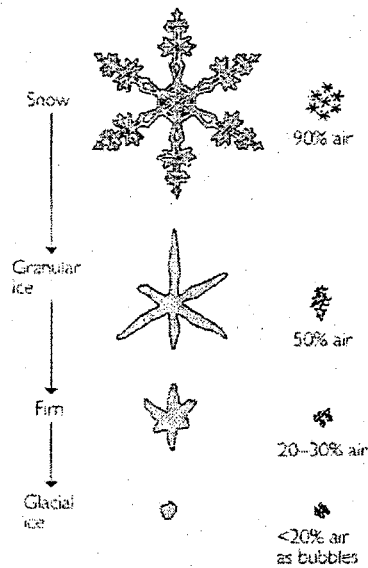


Why are glaciers blue?



Snow begins as tiny droplets of water which join together high in the atmosphere and eventually fall to Earth and may freeze if temperatures are cold enough, forming snow.

Fresh snow is fluffy mass of loosely packed snowflakes.

If the temperature remains cool, the snow flakes shrink to less distinct grains. If more snow falls, then the grains become buried and increasingly compacted forming 'firm.'

With more time and burial, the snow becomes ice as the smallest ice grains recrystallise, cementing all the grains together.

This process may take only a few years, but usually takes about 10-20 years.

A glacier starts with abundant winter snowfall that does not melt away in the summer.

A glacier is blue because it absorbs the red part of light, allowing a brilliant blue to radiate out. If you think of light as really made up of all the colours of a rainbow, the red part is moving 'slower' (longer wavelength) and the blue end of light is moving 'faster' (shorter wavelengths).

Snow is white because there is a lot of air between the snow grains, so all the light is scattered back to you. With glacier ice, there is very little air between the ice grains, so only the blue light can get through, the slower wavelengths of light having been absorbed by the ice grains. The deeper the blue, the less air there is trapped in the ice to allow light to pass through.