

## Extreme Environments – Cold Glaciers

To be able to define an ice age.

A long-term reduction in the earth's temperature

To know two causes of an ice age.

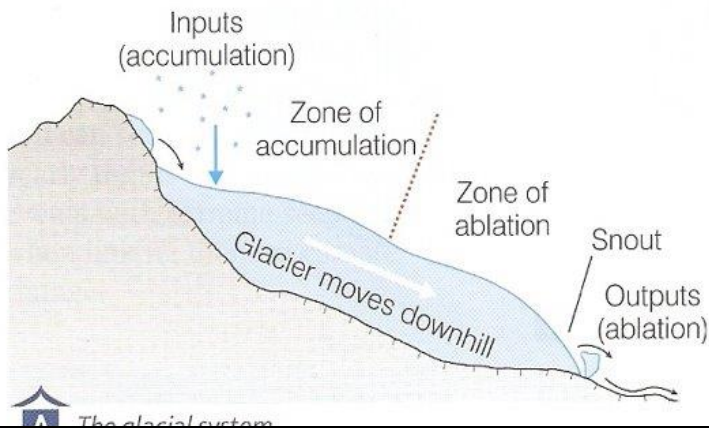
Changes in the earth orbit, less solar energy reaching the earth, a meteorite creating dust blocking the sun, a super volcanic eruption creating ash blocking the sun.



To be able to describe the location of global ice.

To know one global location with unexpected ice and the reason for this (review)

Some of the highest mountains in Africa are covered in ice due to altitude.



To be able to give a basic sequence for the formation of a glacier.

Snow falls in a hollow and compacts into neve. As the snow compacts more and more it becomes heavier. It will eventually start to move slowly down hill due to its weight and gravity.

To know three key features of a glacier.

To be able to define erosion, transportation, deposition (review)

The wearing away of land, the movement of eroded material, when eroded material is dropped due to lack of energy.

To be able to define plucking abrasion and freeze thaw (part review)

When rocks are pulled out of the land, when rocks are rubbed off the land, when land breaks up due to repeated freezing and thawing of ice.

To know 4 landforms created by glaciers.

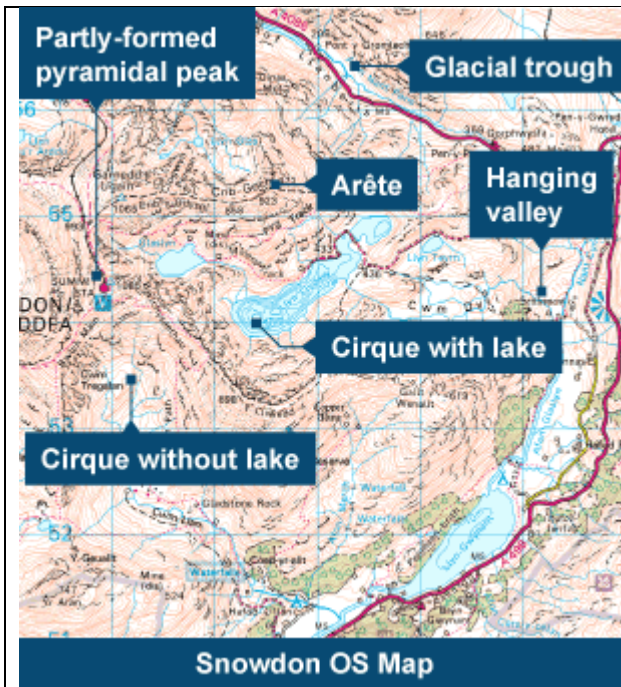
Arete, pyramidal peak, corrie, glacial trough, hanging valley, ribbon lake

To be able to give a basic sequence of the formation of corries and one other glacial feature.

Corries form in hollows where snow can accumulate. The snow compacts into ice and this accumulates over many years to compact and grow into a corrie/cirque glacier. This then moves down hill because of gravity and the mass of the ice.

Aretes are formed when two corries form back to back and pyramidal peaks are formed by three back to back corries

To be able to pick out three glacial landforms on an OS map.



To be able to define wilderness

Natural environments on Earth that have not been significantly changed by human activity

To know two advantages and two disadvantages of living in a glacial environment.

Glacial environments are clam and beautiful and people can adpt to live in them by wearing furs and having steep roofs on their housing. However, they are extremely cold and harsh which makes building and transport difficult and expensive.

To be able to describe the location of Antarctica (review)



To be able to describe the features of the environment in Antarctica.

Antarctica is almost completely covered by an ice sheet. At its thickest, the ice is over 4 km deep. Beneath the ice sheet is a hidden landscape of mountains, valleys and plains. It is extremely cold average annual temperature ranges from about  $-10^{\circ}\text{C}$  on the coast to  $-60^{\circ}\text{C}$

To know why Antarctica is an important environment

Antarctica is important for science because of its profound effect on the Earth's climate and ocean systems. It is one of the few remaining wildernesses.

To know what the Antarctica treaty is.

The Antarctica treaty restricts activities in Antarctica in order to preserve the continent.

To know three reasons why Antarctica is under threat

Each year more and more tourists want to visit the continent. There are also vast reserves of raw materials in Antarctica, as these raw materials become scarce elsewhere there will be more pressure to get them from Antarctica. However, the extreme temperatures will make this difficult and expensive. Global warming is causing the planet to heat up which is impacting the level of ice and in turn the wildlife habitats in Antarctica. As ice melts extracting resources will become easier and cheaper.