Name & Surname: _____ Class: _____ Date: _____

EARTH DETECTIVES: OCEAN TO LAND

Use rock layers and fossils to tell how land changed.



About 30 minutes Level ★★★☆☆

HISTORY IN LAYERS

Most rocks you see are **sedimentary**. Tiny bits of mud and sand settle in water and pile up flat, bed by bed. The bottom bed is **older** than any bed on top.



- New mud piles on top of old mud, like pages in a book.
- Sea shells low in rock mean the land was once under the **ocean**.
- Leaves and footprints high in rock mean dry land came later.

TASK A

Match the causes and effects that put sea shells on dry hills.

Causes

- Ocean covered the area long ago
- _____
- _____
- _____

→ **Sea shells in rock on dry hills** →

Effects

- Shell fossils stay trapped in layered rock
- _____
- _____
- _____

DID YOU KNOW?

Sea shell **fossils** have been found high in mountains. That land was once under the ocean!

CHALLENGE TIME!

Can you spot one place with **layers** near your home? Tell a partner which part looks oldest. No writing needed.

Created with LessonDino.com · AI lesson planner with checkable sources

HOW FOSSILS FORM

Follow how a sea animal becomes a fossil in rock.

KEY WORDS

strata: flat layers of rock stacked together

sedimentary: rock made from pressed mud and sand

tilt: tipped so flat layers are no longer level

fossil: remains or traces of life from long ago

evidence: something seen that shows what happened

TASK B

/4

Read how a fossil forms and link each step to its science.

Step	What happens, and why
Animal dies in the ocean	Soft parts rot away, but hard shell or bones stay.
Mud and sand bury it fast	
More layers pile on top	
Minerals fill the shape	
Land rises and wears away	

Created with LessonDino.com · AI lesson planner with checkable sources

OCEAN TO LAND

Retell how one place changed from sea to land.

TASK C

Retell the change story using the pictures in order.

1



Ocean covers the area; shelled animals live there.

2

Draw it

Animals die and sink; mud buries shells fast.

3



Layers pile flat; bottom stays oldest.

4



Mud presses into rock; land rises up.

5



Land fossils form on top; shells stay below.

Created with LessonDino.com · AI lesson planner with checkable sources

CHECK THE CLUES

Sort tricky ideas and map one key word.

TASK D

/3

Circle the odd one out and explain why in one line.

1. sandstone | limestone | shale | granite

Why?

2. fish tooth | shell | fresh leaf | coral

Why?

3. top youngest | tilted first | flat first | bottom oldest

Why?

TASK E

/4

Complete the word map for the word evidence.

Definition (in my own words)

Characteristics

evidence

Examples

shells low in rock show ocean

Non-examples

a guess with no clues

HOW DID I DO?

Circle a face for each line.

I can order rock layers from oldest to youngest. ☹ 😐 ☺

I can use fossils to tell ocean or land. ☹ 😐 ☺

I can explain landscape change with evidence. ☹ 😐 ☺

Created with LessonDino.com · AI lesson planner with checkable sources

Answer sheet: Earth Detectives: Ocean to Land

Task A

Causes: Ocean covered the area long ago; Shelled animals lived and died there; Mud buried shells quickly before they rotted; Layers pressed into rock and land rose up

Effects: Shell fossils stay trapped in layered rock; Bottom layers are older than top layers; We know ocean changed to land

Task B

1. Soft parts rot away, but hard shell or bones stay.
2. Quick burial in water protects it before it rots.
3. Weight presses lower mud together, and bottom stays oldest.
4. Water leaves minerals that harden into rock around the fossil.
5. Erosion removes top rock so the fossil can be found.

Task C

1. Ocean covers the area; shelled animals live there. 2. Animals die and sink; mud buries shells fast. 3. Layers pile flat; bottom stays oldest. 4. Mud presses into rock; land rises up. 5. Land fossils form on top; shells stay below.

Task D

1. granite (Others are layered sedimentary rock; granite forms from cooled magma.)
2. fresh leaf (Others are ocean fossils in rock; fresh leaf is not a fossil.)
3. tilted first (Layers are laid down flat first, then tilted later.)

Task E

Definition: something you can see that shows what happened before

Characteristics: can be seen in rock, helps explain past change, must match layers and fossils

Examples: shells low in rock show ocean, leaves high in rock show land

Non-examples: a guess with no clues, a shell dropped yesterday

Pictures: Illustration: the_iop · Pixabay; Illustration: MostafaElTurkey36 · Pixabay; Pictograms: Sergio Palao, ARASAAC (arasaac.org) · CC BY-NC-SA; Illustration: ArtsyBeeKids · Pixabay; Illustration: susan-lu4esm · Pixabay; Illustration: OpenClipart-Vectors · Pixabay