


Name: Key Weathering and Erosion Study Guide

1. Weathering breaks down rocks into smaller pieces.
2. Erosion moves or transports rocks from one location to another.
3. Deposition leaves/deposits rocks in a new location.
4. List, describe and give an example of the agents of chemical weathering in the table below.

Agents of Chemical Weathering	Describe	Real Life Examples
1. <u>Water</u>	minerals in water, such as salt, break down the rocks	<u>salt water</u>
2. <u>Acid Precipitation</u>	acid in rain reacts with and breaks down rocks	Acid rain makes statues smoother
3. <u>Acid in groundwater</u>	acids in underground water breaks down rock	carves out caverns making way for Ruby Falls
4. <u>Acid in living things</u>	when living things decompose, the acid in them break down rock	<u>Lichens</u>
5. <u>Air</u>	Oxygen reacts with the iron in rocks, and rusts by oxidation	<u>Statue of Liberty</u>

5. List, describe and give an example of the agents of physical weathering in the table below.

Wind, Gravity

Agents of Physical Weathering	Describe	Real Life Examples
1. <u>Ice</u>	As water freezes, it expands causing a crack to widen	
2. <u>Water</u>	as water flows over rocks, abrasion occurs and weathers	rocks at bottom of a river
3. <u>Plants/Animals</u>	the roots of plants/animals grow between rocks and push rocks to surface or break them create cracks	tree in sidewalk/animals burrowing

6. What is the difference between chemical weathering and physical weathering?

Chemical weathering breaks down rocks using chemicals and changes their composition (color).
Mechanical weathering breaks down rocks through physical ways.

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7. List the agents of erosion. Circle which is most destructive.

- a. wind
- b. water/waves** → most powerful force
- c. glaciers
- d. gravity

8. What is the difference between weathering and erosion?

Weathering breaks down rocks into sediments
Erosion picks up and moves those sediments to a new location

9. How do plants affect the amount of erosion that occurs? Do plants increase or decrease the chance of erosion in an area?

Plant roots secure sediments and prevent erosion

10. Chemical Oxidation occurs more quickly in what climates (temperature/humidity)?

Hot, Humid areas → Florida, Caribbean

11. Will a scooter rust more quickly in Georgia or in New Mexico? Why?

Georgia → it is more humid in GA and water speeds up the process of oxidation (rust)

12. Rivers and glaciers both cause erosion. What shape valley do glaciers form? What shape valley do rivers form?

Glaciers - U shaped Rivers - V shaped

13. What is abrasion?

when two things scrape against each other

14. Number the following words in the order in which the processes happen.

3 Deposition

1 Weathering

4 Compaction

2 Erosion

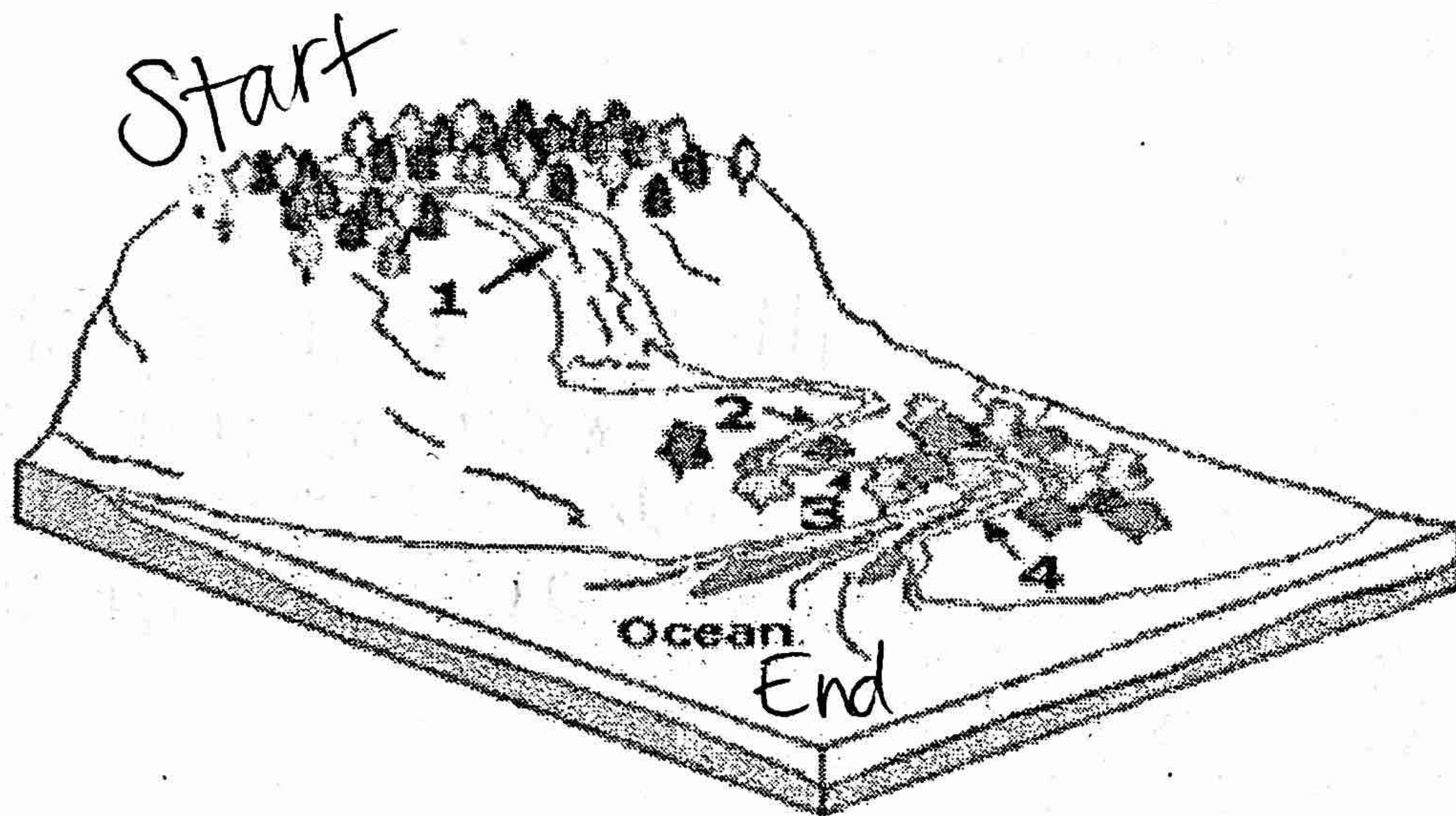
5 Cementation

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5 Cementation

15.



A. In the picture above, at what point would the rocks in the river be roundest and smoothest? 4

B. At what point would the rocks be most jagged? 1
(pointy)

16. What 3 agents of mechanical weathering cause abrasion?

Wind, water, gravity

17. Explain how lichens slowly break down a rock?

Lichens release acid which reacts with and chemically breaks down the rock

18. What would rust first – a wooden table or a bicycle? Justify your answer.

A bicycle because it is made of metal.
Metal oxidizes (or rusts) when it reacts with air.

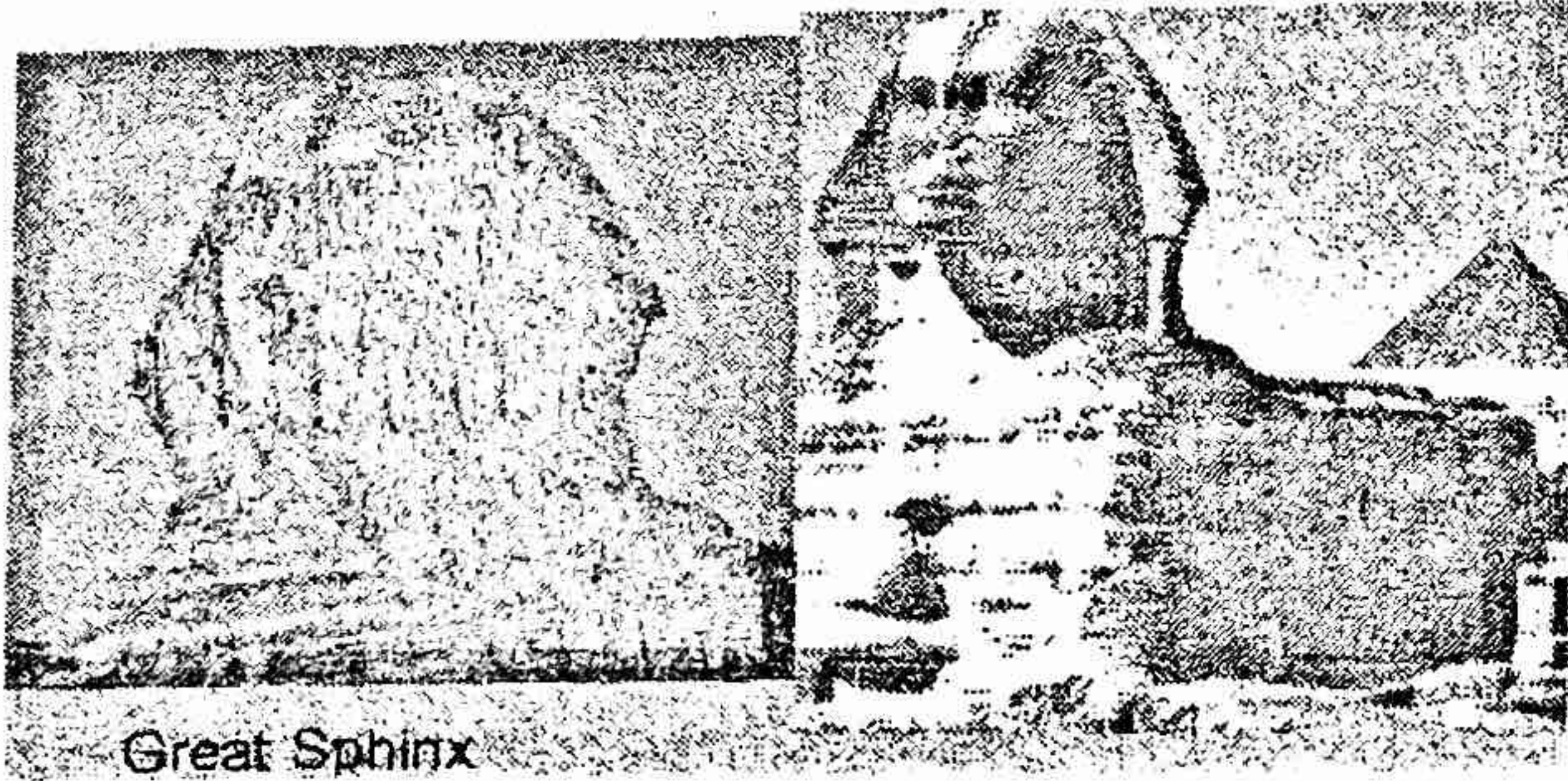
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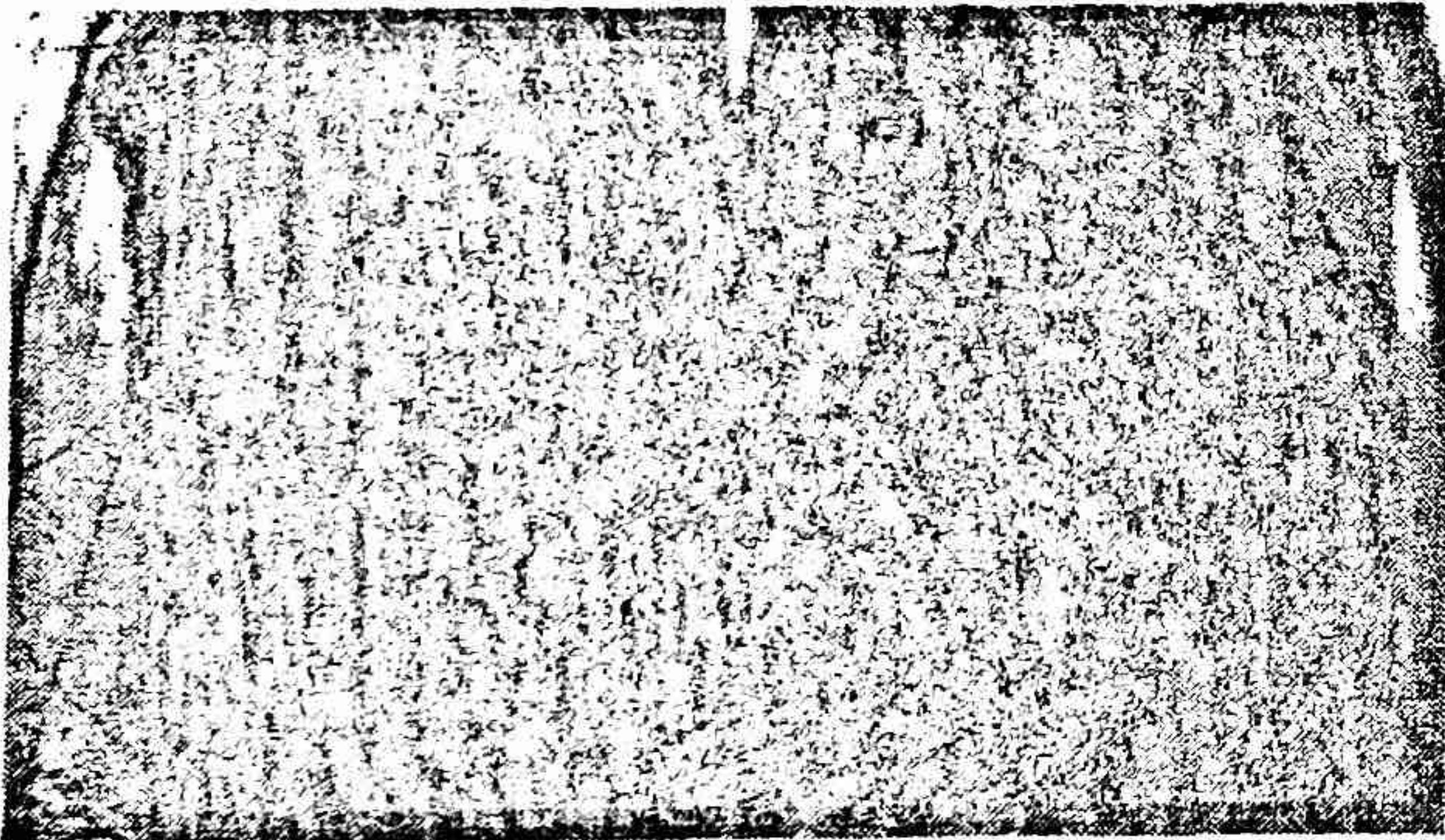
Directions: compare and describe how the images have changed over time using the following terms: chemical weathering, mechanical weathering, and erosion. Justify your answer (include the agent that has caused the image to weather or erode overtime).

Before:

After:



19. This has been mechanically weathered by wind. The wind has picked up sand from the desert and caused abrasion



20. Lichen leak chemicals and acids which weather the rocks they grow on



21. The Statue of Liberty has been chemically weathered by air, which has caused the metal in the statue to rust or oxidize



22. This is erosion by waves/water. The sediments can be brought to and taken from the beach by the moving water.