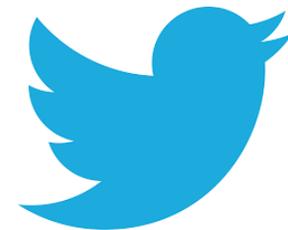
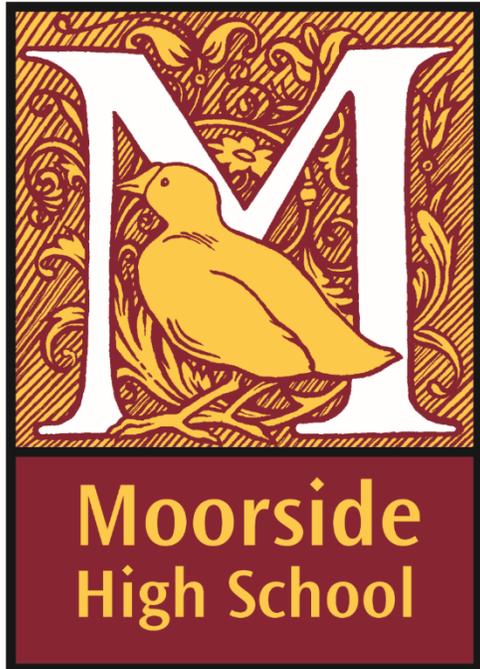


How can we teach geology more effectively?

Catherine McGeown
Head of Geography at Moorside
High School, Stoke on Trent



@Miss_McGeown

Where in the
World am I?



Why is teaching geology important?

*Geology is
the study of
the Earth*



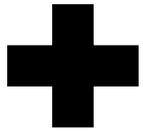
Geography is the study of the physical features of the earth and its atmosphere, and of human activity as it affects and is affected by these.

- *Landscapes (rivers, coasts and glaciation)*
- *Natural Resources (fossil fuels)*
- *Climate Change (the carbon cycle)*

Why is teaching geology important?

KS3 Geography National Curriculum

- **Rocks**, weathering and soils.



KS3 Science National Curriculum

- The rock cycle and the formation of igneous, sedimentary and metamorphic rocks.

KS4 Geography National Curriculum

How geomorphic processes at different scales, operating in combination with geology, climate and human activity have influenced and continue to influence the landscapes of the UK.

KS5 Geography National Curriculum

Landscape systems

- *Materials within a landscapes*
 - *Sediment supply*
- Carbon Cycle*
- *Carbon sequestration in oceans and sediments*
 - *Weathering*

(c) CASE STUDY – UK river landscape

Name of chosen river basin in the UK

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Discuss the influence of geology in the formation of river landforms within your chosen river basin

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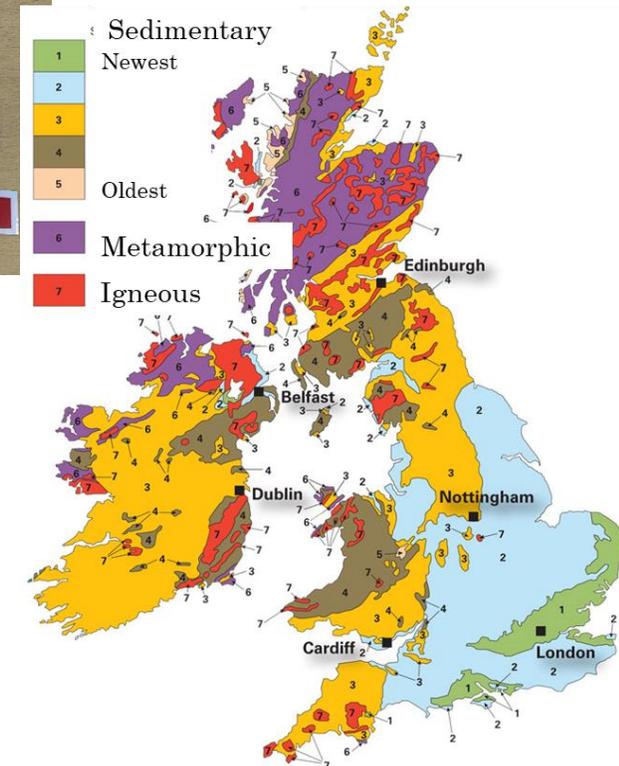
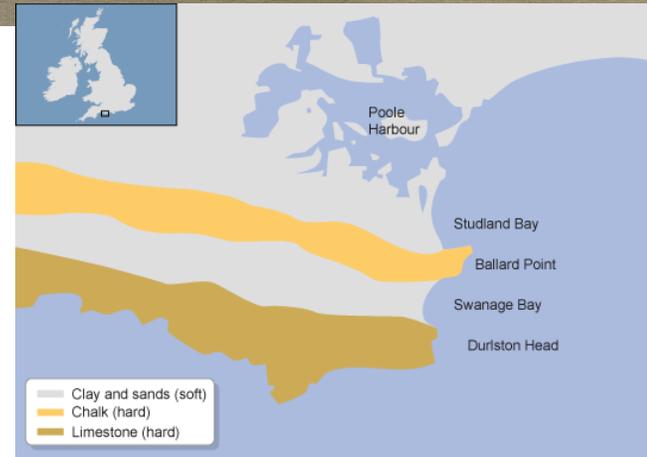
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How can we improve our confidence in teaching geology?

- Get samples
- Pick case studies and resources carefully
- Drip feed across the curriculum



Be need to be the experts in the room!

Get samples ...



- Boulder Clay
- Chalk
- Limestone
- Granite
- Sandstone
- Marble
- Slate



Granite

Granite was formed when magma (molten rock) cooled. This cooling took place below the Earth's surface and slowly enough to permit formation of crystals.

Boulder Clay

Boulder Clay is formed when clay is scraped from the top layer of older rock by the movement of a glacier. As the glacier melts, all the clay and rock fragments it was carrying are left behind.

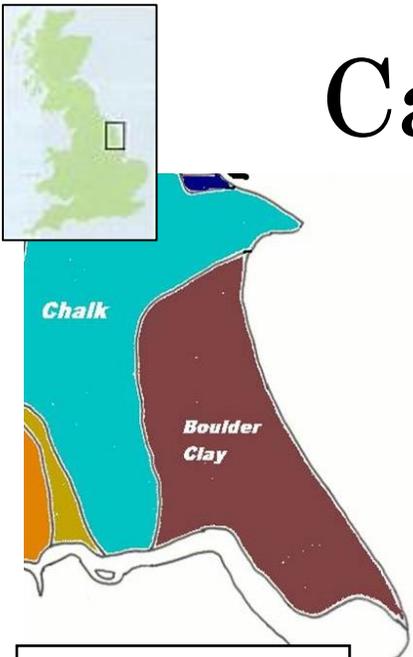
Sandstone

Sandstone is a type of rock that forms when grains of sand are compacted together over long periods of time.

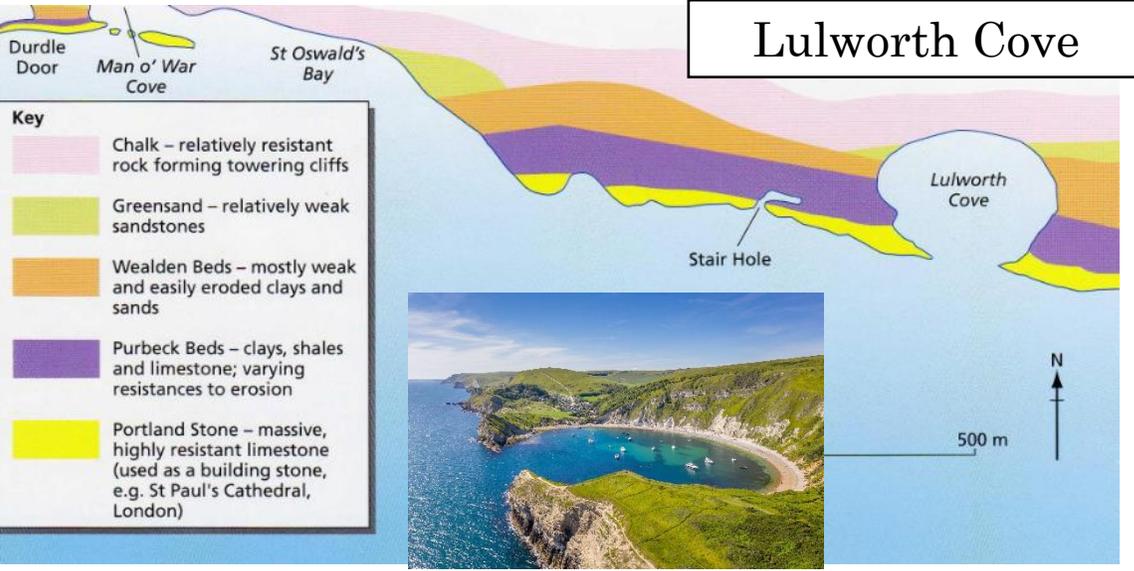
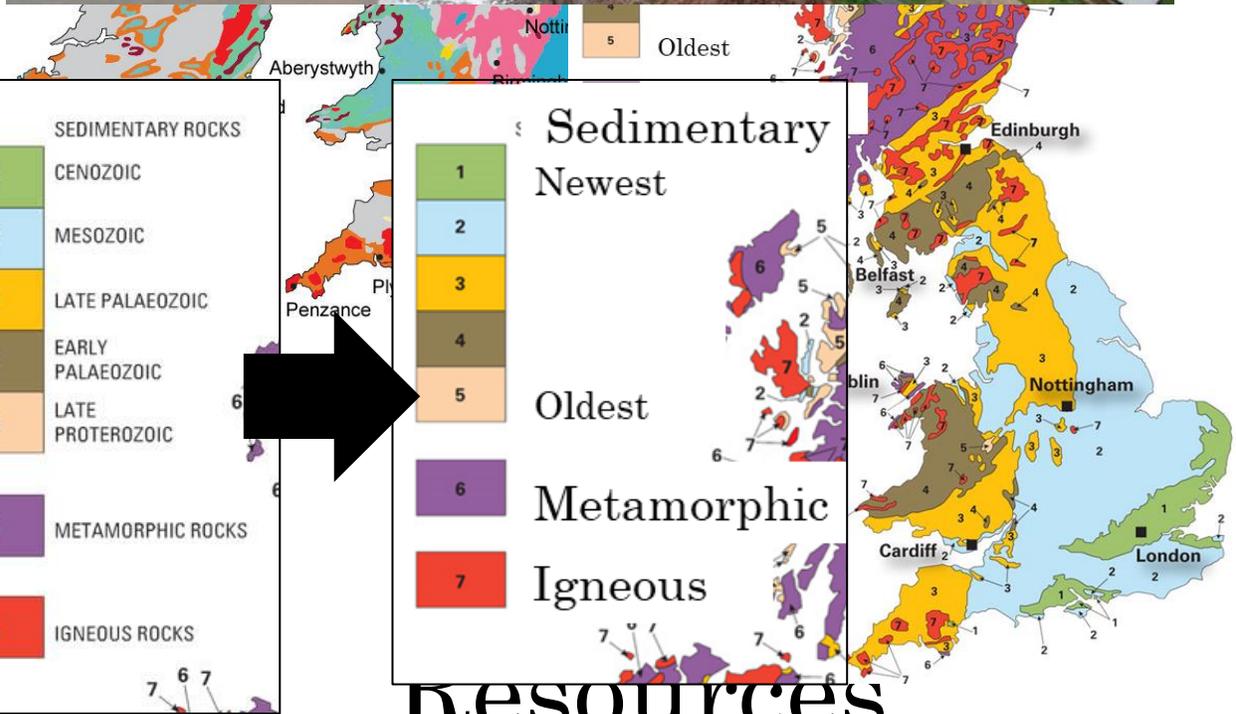
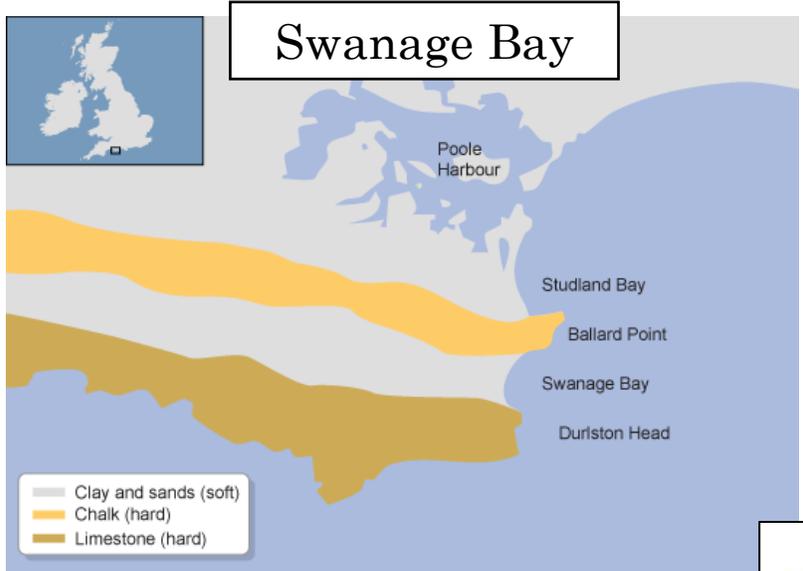
Igneous
Sedimentary
Metamorphic



Case Studies



Holderness Coastline



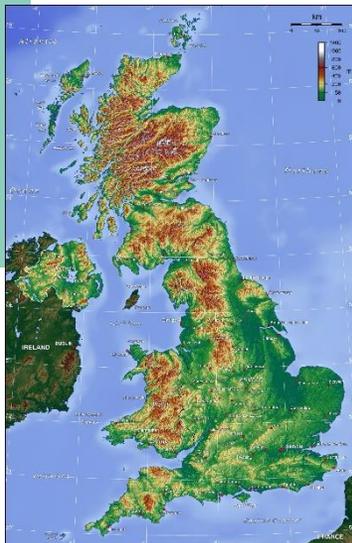
resources

Curriculum Planning

UK

What processes shape physical landscapes?

- Weathering
- Erosion
- Influence of geology (hard and soft rock) on upland and lowland.



Year 7

Africa

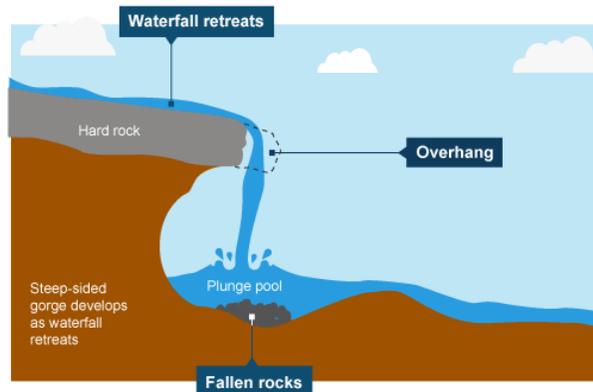
How does The Nile change from source to mouth?

- Overview of river landforms
- Formation of a waterfall in more detail.

UK in the 21st Century

What is the physical landscape of the UK?

- Upland vs lowland
- Glaciation



Year 8



Year 9



Year 10

Distinctive Landscapes

How do rock types differ?

- Igneous, metamorphic and sedimentary

What landforms are formed through erosion?

- Formation of a bay and headland at the Holderness coast.

What river landforms are formed in the upper course?

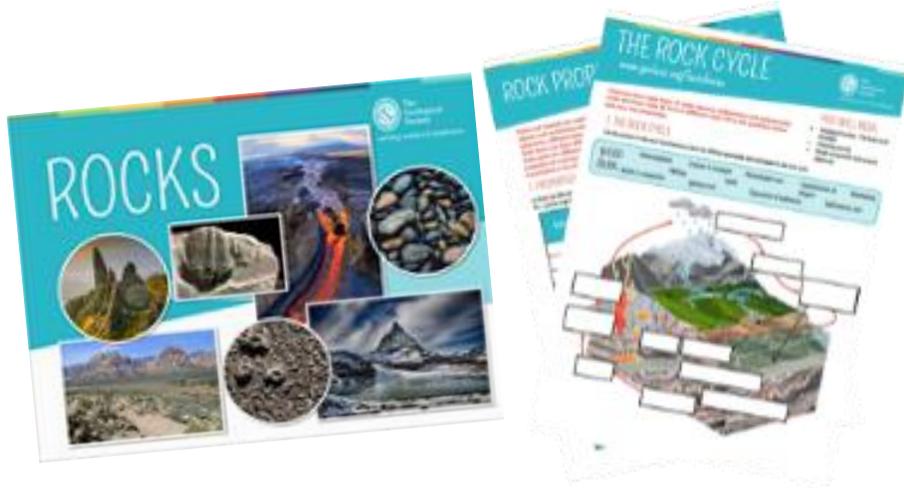
- Formation of the High Force Waterfall and interlocking spurs.

Further Help

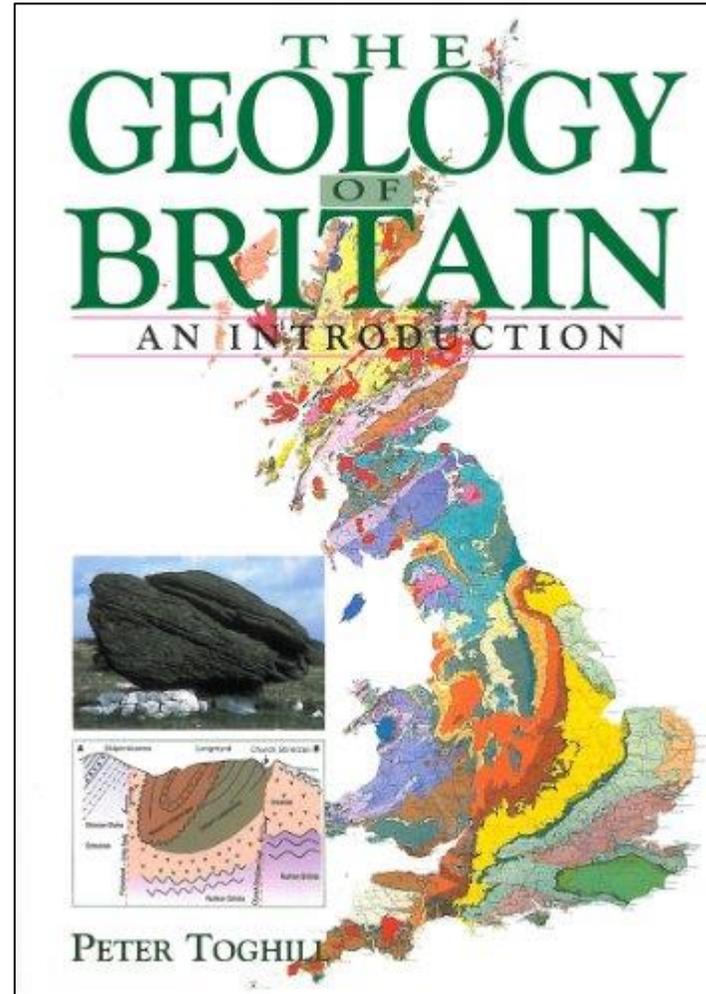


The
Geological
Society

serving science & profession



<https://www.geolsoc.org.uk/KS3Resources>



The Geology of Britain:
An Introduction by
Peter Toghil



Science Prep
Room