Weathering and Mass Movement

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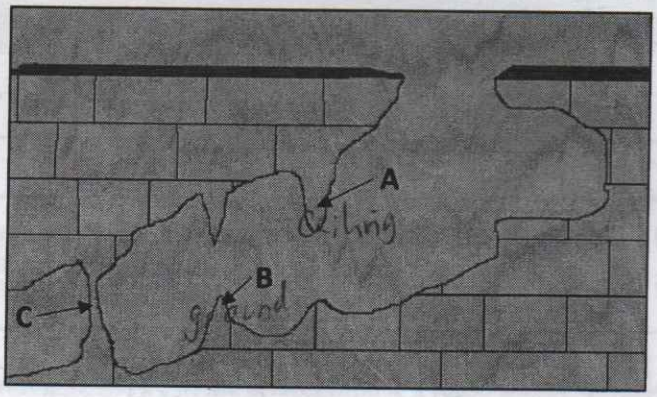
Draw Argaud 18/3/25.

studyc

Question 1

(c) Study the diagram below which shows some of the features that are found in a limestone landscape and answer each of the following questions.



(i) Name each of the features labelled **A, B** and **C.**

A.	Stalactite
B.	Stalagmite
C.	Pillar

(ii) Name **two** surface features that can be found in karst landscapes.

1.	Karren
2.	Clint

(iii) One process that leads to the development of a karst landscape is carbonation. What type of weathering is carbonation?
Tick (✓) the correct box.

Chemical ☑
Mechanical ☐

(iv) Explain how limestone rock is weathered by the process of carbonation.

When rain falls, it picks up carbon dioxide in the air. When it lands on limestone it wears away at it a bit and passes through. Limestone is permeable so water can pass through easily

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Question 2

(b) Read the article below and answer each of the following questions.

Plan to protect busy Croagh Patrick

The administrator of St Mary's Parish, Westport, has said that some weathering and erosion on the mountain is due to climatic factors. However, most of it is human-related and linked to the mountain's increased popularity as a climbing destination, attracting an estimated 100,000 climbers each year.

(i) How many people are estimated to visit Croagh Patrick each year?

100,000 ✓3

(ii) Damage from weathering and erosion may lead to a limit on the number of climbers allowed on Croagh Patrick meaning fewer tourists are likely visit the area. Briefly describe **one** economic impact this may have on the local area.

It would be bad for the area because less tourists means less jobs for tour guides and bus drivers since ~~they won't be needed~~ not as many will be needed with less tourists ✓3 ✓3

6

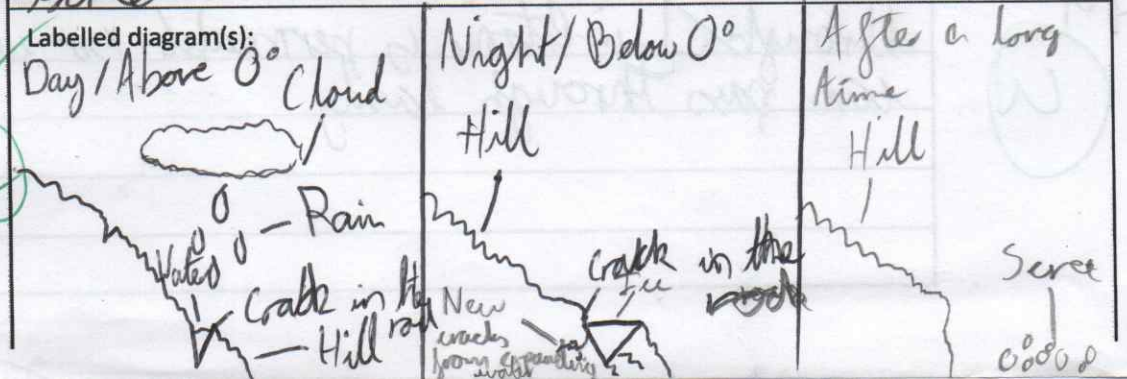
(iii) Name and explain **one** process of mechanical weathering that you have studied. Use a labelled diagram to illustrate your answer.

Name of process: Freeze-thaw action ✓2

Explanation: When water from rain or streams gets in cracks in rock it can make the crack bigger. This happens because when temperatures drop below 0° (usually at night), the water freezes and expands. This cracks the rock more and when it's day again and the water melts more can get in. After a long time, the cracks get so big pieces start falling off. Gravity pulls these pieces down and they become scree ✓2 ✓2 ✓2

10

Labelled diagram(s):

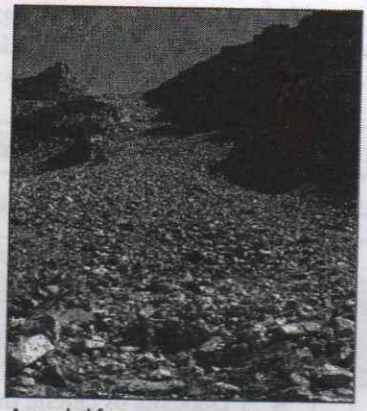


✓2

23

Question 3

4. WEATHERING



Amended from www.summitpost.org

Examine the photograph above and circle the correct answer in each of the following statements.

(i) The landscape shown in the photograph is a **scree slope / limestone pavement.**

(ii) The landscape shown in the photograph occurs as a result of **freeze-thaw action / carbonation.**

(iii) **Chemical weathering / mechanical weathering** is most associated with this landscape.

Question 4

1. WEATHERING

The photograph above shows limestone rock that has been weathered.

Circle the correct answer in each of the following statements.

(i) This area of weathered limestone is called a ***limestone pavement / limestone cave.***

(ii) This feature was formed by ***mechanical weathering / chemical weathering.***

(iii) An example of this feature can be found in ***the Burren / the Giant's Causeway.***

Question 5

3. LIMESTONE

In the boxes provided, match each of the letters in **Column X** with the number of its pair in **Column Y**. One match has been made for you.

Column X	
A	Stalagmite
B	Clints
C	Stalactite
D	Grikes

Column Y	
1	Deep cracks in the limestone pavement.
2	Deposits of calcite hanging from the roof of a cave.
3	Blocks of limestone.
4	Deposits of calcite on the floor of a cave.

X	Y
A	4
B	3
C	2
D	1

½ ½ ½ (6)

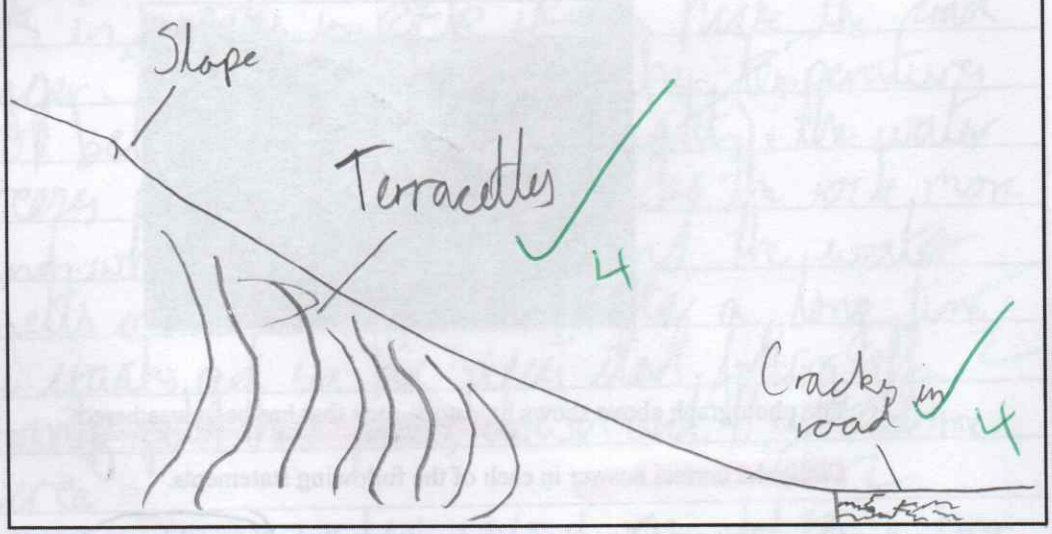
Question 6

(b) (i) Name **one** type of slow mass movement.

Soil creep ✓ 3

(ii) Draw a labelled diagram showing two effects of a type of slow mass movement. Label each effect on your diagram.

Space for labelled diagram:



11 – 1

Question 7

4. MASS MOVEMENT

Circle the correct option in each of the statements below.

(i) Mudflows are one of the fastest forms of mass movement. ***True / False***

(ii) Mudflows occur in dry areas. ***True / False***

(iii) Gradient is very important for mass movement. ***True / False***

3 2 2 (6)

Question 8

Question 3

(a) Read the article below and answer each of the following questions.

Researchers are recruiting volunteers for a project being funded by the Geological Survey Ireland which aims to increase the reporting of landslides. Dr Niamh Cullen, the project's principal investigator, said: "We want to increase the reporting of coastal landslides through public participation." In Ireland, a national landslides database holds almost 3,000 events, but very few came from the coast. "We know from the data that many landslides occurring inland are triggered by heavy or intense rainfall," Dr Cullen explained. "The problem we have is that the landslides database only has a small percentage of coastal landslide records.

(i) What is the name of the organisation funding the project?

Geological Survey Ireland 3

(ii) Where did most of the landslides on the national database take place?
Tick (✓) the correct box.

Inland ☑ On the coast ☐ 3

(iii) What does Dr Cullen say has triggered many of the inland landslides?

Heavy or intense rainfall 3

(iv) Explain one reason why a landslide may occur along the coast.

Landslides might occur along the coast if there is a cliff and a road. Cars on the road shake the ground and are very loud. If there is any unsteady material or regolith on or near the cliff, there is a good chance it will fall ~~or~~ starting a landslide.

The sea is eroding against the coastline 2

(11)

(v) Name **two** examples of human activity that can cause mass movement.

1.	~~Building a road~~ Cars on roads ✓
2.	~~Land~~ building sites ✓

3

(vi) Indicate whether each of the statements below is true or false by ticking (✓) the correct box for each.

	True	False
(a) The steeper a slope is the faster the mass movement will be.	☑	☐
(b) Overgrazing by animals on slopes slows down the process of mass movement.	☐	☑

3

3

9

100
109

= 92%