

Geology A Level

“Geology is the scientific study of planet Earth”

General Resources:

Videos:

The Planets, The Sky at Night, Into the Volcano (available on BBC iplayer)

How the earth Works (amazon prime)

Rise of the Continents, How the Earth Made Us, The Power of the Planet, Earth Story, How the earth Was Made – search for on google

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Free online textbooks and lecture notes:

<http://opengeology.org/textbook/>

<https://opentextbc.ca/geology/>

<https://ocw.mit.edu/courses/earth-atmospheric-and-planetary-sciences/12-001-introduction-to-geology-fall-2013/lecture-notes-and-slides/>

There are four key areas to focus on which will help you when you start college.

Part1: Earth Formation

Research the planetary nebula hypothesis of planet formation.
Research the characteristics of the 4 inner terrestrial planets and the 4 outer giant planets.

Create an illustrated revision poster on A3 paper showing the origin of the Earth and solar system. Include the origin and importance of the sun, planets, dwarf planets asteroids and comets.

Part 2: Earth Structure

Research the layered structure of the Earth. What are the key characteristics of the core, mantle and crust?

What evidence do we use to interpret the deep structure of Earth?

Use the resources at the start plus:

<https://www.bgs.ac.uk/discoveringGeology/hazards/earthquakes/structureOfEarth.html>

Create an illustrated sketch diagram showing the layers, including information on composition, state, density and depths.

Part 3: Earth History and Geologic Time

<https://www.bgs.ac.uk/discoveringGeology/time/home.html>

<https://www.geolsoc.org.uk/geotime>

Use the websites above and the resources listed at the start of the document to research the age of earth. How is geologic time subdivided? Choose at least one of the periods and use the BGS web page pages to write a one A4 page summary of the events that occurred. Try to show what events occurred in the UK, what rocks were deposited, what life existed and what the climate was like.

4, Plate Tectonics

<https://pubs.usgs.gov/gip/dynamic/dynamic.html>

<https://www.geolsoc.org.uk/Plate-Tectonics>

Plate tectonics is the most significant development in the last 100 years of geology. Use the resources to research the origin of the theory of plate tectonics. You need to summarise all the information including the mechanisms of plate movement, what layers make up the plates and what processes occur at the plate margins. Finally research the plate tectonic events in the UK, eg the Caledonian Orogeny using the “geol soc web site”, (link above).

Create a tectonic map of the world showing all the major tectonic plates.

Your written notes should be approximately 4 pages of A4 including illustrations.

5, Natural Hazards

<https://www.bgs.ac.uk/discoveringGeology/hazards/home.html?src=topNav>

How the Earth Works (amazon prime)

Use the resources to research natural hazards and relate these to different plate boundaries. Try and research at least one hazard for each type of plate margin and give a real world case study as evidence. Try and do at least one volcanic eruption, earthquakes, tsunami and landslide, and produce an A4 page on each with illustrations.

Extra Resources and Optional Follow on Tasks

<http://opengeology.org/textbook/>

Download the free textbook. You may wish to print some of the chapters out. Over the summer I would like you to focus on reading the first two chapters “Understanding Science” and “Plate Tectonics”.

https://www.goodreads.com/list/show/11003.Best_Geology_Books

Try and read at least one of these popular science geology books or another of your choice and complete a book report, which you would be prepared to hand in to me in the Autumn term.

<https://geology.com/>

This is an excellent site which will help in completing all the tasks.

<https://www.bbc.co.uk/sounds>

Explore the bbc sounds app to listen to geology related content

<https://www.open.edu/openlearn/science-maths-technology/free-courses/?filter=date/grid/672/all/all/all/>

Explore the open university open learn and maybe take a free course in geology.

Search for, Like and Follow the HSFC Geology page on facebook for frequent updates on relevant content.

Good luck and I will see you in the Autumn term