



## Science Focus Unit 5 – Planet Earth Review Booklet

### Focusing Questions:

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](#)?**

### Guiding Questions and Activities to Help you Study Key Concepts

#### [Topic 1](#) - Elements (pure substances) - Properties of minerals

What are **minerals**?

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How is the **hardness** of a mineral determined?

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What are the **6 major crystal types**?


What **properties of minerals** enable us to identify them?

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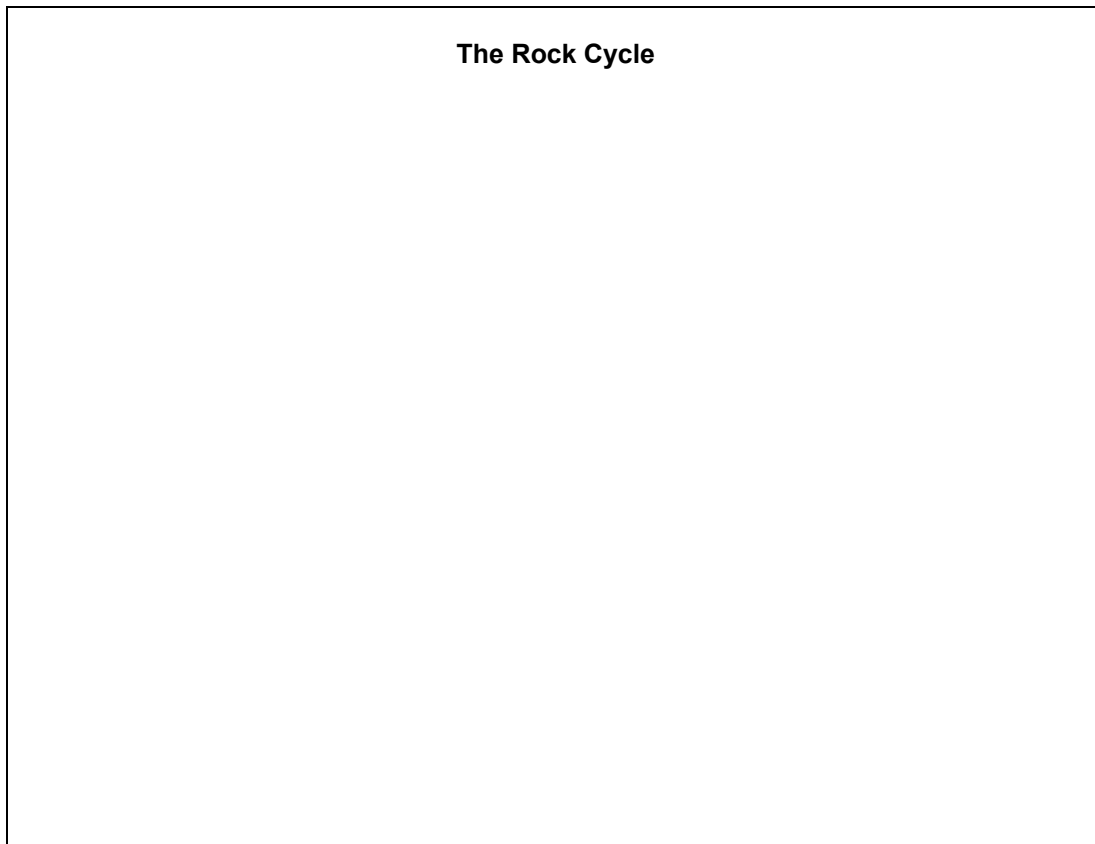
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**Topic 2 - The Rock Cycle - How rocks form - Identifying rocks - Sedimentation and soil profiles**

Describe **igneous**, **metamorphic** and **sedimentary** rock in terms of how they were formed and how they can be identified.

	How they are formed	Identification Properties
<b>Igneous Rock</b>		
<b>Metamorphic Rock</b>		
<b>Sedimentary Rock</b>		

Draw a scientific illustration of the **rock cycle** identifying the type of change that the rocks undergo.





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How can rocks be identified?

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What is a **soil profile**?

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**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.

Type of Weathering	How it happens	Examples
<b>Mechanical</b>		
<b>Biological</b>		
<b>Chemical</b>		

What are some examples of **incremental** and **sudden changes** of erosion?

Incremental (slow) \_\_\_\_\_

Sudden erosion \_\_\_\_\_

Give operational definitions for erratics, moraines, striations and meandering.

Erratic \_\_\_\_\_

Moraine \_\_\_\_\_

Striation \_\_\_\_\_

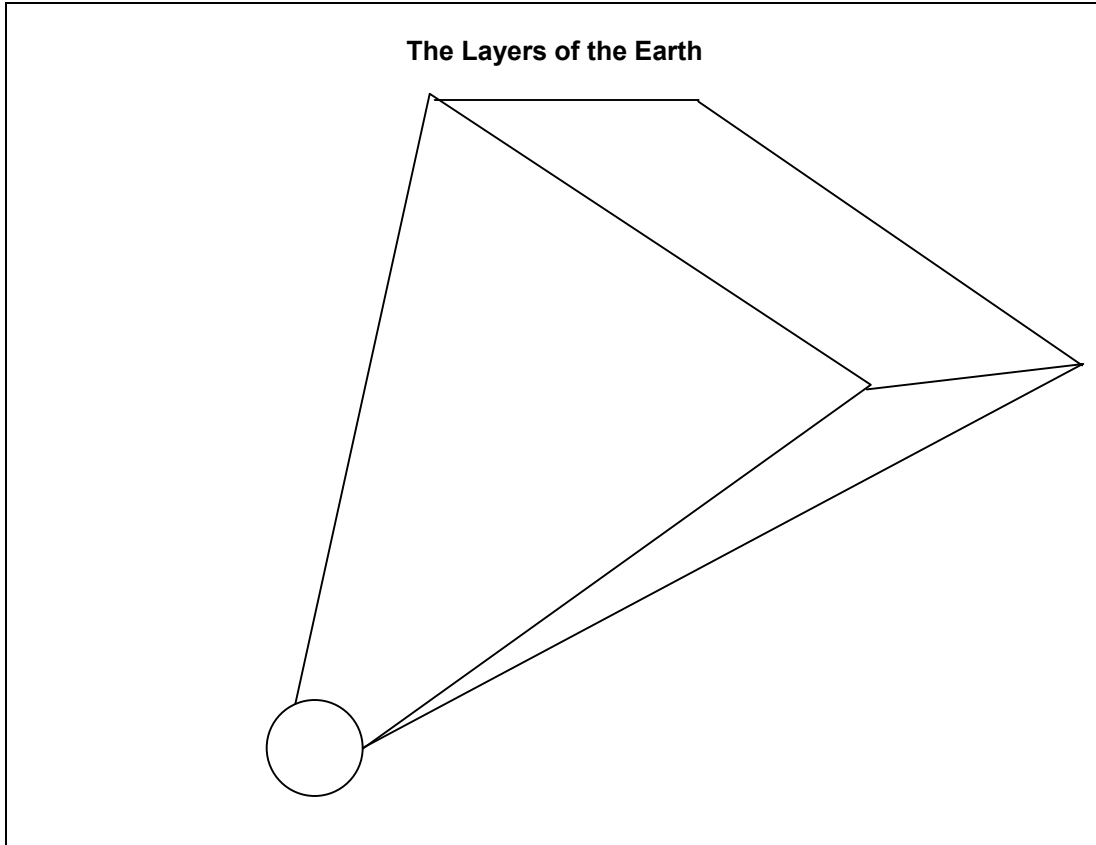
Meandering \_\_\_\_\_



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**Topic 4 - Layers of the Earth - Theory of Continental Drift - Theory of Plate Tectonics - 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.

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Explain the **Theory of Plate Tectonics** and the technologies used to gather evidence to support this theory.

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Describe what forms convection currents in the mantle.

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Explain the difference between diverging and converging continental plates and the zones these create.

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**Topic 5 - Earthquakes - Measuring force and magnitude - Locating epicenter - Earthquake zones and faults - Tsunamis**

What causes earthquakes?

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How are earthquakes measured (intensity and magnitude)?

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Describe the three types of earthquake waves and their effects.

p wave \_\_\_\_\_

s wave \_\_\_\_\_

surface wave \_\_\_\_\_

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Identify the steps needed to locate the **'focus'** (epicenter) of an earthquake.

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Identify the **different types of rock movement** causing an earthquake.

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What is a **tsunami**?

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**Topic 6 - Volcanoes and the Ring of Fire**

Identify the main types of volcanoes and provide some examples of some current or famous volcanoes.

Type of Volcano	Illustration	Examples

What is the **Ring of Fire**?

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Where else in the universe can volcanoes be observed?

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**Topic 7 - Mountain formation, age and types**

How are **mountains formed**?

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What **types of mountain formations** are common in particular parts of the world?

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How is the **age of a mountain range** determined?

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**Topic 8 - Types of fossil - Moulds and casts**

Identify the **different types of fossils** that have been found and classified.

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Describe the **formation of a fossil (mould and cast methods)**

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**Topic 9 - Radiometric and radiocarbon dating - Geological Time Scale**

What is the principle of **superposition**?

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Explain the **relative dating technique**, used to identify the age of a fossil.

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Explain the techniques and differences, between **radiometric** and **radiocarbon dating**.

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Briefly review the **geological time scale**, noting how the time scale is divided into **eons**, **eras** and **periods**.

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**Topic 10 - Locating fossil fuels**

What is **petroleum** and how is it located?

Petroleum is \_\_\_\_\_

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It is located in \_\_\_\_\_

**Edquest Website** <http://edquest.ca>

Notes Index <http://www.edquest.ca/Notes/noteindex7.html>  
Review Quiz Index <http://www.edquest.ca/Tests/testindex7sf.html>

**SCIENCE FOCUS 7 Textbook**

Unit At A Glance p. 438

Unit Review pgs. 438- 441