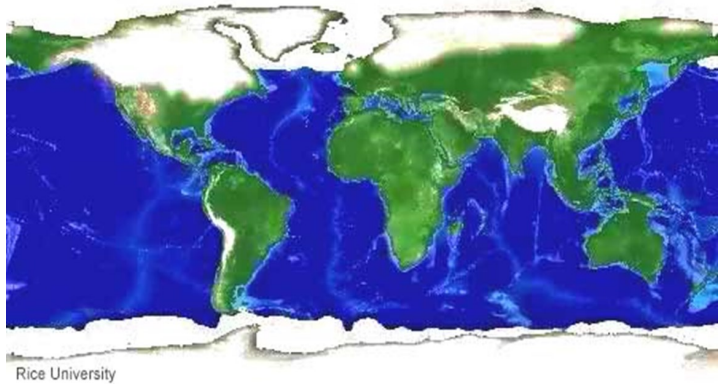
YEAR 7 GEOGRAPHY - COLD ENVIRONMENTS

1. KEY VOCABULARY

Climate	Long cold winters, with annual temperatures mostly below freezing. Polar areas are often windy, with very little **precipitation.** Permanent **ice caps** cover polar landscapes.
Ice sheet	Giant glaciers that cover huge areas.
Glacier	Large masses of ice that flow across the land and down slopes
Erosion	The wearing away of the land
Plucking	Rocks frozen to the glacier are tugged at and removed leaving jagged surfaces.
Meltwater	The water from the melting ice
Abrasion	Rocks and stones in the glacier rub against the bedrock making it smooth
Freeze thaw weathering	Water turns to ice and expands which widens cracks. When the temperature rises the ice thaws. The process continues causing pieces of rock to break up.
Glaciation	The study of ice and its impact on the environment

2. WHERE ARE GLACIERS FOUND?

Any where on this map which is coloured white is where glaciers can be found. They can be found in both North and South America, Asia, and Antarctica.



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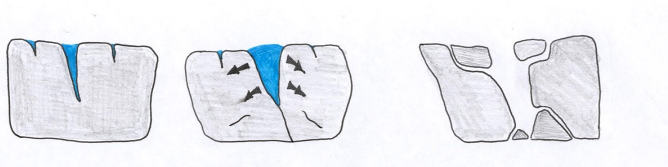
3. EROSIONAL PROCESSES

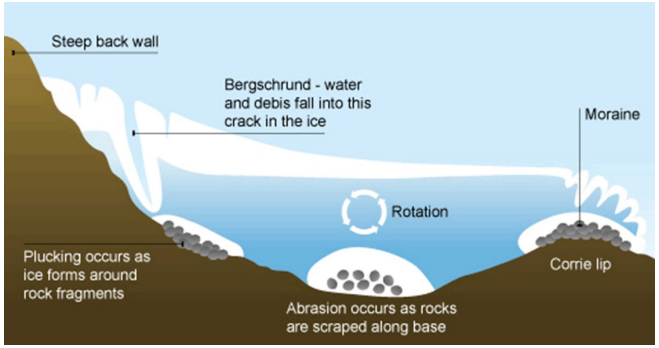
1. Freeze Thaw weathering —



Water fills cracks in the rock and ice	The water then freezes and expands	This expansion causes the rock/ice to break apart

2. Plucking— Plucking is the tearing away of blocks of rocks as a glacier moves

3. Abrasion— Rocks are frozen to the base of the glacier – these scrape the ground underneath. This is called abrasion



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4. DEPOSITIONAL LANDFORMS

Deposition is the **geological process in which sediments, soil and rocks are added to a landform or land-mass**. Wind, ice, water, and gravity transport previously weathered surface material, which, at the loss of enough energy iis deposited, building up layers of sediment.

Key Term	Description	Diagram
Till	A mixture of rock, stones, sand and clay carried by a glacier	
Moraine	The deposited material that falls to the floor when a glacier melts	
Terminal Moraine	When a ridge of moraine builds up at the end of the melting glacier	
Lateral Moraine	When the whole glacier melts the till drops and forms ridges at the sides.	
Ground Moraine	The till that was frozen into the base of the glacier falls all over the valley floor when the glacier melts	
Erratics	Huge rocks that are carried by the glacier and dropped when it melts	
Drumlins	Low hills shaped like the back of a spoon due to the glacier flowing over deposited material	

5. THE FORMATION OF A CORRIE

1. As snow gathers and piles up the pressure forms ice and it starts to move downhill

2. The process of plucking steepens the back of the corrie. Ice rotates, scooping out the floor of the corrie.

3. Frost action make the mountain jagged .

4. Water may gather on the floor of the corrie. This is know as a tarn

6. ANTARCTICA

Antarctica is one of the world's 7 continents. It is located in the Southern Hemisphere and is surrounded by 4 Oceans— Pacific Ocean, Atlantic Ocean, Indian Ocean and the Southern Ocean. It is within the Antarctic circle at 66.33°.

Some of he animals which can be found here are the Adelie Penguins, Killer Whales (Orcas) and the Snow Petrel.

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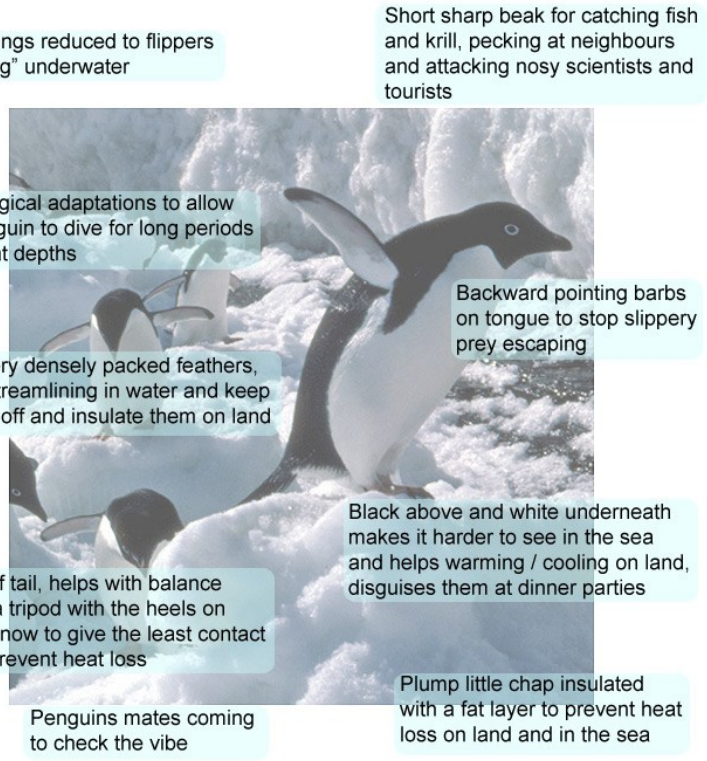
7. ANIMAL ADAPTATIONS

An adaptation is **any trait that helps an organism**, such as a plant or animal, survive and reproduce in its environment.

Some adaptations include - Penguins and seals have a thick layer of blubber (fat) which keeps them insulated in the very cold conditions. Penguins also have a coat on their feathers with oil from a gland near the tail to increase impermeability, Heavy, solid bones act like a diver's weight belt, allowing them to stay underwater and are Black and white countershading makes them nearly invisible to predators from above and below.



8. KEEPING ANTARCTICA ON THE MAP

What can we do to keep Antarctica on the map?

Ecotourism Low impact travel to endangered and often undisturbed locations	**The Antarctic Treaty** Set up to protect Antarctica's resources and stop exploitation	**A Free For All** Anyone who is interested can have access to the resources and landscape of Antarctica.
A Global Regime This would include all the countries of the world. All countries would be allowed to access Antarctica but there would be some rules and regulations.	**Create A World Park** All exploitation of resources would be banned. Tourists would be allowed in in limited numbers with limited facilities. Limited research would be allowed.	

Why is it important to keep Antarctica on the map?

Antarctica is a remarkable continent – remote, hostile and uninhabited. ... Antarctica is **important for science because of its profound effect on the Earth's climate and ocean systems**. Locked in its four kilometre-thick ice sheet is a unique record of what our planet's climate was like over the past one million years. This can help us to understand what happened in the past geologically.