

### Relief of the UK

Relief of the UK can be divided into uplands and lowlands. Each have their own characteristics.

**Key**

- Lowlands
- Uplands

**Areas +600m: Peaks and ridges cold, misty and snow common. i.e. Scotland**

**Areas - 200m: Flat or rolling hills. Warmer weather. i.e. Fens**

### Types of Erosion

The break down and transport of rocks – smooth, round and sorted.	
<b>Attrition</b>	Rocks that bash together to become smooth/smaller.
<b>Solution</b>	A chemical reaction that dissolves rocks.
<b>Abrasion</b>	Rocks hurled at the base of a cliff to break pieces apart.
<b>Hydraulic Action</b>	Water enters cracks in the cliff, air compresses, causing the crack to expand.

### Types of Transportation

A natural process by which eroded material is carried/transported.	
<b>Solution</b>	Minerals dissolve in water and are carried along.
<b>Suspension</b>	Sediment is carried along in the flow of the water.
<b>Saltation</b>	Pebbles that bounce along the sea/river bed.
<b>Traction</b>	Boulders that roll along a river/sea bed by the force of the flowing water.

### Mass Movement

A large movement of soil and rock debris that moves down slopes in response to the pull of gravity in a vertical direction.

1	Rain saturates the permeable rock above the impermeable rock making it heavy.
2	Waves or a river will erode the base of the slope making it unstable.
3	Eventually the weight of the permeable rock above the impermeable rock weakens and collapses.
4	The debris at the base of the cliff is then removed and transported by waves or river.

### Formation of Coastal Spits - Deposition

**Example: Spurn Head, Holderness Coast.**

Material moved along beach in zig-zag way. Coastline changes direction. Material deposited in shallow, calm water, to form a spit. Prevailing winds bring waves in at an angle. Spit curved with change of wind direction.

- 1) Swash moves up the beach at the angle of the prevailing wind.
- 2) Backwash moves down the beach at 90° to coastline, due to gravity.
- 3) Zigzag movement (Longshore Drift) transports material along beach.
- 4) Deposition causes beach to extend, until reaching a river estuary.
- 5) Change in prevailing wind direction forms a hook.
- 6) Sheltered area behind spit encourages deposition, salt marsh forms.

### Types of Weathering

Weathering is the breakdown of rocks where they are.

<b>Carbonation</b>	Breakdown of rock by changing its chemical composition.
<b>Mechanical</b>	Breakdown of rock without changing its chemical composition.

### What is Deposition?

When the sea or river loses energy, it drops the sand, rock particles and pebbles it has been carrying. This is called deposition.



# Unit 1c Physical Landscapes in the UK

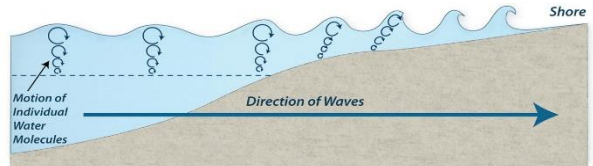
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### How do waves form?

Waves are created by wind blowing over the surface of the sea. As the wind blows over the sea, friction is created - producing a swell in the water.

### Why do waves break?

- 1) Waves start out at sea.
- 2) As waves approaches the shore, friction slows the base.
- 3) This causes the orbit to become elliptical.
- 4) Until the top of the wave breaks over.



### Mechanical Weathering Example: Freeze-thaw weathering

<b>Stage One</b> Water seeps into cracks and fractures in the rock.		<b>Stage Two</b> When the water freezes, it expands about 9%. This wedges apart the rock.		<b>Stage Three</b> With repeated freeze-thaw cycles, the rock breaks off.	
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### Size of waves

### Types of Waves

<b>Constructive Waves</b> This wave has a <b>swash</b> that is stronger than the backwash. This therefore builds up the coast. 	<b>Destructive Waves</b> This wave has a <b>backwash</b> that is stronger than the swash. This therefore erodes the coast. 
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### Formation of Bays and Headlands

**Bay** (Soft rock), **Headland** (Hard rock).

- 1) Waves attack the coastline.
- 2) Softer rock is eroded by the sea quicker forming a bay, calm area cases deposition.
- 3) More resistant rock is left jutting out into the sea. This is a headland and is now more vulnerable to erosion.

### Formation of Coastal Stack

Cave, Wave cut platform, Stack. **Example: Old Harry Rocks, Dorset**

- 1) Hydraulic action widens cracks in the cliff face over time.
- 2) Abrasion forms a wave cut notch between HT and LT.
- 3) Further abrasion widens the wave cut notch to form a cave.
- 4) Caves from both sides of the headland break through to form an arch.
- 5) Weather above/erosion below –arch collapses leaving stack.
- 6) Further weathering and erosion eaves a stump.