Planet Earth Review

What do we know about the Earth we live on-about its surface and what lies below. **What evidence do we have, and how do we use this evidence in developing an understanding of the earth and its changes?**	
Key Concepts **(Unit At A Glance Science Focus 7 p. 438)** **Links to Topic Notes provided**	**Guiding Questions and Activities to Help you Study**
Topic 1 **Elements (pure substances)** **Properties of minerals**	- What are minerals? - How is the hardness of a mineral determined? - What are the 6 major crystal types? - What properties of minerals enable us to identify them?
Topic 2 **The Rock Cycle** **How rocks form** **Identifying rocks** **Sedimentation and soil profiles**	- Describe igneous, metamorphic and sedimentary rock in terms of how they were formed and how they can be identified. - Draw a scientific illustration of the rock cycle identifying the type of change that the rocks undergo. - How can rocks be identified? - What is a soil profile?
Topic 3 **Erosion** **Types of weathering - biological, mechanical and chemical** **(slowly) - Glaciers** **(quickly) - Flash Flooding**	- Explain the differences between mechanical, biological and chemical weathering, giving examples of each. - What are some examples of incremental and sudden changes of erosion? - Give operational definitions for erratics, moraines, striations and meandering.
Topic 4 **Layers of the Earth** **Theory of Continental Drift** **Theory of Plate Techtonics** **Evidence for these theories** **Convection currents and plate zones**	- Draw and label a scientific illustration showing the layers of the Earth - Explain the Theory of Continental Drift and the evidence that was collected to support this theory. - Explain the Theory of Plate Tectonics and the technologies used to gather evidence to support this theory. - Describe what forms convection currents in the mantle. - Explain the difference between diverging and converging continental plates and the zones these create.
Topic 5 **Earthquakes** **Measuring force and magnitude** **Locating epicenter** **Earthquake zones and faults** **Tsunamis**	- What causes earthquakes? - How are earthquakes measured (intensity and magnitude)? - Describe the three types of earthquake waves and their effects. - Identify the steps needed to locate the 'focus' (epicenter) of an earthquake. - Identify the different types of rock movement causing an earthquake. - What is a tsunami?
Topic 6 **Volcanoes and the Ring of Fire**	- Identify the main types of volcanoes and provide some examples of some current or famous volcanoes. - What is the Ring of Fire? - Where else in the universe can volcanoes be observed?
Topic 7 **Mountain formation, age and types**	- How are mountains formed? - What types of mountain formations are common in particular parts of the world? - How is the age of a mountain range determined?
Topic 8 **Types of fossils** **Moulds and casts**	- Identify the different types of fossils that have been found and classified. - Describe the formation of a fossil (mould and cast methods)

Topic 9 **Radiometric and radiocarbon dating** **Geological Time Scale**	- What is the principle of superposition? - Explain the relative dating technique, used to identify the age of a fossil. - Explain the techniques and differences, between radiometric and radiocarbon dating. - Briefly review the geological time scale, noting how the time scale is divided into eons, eras and periods.
Topic 10 **Locating fossil fuels**	- What is petroleum and how is it located?

Design a Concept Map linking the ideas introduced and reinforced in this Unit on Heat and Temperature

Try some of the Practice Quizzes to see how much you have recalled from this Unit

These Internet links may help you find out more information about the key concepts from this Unit.

~ strata

~ rocks and minerals

~ rock cycle: formation of igneous rock, metamorphism and sedimentary processes

~ incremental change

~ mountain formation: folding and faulting

~ chronological time scale

~ fossil formation

~ development of models based on evidence

~ crust movement/plate tectonics observation and evidence

~ weathering and erosion