



As Geographers, our big question is... Do all our beaches look the same?



REMEMBERING



UNDERSTANDING



Weathering is the process of wearing away rocks by the weather.

There are three different types of **weathering**:

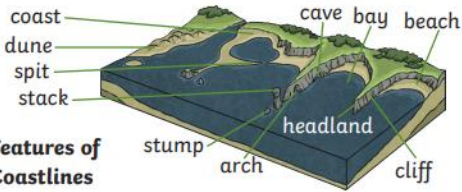
- physical **weathering**
- chemical **weathering**
- biological **weathering**

Erosion is where natural materials are worn away and transported by environmental features such as water, wind and ice.

Spits

Formed by **deposition**.

1. The tide carries eroded material along the coastline.
2. **Deposits** form a long, thin sandy area of land.
3. Changing winds may cause the spit to form a hook shape.
4. Mud flats develop on the inland side of the spit.



Features of Coastlines

Physical Weathering

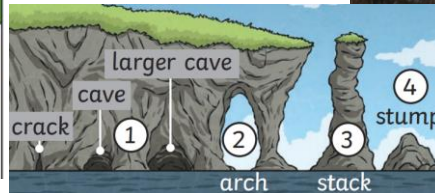
Water gets into cracks in the rock, it can then freeze causing the water to expand creating cracks in the rock.

Chemical Weathering

Slightly **acidic** rainwater can cause a chemical reaction and over time this can **dissolve** some of the rock.

Biological Weathering

Caused by animals and plants. Roots can grow under rocks and cause damage, animals can wear away paths, dig holes etc.



Bays and Headlands

Where there is harder and softer rock, the softer rock will erode more quickly and can form bays. The harder rock erodes more slowly and can form headlands surrounding bays.



Arches, Stacks and Stumps

Softer or weak sections of the rock are **eroded** more easily.

1. Over time, waves cause cracks to open forming caves.
2. If a cave forms in a headland, it may break through causing an arch to form.
3. The top of the arch can weaken and may collapse into the sea leaving a stack.
4. Over time, the stack will **erode** leaving a small stump of rock.

APPLYING



My Aspirations



Island Designer

With this knowledge you could design new islands around the world, similar to the Palm Jumeirah in Dubai.

Vocabulary

Abrasion

The process of scraping or wearing something away.

Erosion

When natural materials are worn away and transported to a different place.

Weathering

The process of wearing away rocks by the weather.

Dissolve

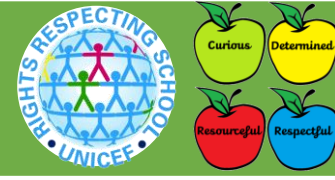
When a solid substance mixes with a liquid to make a solution.

Deposition

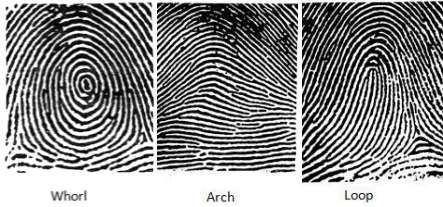
When material/sediment is moved and dropped off in a different place.



As Scientists, our big question is... Could you be the next CSI investigator?



REMEMBERING Prior Learning



Your fingerprints are unique. That means that no one else in the world has the exact same set of ridges and lines that you have on your fingers. Even identical twins do not have the same fingerprints.

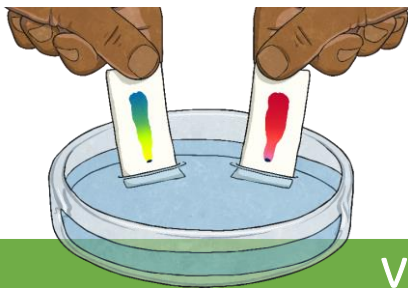


Solid	Liquid	Gas
<ul style="list-style-type: none"> ✓ Definite shape ✓ Definite volume ✓ Definite mass ✓ Close particles ✓ ↓ kinetic energy 	<ul style="list-style-type: none"> ✗ Definite shape ✓ Definite volume ✓ Definite mass ✓ Close particles ✓ ↑ Kinetic energy 	<ul style="list-style-type: none"> ✗ Definite shape ✗ Definite volume ✓ Definite mass ✓ Particles far apart ✓ ↑ Kinetic energy

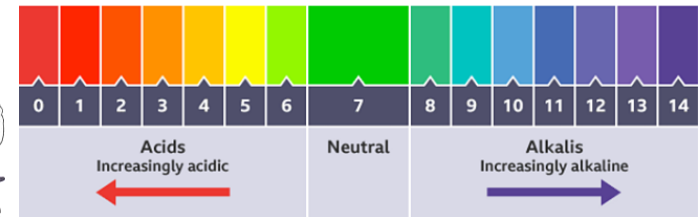
UNDERSTANDING Sticky Knowledge

Chromatography

Chromatography is a scientific technique used by CSI technicians. It is used to separate the components, or parts, of a mixture. The pattern left by the colours is called a 'chromatogram'. Each colour is made of different inks, meaning they will have their own chromatogram.



CSI technicians are very important members of criminal investigations. They search for and analyse evidence left at crime scenes. They carry out scientific tests on the evidence they find, and use their results to either link a suspect to a crime, or to prove that a suspect did not commit a crime.



The pH scale

The pH scale is a number scale from 0 to 14. It tells us how acidic or alkaline a liquid is. The pH scale is used to classify as acidic, alkaline or neutral.

- Neutral solutions are exactly pH 7.
- Acidic solutions have pH values less than 7. The closer to pH 0, the more acidic a solution is.
- Alkaline solutions have pH values more than 7. The closer to pH 14, the more alkaline a solution is.

APPLYING My Aspirations

As a Crime Scene Investigator, it's your role to gather forensic evidence from crime scenes that will ultimately lead to the detection and prosecution of criminals. You'll process crime scenes using specialist techniques to visualise, capture and recover evidence.

CRIME SCENE - DO NOT CROSS

Vocabulary

Evaporate	Dissolve	Dilute	Matter	Reversible	Irreversible
Turns from a liquid into a gas/vapor.	When a solid gets incorporated into a liquid.	To make a liquid thinner or weaker.	A substance that takes up space and has volume.	Capable of being reversed so that the previous state or situation is restored.	Incapable of being reversed so that the previous state or situation is restored.