

Lesson 1: Key terms and definitions for glacial and periglacial environments

Instructions

Terms and definitions are shown out of order on page 2, and in order on pages 3 and 4. Classroom activities can include:

- Students can match terms with the correct definitions by numbering the definitions to indicate which term applies. (*Answers on page 5.*)

Or

- Cut out the terms and definitions on pages 3 and 4, and give each student a term and definition for 'speed dating'. Each student finds a partner and quizzes their partner on the definition of their term. The student then reads out the term and definition to see if their partner was correct. The partner then has the opportunity to quiz with his/her definition! After the two have quizzed each other, they swap terms/definitions, and each person finds a different person to quiz and be quizzed by. The game can continue until each individual has seen most terms/definitions.

To view photos relating to the terminology from this activity, visit SwissEduc – Glaciers online and go to the 'Photoglossary' <http://www.swisseduc.ch/glaciers/glossary/index-en.html>

Some Photos relating to periglacial processes and landforms can be viewed at:

<http://www.flickr.com/photos/wyojones/galleries/72157623260745501>

See the next page for out of order terms and definitions

Number	Term	Definition	Number match
1	glacier	A small glacier, typically between 0.5 and 10km ² in area, that forms in shady, sheltered hollows high up on the sides of mountains.	
2	nivation	A phase during recent geological time when the world's climate is relatively warm and ice sheets are reduced in size and restricted to high latitudes.	
3	erratic	A very large glacier (over 50,000km ²) that is dome shaped with ice flowing outward from the higher elevation centre.	
4	glacial plucking	Pertaining to non-glacial cold-climate processes and landforms; often, but not only, found near to glacial environments.	
5	till	A type of 'end moraine' that forms along the snout of a glacier and represents the furthest advance of that glacier.	
6	ice sheet	A mass of land ice derived mainly from snowfall that deforms under its own weight and flows down slope.	
7	frost action	An erosional process by which rock material frozen to the base of a glacier abrades underlying rock as the glacier moves.	
8	cirque glacier	Found where soil and rock have a temperature below 0°C for at least two consecutive years.	
9	patterned ground	The formation and enlargement of a hollow on a hillside caused by the presence of a snow patch and the associated freeze-thaw weathering, mass movement, and meltwater erosion.	
10	glacial (<i>as a time period</i>)	An erosional process by which glaciers loosen, detach, and pick up pieces of rock from the bedrock they move over.	
11	moraine	A physical weathering process caused by alternating freezing and thawing of water in cracks and pore spaces in rock.	
12	glacial abrasion	A linear accumulation of till that forms and is deposited along the side of a glacier.	
13	scree slope	In a periglacial environment, an accumulation of frost-shattered stones and boulders on a flat or low angle slope.	
14	periglacial	Debris that is deposited by the direct action of a glacier. It is an 'unsorted', non-stratified, and unconsolidated deposit.	
15	solifluction	A result of periglacial processes in which stones on the surface become organised into patterns such as stripes, circles, and polygons.	
16	terminal moraine	A rock that has been moved by a glacier far from its origin and deposited in an area of contrasting geology.	
17	active layer	A phase during recent geological time when ice sheets are much more extensive than today and the world's climate is colder and drier.	
18	striations (striae)	An accumulation of debris transported or deposited by a glacier. Also refers to the landforms made of till that result from glacial deposition.	
19	lateral moraine	In a periglacial environment, the top layer of ground above permafrost that experiences seasonal freezing and thawing.	
20	interglacial	Scratches and grooves in rock caused by glacial abrasion and oriented parallel with the former direction of glacier flow.	
21	blockfield	A process of mass movement whereby surface material, saturated with water, moves slowly down slope. Commonly occurs on low angle slopes under periglacial conditions when the active layer thaws.	
22	permafrost	A sloping accumulation of angular rock fragments against a cliff caused by physical weathering and rockfall – formation favoured by frost-shattering under periglacial conditions.	

Term	Definition
active layer	In a periglacial environment, the top layer of ground above permafrost that experiences seasonal freezing and thawing.
blockfield	In a periglacial environment, an accumulation of frost-shattered stones and boulders on a flat or low angle slope.
cirque glacier	A small glacier, typically between 0.5 and 10km ² in area, that forms in shady, sheltered hollows high up on the sides of mountains.
erratic	A rock that has been moved by a glacier far from its origin and deposited in an area of contrasting geology.
frost action	A physical weathering process caused by alternating freezing and thawing of water in cracks and pore spaces in rock.
glacial	A phase during recent geological time when ice sheets are much more extensive than today and the world's climate is colder and drier.
glacial abrasion	An erosional process by which rock material frozen to the base of a glacier abrades underlying rock as the glacier moves.
glacial plucking	An erosional process by which glaciers loosen, detach, and pick up pieces of rock from the bedrock they move over.
glacier	A mass of land ice derived mainly from snowfall that deforms under its own weight and flows down slope.
ice sheet	A very large glacier (over 50,000km ²) that is dome shaped with ice flowing outward from the higher elevation centre.
interglacial	A phase during recent geological time when the world's climate is relatively warm and ice sheets are reduced in size and restricted to high latitudes.
lateral moraine	A linear accumulation of till that forms and is deposited along the side of a glacier.
moraine	An accumulation of debris transported or deposited by a glacier. Also refers to the landforms made of till that result from glacial deposition.
nivation	The formation and enlargement of a hollow on a hillside caused by the presence of a snow patch and the associated freeze-thaw weathering, mass movement, and meltwater erosion.
patterned ground	A result of periglacial processes in which stones on the surface become organised into patterns such as stripes, circles, and polygons.
periglacial	Pertaining to non-glacial cold-climate processes and landforms; often, but not only, found near to glacial environments.

permafrost	Found where soil and rock have a temperature below 0°C for at least two consecutive years.
scree slope	A sloping accumulation of angular rock fragments against a cliff which can be caused by frost-shattering and rockfall under periglacial conditions.
solifluction	A process of mass movement whereby surface material, saturated with water, moves slowly down slope. Commonly occurs on low angle slopes under periglacial conditions when the active layer thaws.
striations (striae)	Scratches and grooves in rock caused by glacial abrasion and oriented parallel with the former direction of glacier flow.
terminal moraine	A type of 'end moraine' that forms along the snout of a glacier and represents the furthest advance of that glacier.
till	Debris that is deposited by the direct action of a glacier. It is an 'unsorted', non-stratified, and unconsolidated deposit.

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10	glacial (<i>as a time period</i>)	An erosional process by which glaciers loosen, detach, and pick up pieces of rock from the bedrock they move over.	4
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16	terminal moraine	A rock that has been moved by a glacier far from its origin and deposited in an area of contrasting geology.	3
17	active layer	A phase during recent geological time when ice sheets are much more extensive than today and the world's climate is colder and drier.	10
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