> <li>- to describe igneous rocks as rocks that crystallize from magma.</li> <li>- to understand that the rate of cooling and crystallisation determines the grain size in an igneous rock</li> </ul>	<p>Ks3 Biology, Exploring science text book (pages 98-99, Rock textures topic). NC 4</p>	<p>Starter activity with a short video about igneous rocks and volcanoes to introduce the unit.</p> <p>Pupils will pay attention to teacher instructions and build a class volcano with labels (Practical activity).</p> <p>Worksheet to consolidate and recap the aims of the lesson.</p>	<p>Computer Video White board Text book Exercise book worksheet Volcano materials.</p>	<p>See risk assessment attached to lesson plan.</p>	<p>Lesson will cross link with literacy science knowledge as well pupils will develop practical skills by making a class volcano.</p>	<p>As assessment pupils will have two questions to answer about the topic.</p>	<p>Pupils need at home to revise last lessons by using a summary sheet made by the teacher.</p>
<p><b>Chemical weathering</b></p>	<p>Pupils will learn...</p> <ul style="list-style-type: none"> <li>- To look at how rainwater can affect rocks at the earths surface</li> </ul>	<p>Pupils will be able to...</p> <ul style="list-style-type: none"> <li>- learn that rocks at the Earth's surface disintegrate through exposure to water in the environment, which causes chemical reactions.</li> <li>-</li> </ul>	<p>Ks3, Biology, Exploring science text book (pages 82-83, Rock textures topic). NC 4</p>	<p>Starter activity introducing the unit with a power point or possibly a worksheet.</p> <p>Practical activity about rainwater on rocks.</p> <p>As plenary pupils need to answer some Q+A and possibly answer to a crosswords puzzle worksheet.</p>	<p>Computer Power point White board Text book Exercise book worksheet</p>	<p>See risk assessment attached to lesson plan.</p>	<p>Pupils will develop some lab practical skills by carrying out an experiment. Link with literacy knowledge.</p>	<p>Assessing pupils' investigation skills.</p>	<p>No hwk for this lesson</p>

<b>Physical weathering.</b>	<p>Pupils will learn...</p> <p>- to look at how changes in temperature can affect rocks at the earths surface</p>	<p>Pupils will be able to</p> <p>- learn that rocks are broken down by forces that result from stresses generated when water in cracks and fissures expands on freezing.</p> <p>-explain that rocks at the Earth's surface are broken down by forces that result from stresses generated when rocks expand and contract on heating and cooling.</p>	<p>Ks3 Biology, Exploring science text book (pages 84-85, Rock textures topic). NC 4</p>	<p>Starter activity introducing the unit with a power point showing some examples of rocks that have suffered physical weathering.</p> <p>Practical activity about cracks in rocks because of the water temperature differences.</p> <p>As plenary pupils need to read conclusions of the experiment and finish a possible worksheet.</p>	<p>Computer Power point White board Text book Exercise book worksheet</p>	<p>See risk assessment attached to lesson plan.</p>	<p>Pupils will continue developing lab practical skills by carrying out an experiment. Link with literacy subject knowledge as well some ICT resources during the lesson.</p>	<p>Assessing pupils' practical skills.</p>	<p>Worksheet About chemical and physical weathering.</p>

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<b>Transport and Erosion</b>	Pupils will learn...  to look at what happens when rocks are weathered and how they are transported.	Pupils will be able... -to learn that rock fragments become sediment grains which can be transported by water currents and deposited when the energy is dissipated. -to understand that larger grains are not taken as far, as it requires more energy to move them. -to understand that as transportation times and distances increase, sediment grains become more rounded and	Ks3 Biology, Exploring science text book (pages 84-85, Rock textures topic). NC 4	Starter activity to introduce the topic with a power point showing the process of sediments being transport as well some of the consequences.  Practical showing sediments being carried by water.  Class notes if necessary.  Worksheet to consolidate and recap lesson aims.	Computer White board Power point Books	See risk assessment attached to lesson plan.	Pupils will develop lab practical skills by carrying out an experiment, considering and explaining. Link with literacy subject knowledge.	The major assessment item will be pupils' practical skills by considering and explaining the conclusion for the experiment. Worksheet will be another assessment item.	Homework about making internet/books research about transport and erosion made by sediments.

		are also sorted into similar sizes.							
<b>The rock cycle</b>	<p>Pupils will learn...</p> <p>-to look at how the rock cycle links together the processes of rock formation.</p>	<p>Pupils will be able...</p> <p>-to understand that the rock cycle links together the processes of rock formation.</p> <p>-to describe how the rock cycle provides a continuous supply and transformation of Earth materials.</p>	<p>Ks3 Exploring science text book (pages 82-83, Rock textures topic). NC 4</p>	<p>Starter activity to introduce the new unit. Q+A to make pupils remember examples of metamorphic, sedimentary and igneous rocks.</p> <p>Pupils will build a rock cycle by using an A3Sheet with real rocks examples.</p> <p>At the end and as plenary pupils will build a rock cycle glossary to make them understand all the concepts,</p>	<p>Computer Rocks A3 sheets Glue Scissors books</p>	<p>Lesson safe for pupils.</p>	<p>Basically lesson will cross link with subject knowledge, ICT resources to show the rock cycle and different learning styles will be used (visual aids, writing and reading).</p>	<p>Assessing pupils' ability to work by groups on building the rock cycle.</p>	<p>Pupils need to start revising unit.</p>

<p><b>Revision</b></p>	<p>Pupils will learn and recap the last lessons objectives and outcomes.</p>	<p>Pupils will be able to understand all the unit main ideas.</p>	<p>Ks3 Exploring science text book (pages 80-98, Rock textures topic). NC 4</p>	<p>As a starter activity pupils will have a quiz that does summarise all the unit main ideas.</p> <p>Each pupil will make an individual revision worksheet.</p> <p>Correction of the worksheet.</p>	<p>Computer Worksheet White board books</p>	<p>Lesson safe for pupils.</p>	<p>Link with all areas of NC (literacy, citizenship, numeracy) when pupils recap the entire unit.</p>	<p>End of unit test.</p>	<p>Revise unit at home.</p>
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**End of Unit Test**