

What is a glacier?

- ▶ To be able to identify what a glacier is and understand that there are different types of glacier
- ▶ To be able to explain how a glacier forms
- ▶ To be able to explain how a glacier moves

Write down 4 questions about this picture



What is a glacier?

A glacier is a body of _____ that is formed in cold and _____ areas across the world. They _____ very slowly downhill due to gravity. As a result they _____ the _____ of the land around them.

CHANGE ICE MOVE
MOUNTAIN SHAPE



Challenge:

What might make a glacier change size?

What might make a glacier speed-up or slow down?

Geography Resource 4 – Match Up

There are several different types of glacier

- ▶ Match up the image with the description.



Ice sheet – a mass of ice that covers an area greater than 50,000 km².

What are the types of glacier?



Valley glaciers are streams of flowing ice that are contained within a steep-sided valley.

What are the types of glacier?



An **ice cap** is an area of ice that covers less than 50,000 km² of land.

What are the types of glacier?



A **piedmont glacier** flows out the bottom of a glacier onto a relatively flat plain. The bottom spreads out in a fan over the flat land.

What are the types of glacier?



An **ice shelf** occurs when a glacier flows out over the sea and floats on the water. They range from a few hundred meters long to kilometres long.

What are the types of glacier?



A **tidewater glacier** is when a valley glacier flows far enough to reach the sea. Icebergs will break off the end of the glacier and float away on the sea.

How does a glacier form?

- ▶ It is made of snow!!
- ▶ Watch the video to find out how...
- ▶ Think about a snowball...

How does a glacier form?

The formation of a glacier

- ▶ Layers of _____ build-up over time.
- ▶ The _____ of the snow on top pushes down on the snow underneath.
- ▶ This pushes the _____ out of the snow. Therefore snowflakes get pushed _____ together.
- ▶ Over time so much air is _____ that it starts to become _____. This is called firn ice.
- ▶ After even longer, so much of the air is removed that it becomes _____.

▶ ICE AIR GLACIER ICE REMOVED

▶ SNOW WEIGHT CLOSER

Challenge:

Describe what the layers look like – snow, firn ice and glacier ice

Describe what it would be like to be stuck under a glacier.

How thick do you think a glacier is?

How does a glacier move?

<https://www.youtube.com/watch?v=9mhtzkXO5SM>

HINT: What happens to ice in the summer?

Think of a water slide!

Write a couple of sentences explaining how a glacier moves. Use the key words:

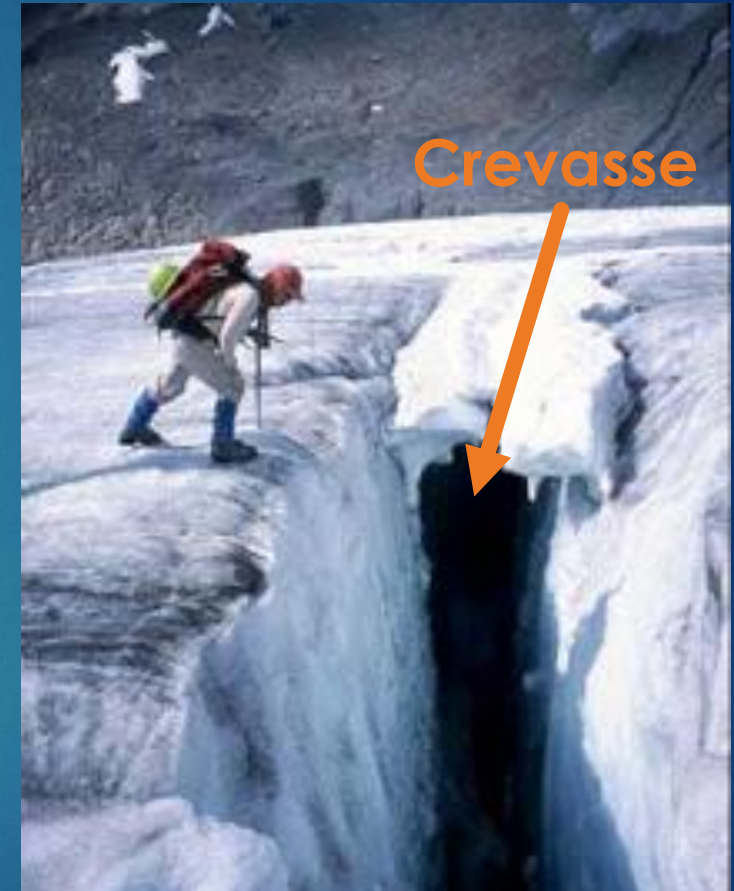
Summer meltwater crevasse (crack in glacier)
bottom of glacier slides

Challenge: reduces friction

Challenge

Explain how these things could change how fast a glacier moves:

- Weight / thickness
- Steepness
- Quantity of water



How fast do you think a glacier moves?

What is this picture of?

How does it link to a glacier moving?

