

# Glacial Formations

All around us in Scotland, including in the heart of Edinburgh, we can see evidence of the ice ages from the past.

The world began to warm up from the last age, around 11,000 years ago, leaving behind deep valleys, lochs, and other formations for us to enjoy!

Do you know how the ice carved out these features?

One great way to explore this is to try it out for yourself!



*Glencoe, a U-shaped Valley*

## Make your Own!

You will need:

- A sandpit or a tray of sand
- Something to be your glacial, such as a real block of ice, a building block or even just a rock
- Other rocks or pebbles

Follow the instructions on the next pages to make a corrie, a U-shaped valley, moraine and a crag and tail. Read about each feature and see if you can spot any real ones in and around Edinburgh and the rest of Scotland.

Here's a [video](#) to show you how to set up your tray!



### Corrie



#### The 'bum-print' of a glacier

- Pile some sand into a mound in one corner of the box. This is your mountain.
  - Press and wiggle your ice into the side of your mountain
  - Keep pushing your ice until it has sunk into the sand
  - Carefully remove the ice and admire your corrie!
- Corries are formed when ice fills a pit. Rocks stuck in the ice act like sandpaper, making the pit deeper and wider. The broken bits of rock are carried away by the flowing ice. Most glaciers start in a corrie.

### U-shaped Valley



#### The biggest things made by glaciers

- Spread out the sand so it covers the whole box. Choose an uphill and a downhill.
- Press and wiggle the ice into the sand at the uphill end.
- Keep pressing down and then slowly push the ice downhill
- Stop pushing when you've reached the downhill end of the box.
- Extra valleys that join the main valley are called tributaries.

U-shaped valleys are cut into rock, mud, or sand. Rocks stuck in the glacier act like sandpaper and scrape away at the valley sides and floor, making it wider and deeper. Many lochs in Scotland are U-shaped valleys which have been filled with water.

### Moraine



#### The 'fingerprint' of a glacier

- Spread out the sand so it covers the whole box. Choose an uphill and a downhill.
  - Press and wiggle the ice into the sand at the uphill end.
  - Keep pressing down and then slowly push the ice downhill, stop at the bottom.
  - The sand piled up in front of your ice is the End Moraine
  - The sand piled at the sides is the Lateral Moraine
- These piles of rocks, sand, and gravel are left behind by moving glaciers. They are often pushed up into a pile by the moving ice.

### Crag and Tail



#### Like and island in a river of ice

- Spread out the sand so it covers the whole box. Choose an uphill and a downhill.
- Place two blocks of ice uphill. Push the rock into the sand near the ice. This is the crag.
- The ice breaks, so push each block of ice either side of the rock.
- Push the ice straight downhill. Stop pushing when you've reached the end of the box.

This is a hill with a craggy top on one side and a long slope on the other. They are formed when a glacier meets some resistant rock which it can't scrape away. The resistant rock forms the 'crag'. Less resistant rock or sediments behind are protected and form the 'tail'. An example of this is Edinburgh Castle (the crag) and the Royal Mile (the tail).

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