



Getting Ahead – Pre-course Work

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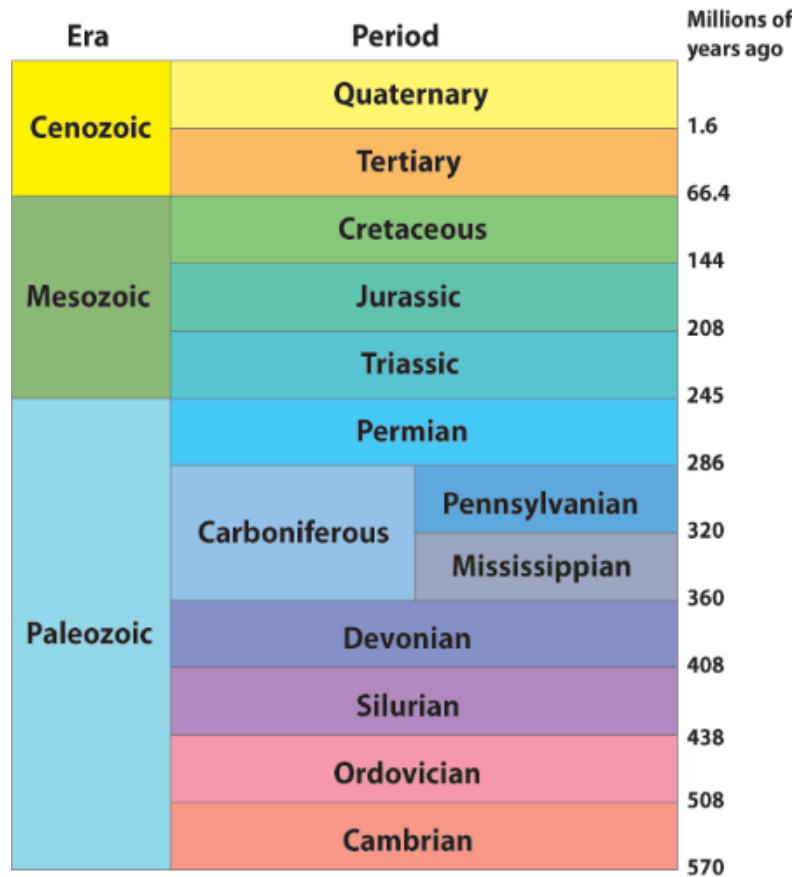
Geology A Level

Welcome to **Geology A Level**. In preparation for the start of the course, please complete these tasks and have them with you to hand in during your first week of college in September.

These tasks should take you approximately four and a half hours to complete and are designed to give you an introduction to the subject, and the expectations we have for you to complete at least four and a half hours of independent study, per subject, per week.

To prepare for the beginning of the A Level Geology course in September:

- Purchase an A4 file/ paper for your notes.
- Buy the OCR textbook and look through it to get an idea of the type of topics we will cover
- Visit the geology “you tube channel” and watch one of the liked videos “The History of Earth – how our planet formed” – a national Geographic documentary.
- Draw or print out a geological column and begin to learn the periods and eras of geological time.



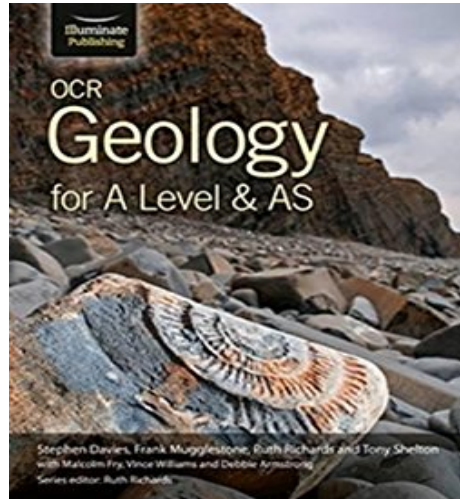


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Reading and Resources List for A Level Geology:

Course Textbook: Geology for A level and AS: ISBN Number 9781911208143



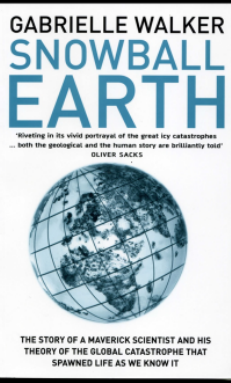
Essential for A Level Geology: you will need to purchase your own copy.



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Background reading for Geologists (you are not expected to read these as part of your pre-course work!)



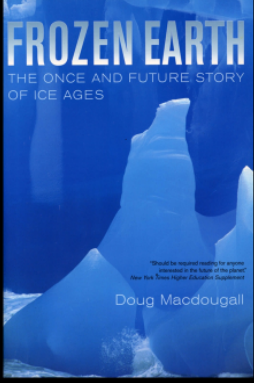
GABRIELLE WALKER
SNOWBALL EARTH
"Shining in its vivid portrayal of the great ice catastrophes... both the geological and the human story are brilliantly told!"
OLIVER SACKS

THE STORY OF A MAVERICK SCIENTIST AND HIS THEORY OF THE GLOBAL CATASTROPHE THAT SPAWNED LIFE AS WE KNOW IT

The evidence for the Earth being totally encased in ice or a combination of ice and slush between 650 and 800 million years ago

Joe Kirschvink proposed the theory but research by Paul Hoffman led to the idea being accepted by many earth scientists today

May also help to explain the evolution of complex life forms



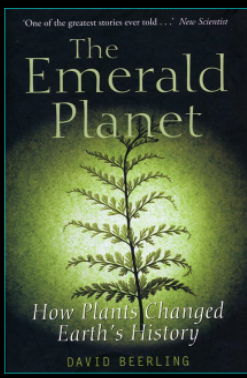
FROZEN EARTH
THE ONCE AND FUTURE STORY OF ICE AGES

A highly readable account of the nature of ice ages throughout the Earth's history

Outlines the evolution of scientific understanding of ice ages since the introduction of the term by Louis Agassiz in the 1830s

Includes possible causes of ice ages with reference to Milankovitch cycles and reconstructing past climates using ice core evidence

Doug Macdougall



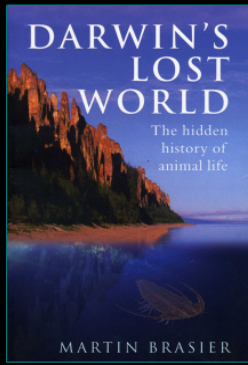
"One of the greatest stories ever told..." *New Scientist*

The Emerald Planet
How Plants Changed Earth's History
DAVID BEERLING

This book outlines the evolution of plants through geological time and their effect on the Earth's atmosphere and biosphere

It explains how fossil plants can be used to reconstruct climates and the gaseous composition of the atmosphere back through geological time

If you think plants are not that exciting or significant, this book will seriously change your views for ever

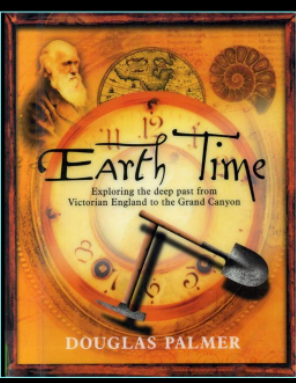


DARWIN'S LOST WORLD
The hidden history of animal life
MARTIN BRASIER

This book outlines the quest to find evidence for life in the rocks before the Cambrian Explosion

A fascinating account of early life including reference to trace fossils, the Ediacaran Fauna and the Burgess Shale

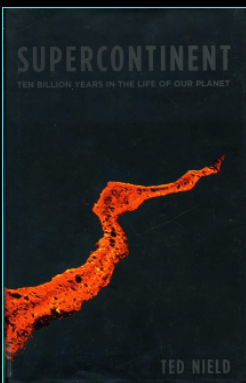
New evidence from the rocks of Siberia to Outer Mongolia reveal details of early life Darwin only theorized about



Earth Time
Exploring the deep past from Victorian England to the Grand Canyon
DOUGLAS PALMER

This book examines the extraordinary story of mankind's quest to uncover the history of the Earth

It examines the contributions of important geologists that have paved the way to our current understanding of Earth system processes



SUPERCONTINENT
TEN BILLION YEARS IN THE LIFE OF OUR PLANET
TED NIELD

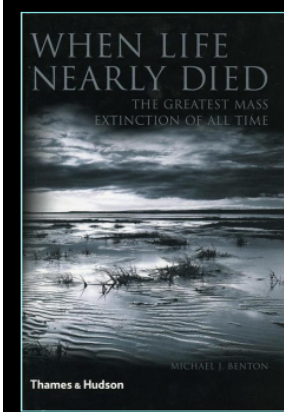
Ted Nield tells the story of how the world has been made and re-made over the last four billion years

It explains the evidence for the supercontinent cycle and describes the formation and break up of the Earth's major supercontinents through geological time



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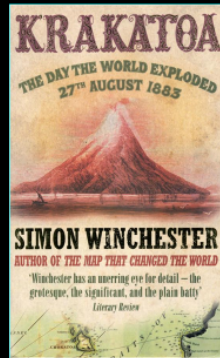
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An account of the many possible causes of the greatest mass extinction of all time

251 million years ago at the end of the Permian 95% of all life died out

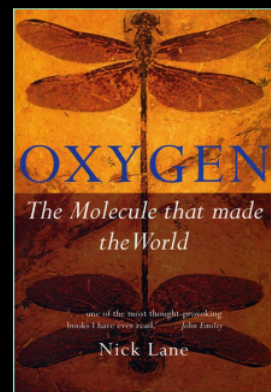
Mike Benton of Bristol University combines a good story with valuable reference material



An account of the eruption of Krakatoa, West of Java on 27th August 1883

Includes anecdotes, eyewitness accounts and an interesting cast of characters

Also looks at the much wider global impact of the event



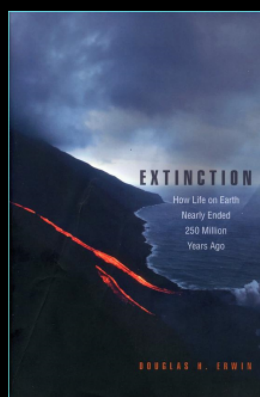
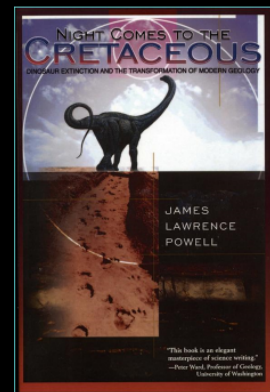
An account of the importance and effect that oxygen has had on the evolution of life

How and why oxygen levels have varied through geological time

Lane employs a multi-disciplinary approach to explain the complex roles of this unique gas

A scientific whodunnit to find the cause of the mass extinction that occurred at the end of the Cretaceous period

Asteroid impact, flood basalt eruptions or a combination of the two?



Palaeontological mystery story that provides an overview of the evidence for and against a range of hypotheses to explain the greatest mass extinction on the Earth to date

Told from the point of a forensic scientist trying to piece together a quarter of a billion year old crime scene

The first biography of one of the most important scientists of the 20th Century

The story of Charles Richter, the scientist responsible for developing the magnitude scale for measuring earthquakes



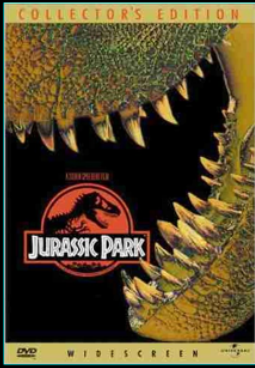


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Films for Geologists

Jurassic Park Series



Genetically engineered dinosaurs populate a theme park on a remote island

One of the park employees attempts to steal dinosaur embryos to sell for profit

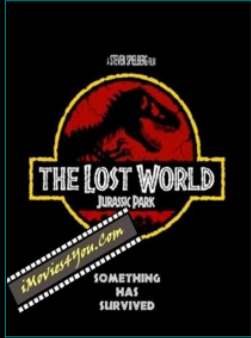
The security system collapses and the dinosaurs escape from the confines of the park

Jurassic Park – The Lost World


Film picks up four years after the disaster at Jurassic Park

On a nearby island, dinosaurs have secretly survived and been allowed to roam free


Mercenaries plan to capture and bring the dinosaurs to the mainland. Can the original creator of Jurassic Park stop this from happening?



Jurassic Park 3




Palaeontologist Dr. Alan Grant accompanies a wealthy adventurer and his wife on an aerial tour of Isla Sorna, a breeding ground for prehistoric creatures.



“Jurassic world” follows on with a new theme park of cloned dinosaurs. “Fallen kingdom” is the latest of the series.


Megalodon/The Meg



A large oil corporation is drilling for oil in Greenland

Drilling continues beyond normal environmental depths and a new ocean is discovered

In the ocean lurks Megalodon a giant shark long thought to have been extinct and it heads for the crew that worked the drill. 2019 updated film of similar plot!

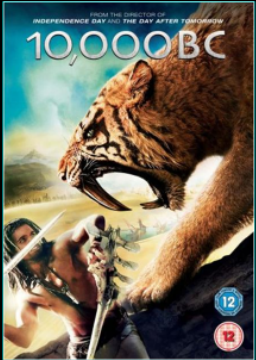


10,000 BC

A time when man and beast were untamed and the mighty mammoth roamed the earth

Follows a young hunter on his quest to lead an army across a vast desert, battling sabre tooth tigers and prehistoric predators

He unearths a lost civilization and attempts to rescue the woman he loves from a warlord who wants to possess her.



Megafault



Mining operations in West Virginia trigger a series of major earthquakes

A huge crack begins to develop and begins to race across the entire American continent

Amy, Boomer and government agencies try to stop it before it tears the Earth in half



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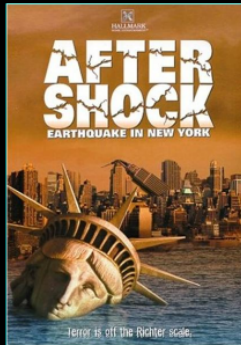
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Aftershock-Earthquake in New York

Without warning an earthquake hits the city that never sleeps

The ground rumbles, skyscrapers tumble and subways are buried in rubble

Two rivals join forces to enforce a citywide emergency plan to help the survivors above and below ground to make their way to safety



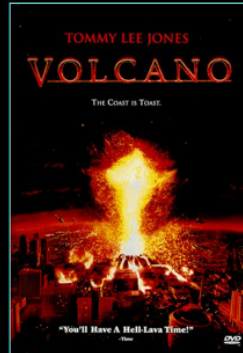
Volcano

L.A. begins to experience a series of earthquakes

A number of deaths are reported in the sewers

A seismologist is hired to investigate the problem

A volcano erupts from beneath the La Brea Tar Pits in the centre of Los Angeles with devastating effects



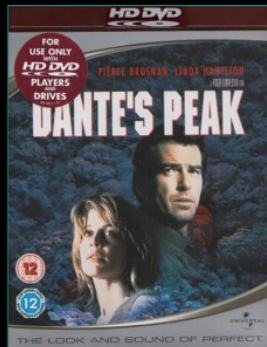
Dante's Peak

A volcano in the Cascades wakes from dormancy

A volcanologist warns the town of Dante's Peak of the imminent danger

Evacuation of the town is delayed, the volcano erupts

Buildings fall, highways crumble, lives are lost
Don't look back!



2012

The Earth's core begins to overheat as the planet is bombarded by neutrinos from solar storms

Earthquakes, volcanoes and tsunamis are triggered and the world is predicted to end in the year 2012

Can mankind survive by constructing 'arks' by various nations around the world

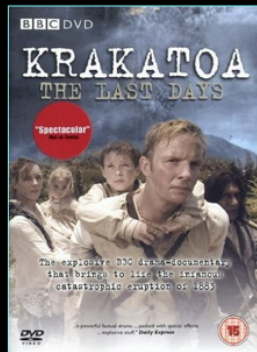


Krakatoa – The Last Days

Based on four eye witness accounts of the 1883 eruption of Mount Krakatoa

The second greatest volcanic eruption in history featuring ash clouds, pyroclastic flows and tsunamis and a combined eruptive volume of 18 km³

A ship with more than 100 passengers is stranded at sea as the eruption climaxes



Blood Diamonds

Set during the Sierra Leone civil war of 1996-1999

Follows a rare red coloured diamond from discovery in an African diamond mine to its eventual purchase by a European diamond company

The film is a scathing indictment of the diamond trade and the high human price that is paid for diamonds that are mined in conflict areas





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Getting equipped

- A4 File
- Scientific calculator
- Protractor
- Ruler
- Sketching pencils
- A4 lined paper
- Pair of compasses

The file you will keep all your notes in is an especially important document, for the quality of your file will have an effect on your grade. You first need to obtain an A4 ring binder, so your notes can be put in. You need to make sure that you bring the file with you to each lesson, as you will **frequently** be asked to refer back to earlier work.

Your file is important because it where you will assemble and collate the notes you have taken in class. You must make sure that your notes are in order and **complete**. After each lesson you will need to look back over the work you have done and make sure you understand them. If not, you should read the appropriate section in your OCR textbook and seek advice from the lecturer. The file will also be an important source of information when you are doing tasks in lessons and for home learning. **Do not forget to use it!**