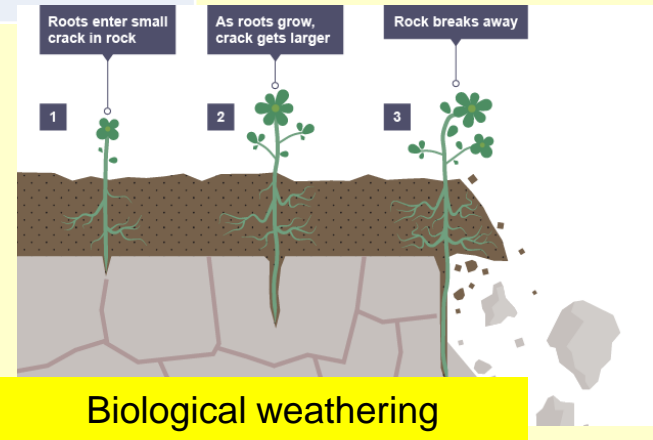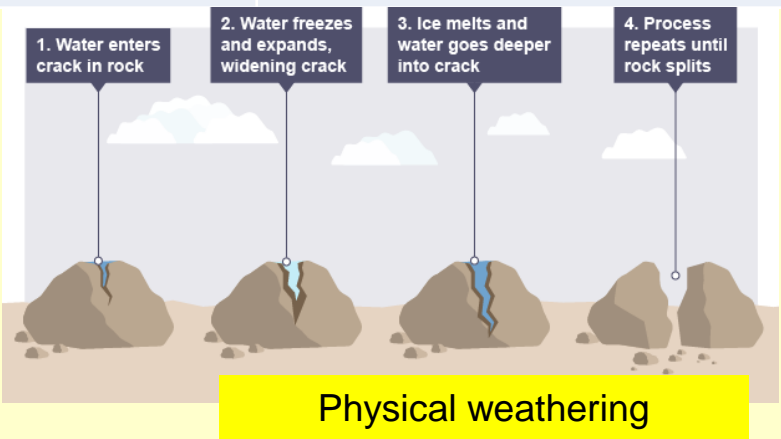| Key Term	Definition
Landscape	The main features or characteristics of an area.
Landform	A natural feature made by coastal processes e.g. stack, cliff, beach
Processes	Actions that lead to changes in places e.g. erosion, longshore drift, deposition.
Weathering	The wearing away of rocks by the weather, plants and animals.
Erosion	The wearing away and removal of rocks by ice, the sea, rivers or the wind.
Longshore drift	How sand and pebbles are carried along the coast.
Deposition	When the sea is calm and it drops the and pebbles that it has been carrying.
Coastal management	Also called sea defences. Things done to protect people from the sea (flooding or erosion).

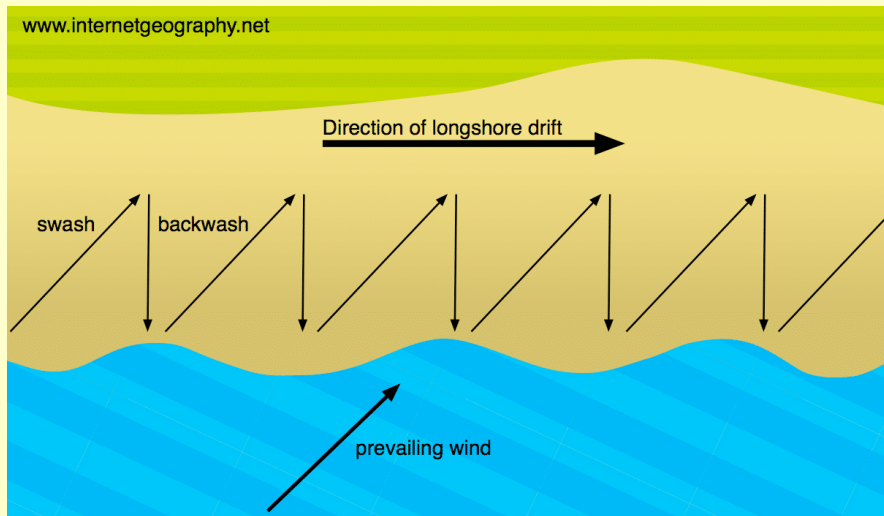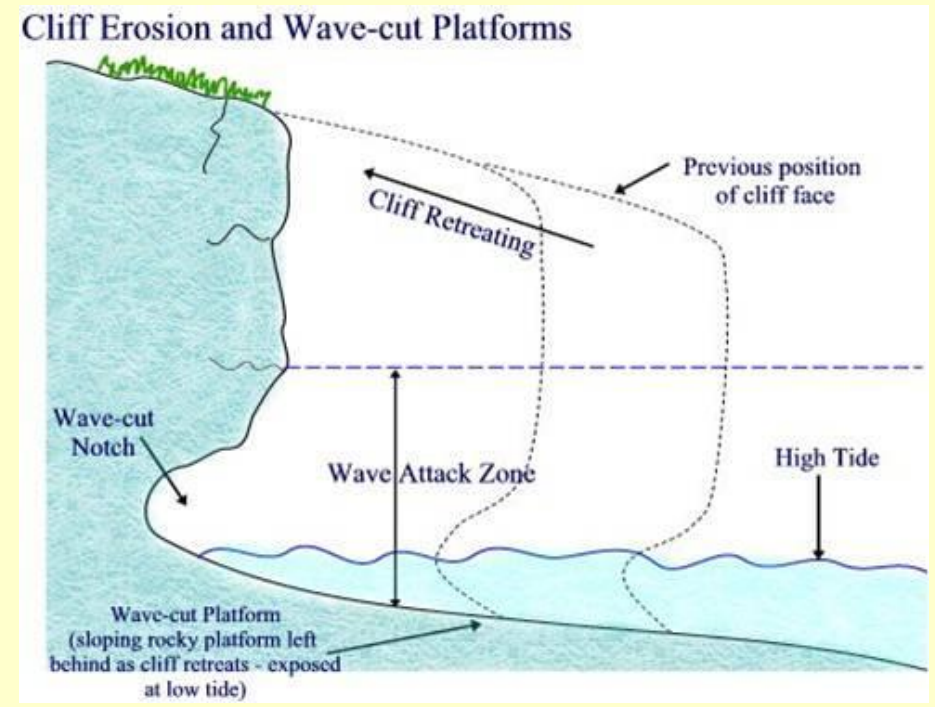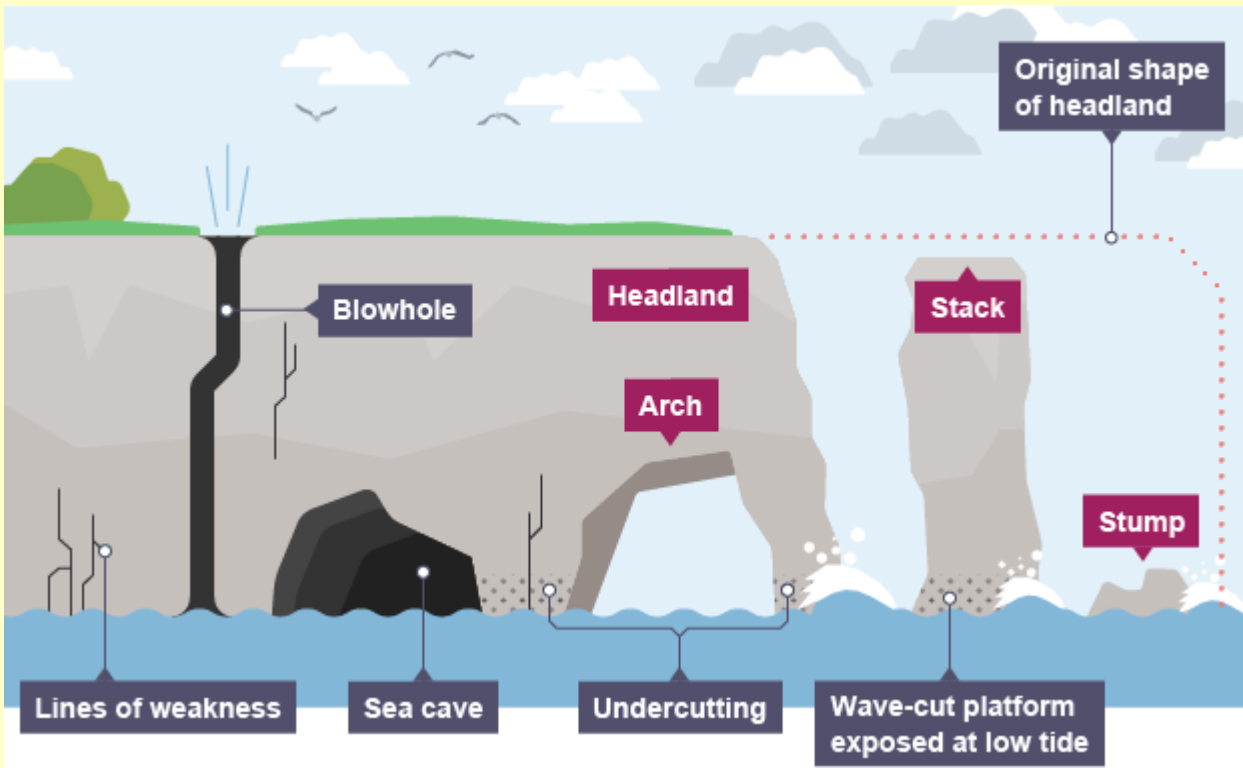# YEAR 7 KNOWLEDGE ORGANISER: What are landscapes like in the U.K?

There are 3 main types of weathering:

1. Physical

2. Chemical

3. Biological

Physical weathering

1. Water enters crack in rock
2. Water freezes and expands, widening crack
3. Ice melts and water goes deeper into crack
4. Process repeats until rock splits

Biological weathering

Roots enter small crack in rock
As roots grow, crack gets larger
Rock breaks away

Chemical weathering
Rainwater and seawater can be a weak acid. If a coastline is made up of rocks such as limestone or chalk, over time they can become dissolved by the acid in the water.

Diagram 1 — Coastal features:

Original shape of headland

Blowhole

Headland

Stack

Arch

Stump

Lines of weakness

Sea cave

Undercutting

Wave-cut platform exposed at low tide

Diagram 2 — Cliff Erosion and Wave-cut Platforms:

Cliff Erosion and Wave-cut Platforms

Previous position of cliff face

Cliff Retreating

Wave-cut Notch

Wave Attack Zone

High Tide

Wave-cut Platform (sloping rocky platform left behind as cliff retreats - exposed at low tide)

Diagram 3 — Longshore drift:

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Direction of longshore drift

swash   backwash

prevailing wind

Diagram 4 — Coastal Erosion:

COASTAL EROSION

HYDRAULIC ACTION

Wave pounding

Wave-cut notch

ATTRITION

ABRASION

SOLUTION

Wave-cut platform

Erosion is the wearing away of the land by the sea. Destructive waves erode the coast in a number of different processes:

HYDRAULIC ACTION
When waves hit a cliff, air is compressed into cracks. When the wave breaks, the air rushes out of the gap causing erosion.

ABRASION
Bits of rock and sand in waves grind down cliff surfaces like sandpaper.

ATTRITION
Waves smash rocks and pebbles on the shore into each other, and they break and become smaller and smoother.

SOLUTION
Acids contained in sea water will dissolve some types of rock such as chalk or limestone.

Type / Location	Advantages	Picture	Disadvantages
Concrete Sea Wall (HARD technique) Deflects the waves (Withernsea, East Yorkshire)	➡Deflects Waves ➡Strong ➡Effective ➡Lasts a long time		➡Expensive ➡Likely to need repair fairly regularly ➡Deflected waves can 'scour' sea bed and undermine the sea wall foundations
Groynes / Breakwater (HARD technique) Wooden or boulder 'fences' designed to trap & accumulate sand. (Hornsea, East Yorkshire)	➡Builds up the beach ➡Makes a wider beach ➡Provides calm water ➡Encourages tourism		➡Need repairs ➡OK with medium waves – but strong waves still get to cliff face ➡Leads to faster cliff erosion down the coast by robbing it of potential beach material.
Gabions (HARD technique) Wire cages filled with stones/ rocks stacked along the cliff base (Easington, E. Yorkshire)	➡Easily installed ➡Cheaper than sea wall		➡Not very attractive ➡Needs frequent checking & repair ➡Not easy for people to get over to get to beach ➡May contain rats nests
Rock Armour / Rip-Rap (HARD technique) Granite boulders (very resistant) (Withernsea, East Yorkshire)	➡Popular option in recent years – seen to be effective ➡Cheaper than sea wall		➡Not very attractive ➡Not easy for people to get over to get to the beach (broken ankles) ➡Rats may live in spaces

Soft engineering

Strategy	Description	Advantage	Disadvantage
	Managed Retreat: To let an area that was not previously exposed to flooding by the seas to become flooded by removing coastal protection.	• It is cheaper than other strategies • Creates new wetlands • Helps create better habitats for animals	• Less attractive in some case • Could reduce human activity around the are (farming) • Could destroy habitats
	'Do Nothing': Not attaching any coastal managing strategies	• A similar view without so much barriers may be attractive	• Erosion • Longshore drift • Properties nearby could eventually fall into the sea
	Beach Nourishment: Restoring sand or sediment along the coast that was lost through longshore drift or erosion.	• The beach will look more attractive • More tourists • Slows down the rate the shoreline is eroded	• Could create greater erosion in different area • Could be very expensive • Habitats located in beaches could be destroyed