Glacial landscapes and features assessment mat

1 **Define** 'glacial landscape'.	2 **Identify** what a 'roche moutonnées' is.	3 **State** one type of glacial deposit.	4 **Explain** how a ribbon lake is formed.	5 **Suggest** one reason why people live in glacial areas.
14 **Describe** the landscape shown in the photograph.	 *Part of Skaftafellsjökull glacier tongue, Iceland*			6 **Identify** two challenges of living in glacial landscapes.
13 **Theorise** how humans can threaten glacial landscapes.				7 **Define** what is meant by an 'interglacial'.
12 **Suggest** why it is useful to know a glacier's mass balance.	11 **Explain** how striations and moulins can show the direction of ice flow.	10 **Outline** one way that glacial landscapes provide economic opportunities.	9 **State** one way that humans use deglaciated landscapes in the UK.	8 **Describe** how climate change threatens glacial landscapes.

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1 Define 'glacial landscape'.
A distinctive landscape formed by processes of glacial erosion, transportation and deposition. *(A deglaciated landscape is one shaped by ice in the past but that ice has now retreated and melted.)*

2 Identify what a 'roche moutonnées' is.
A bare outcrop of rock (that looks like a sheep's head!) that has been shaped by erosion to leave one side smooth and gently sloping while the other side is steep, plucked & rough.

3 State one type of glacial deposit.
e.g. hanging valleys, U-shaped glacial trough, ribbon lakes, scree, moraine, drumlins, pyramidal peak, tarn, snout, fjord, erratics, boulder clay, till, corrie, crevasse, etc.

4 Explain how a ribbon lake is formed. Ribbon lakes are narrow finger-like lakes found in glaciated valleys, and were formed when glacial erosion had more energy and subsequently filled in with water.

5 Suggest one reason why people live in glacial areas.
e.g. economic opportunities such as employment for winter sports, hiking, glacier walks, etc.; scientific research; aesthetic attractive views; access to fresh water, etc.

14 Describe the landscape shown in the photograph.
The image shows a currently glaciated area. You can see two branches of the glacier flowing around a roche moutonnée. There are crevasses evident showing rotational slip, and an arête ridge.

Part of Skaftafellsjökull glacier tongue, Iceland

6 Identify two challenges of living in glacial landscapes.
e.g. cold temperatures, difficult to farm and produce crops, frozen ground difficult to build on, transport challenges, access to resources such as food, etc.

13 Theorise how humans can threaten glacial landscapes. e.g.
Currently glaciated areas can be at risk of over-crowding with increased tourism which can create problems such as land and water pollution, erosion of footpaths, damage to ice and landforms, etc.

7 Define what is meant by an 'interglacial'.
An interglacial is the period of time in between glacial periods (ice ages) when it is warmer and ice has retreated.

12 Suggest why it is useful to know a glacier's mass balance.
The mass balance shows the balance between ice accumulation (build up) and ablation (melting). It is useful to see whether a glacier is growing or shrinking.

11 Explain how striations and moulins can show the direction of ice flow.
Striations are scratches scoured in the bedrock that show the direction of flow, and moraines are deposited along the route as glaciers move showing their direction.

10 Outline one way that glacial landscapes provide economic opportunities.
Currently glaciated areas such as Iceland are popular for tourism which provides employment, as well as investment in infrastructure and employment for hotel staff, restaurants, etc.

9 State one way that humans use deglaciated landscapes in the UK.
e.g. locations such as Snowdonia are popular for tourism for mountain climbing, walking, kayaking, canyoning, hydroelectric power in highland reservoirs, etc.

8 Describe how climate change threatens glacial landscapes.
Rising global temperatures causes ice to melt and glaciers to shrink and disappear, potentially releasing meltwater and causing landslips or releasing spores from permafrost areas, etc.

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