

Name: [Answer Key](#)  
Earth Science

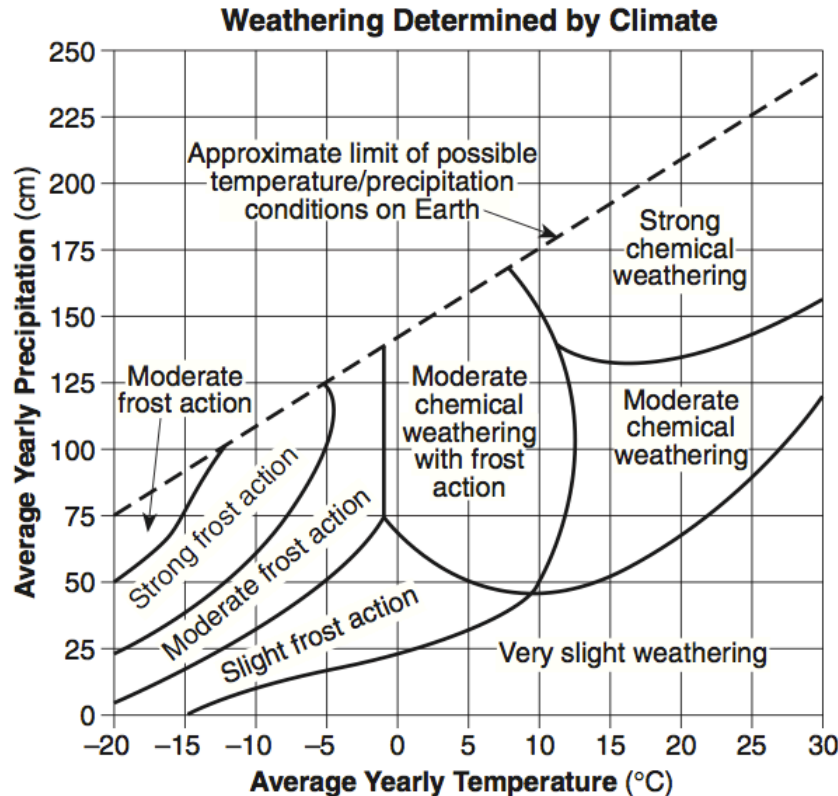
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# Earth Science Regents Review Workbook

## Part 6: Surface Processes

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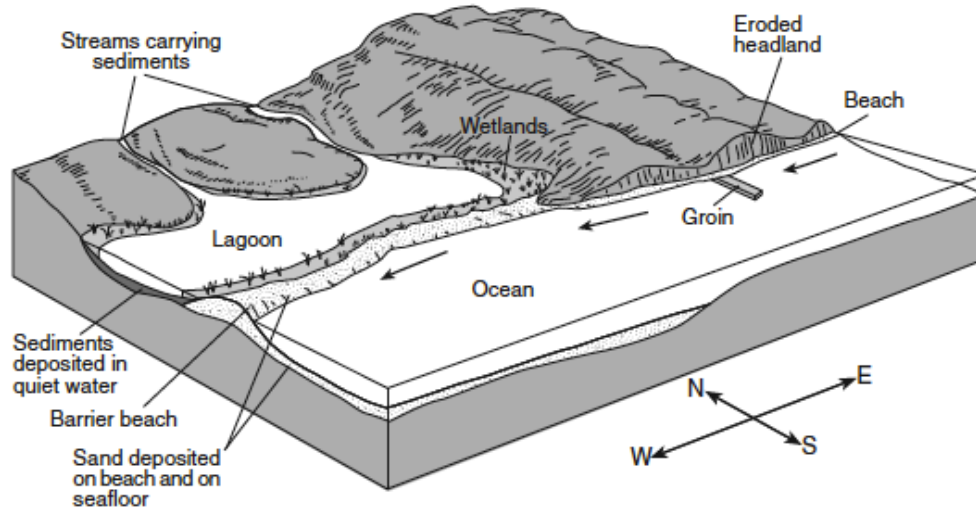
### Weathering Conditions



1. Name two examples of physical weather. Frost action, abrasion, root action, exfoliation
2. Name two examples of chemical weathering. Oxidation, carbonation, hydration
3. Describe the climate needed for strong chemical weathering to occur. Warm and moist
4. Describe the climate needed for frost action to occur. Cold and moist
5. What are the characteristics of a humid landscape? Rounded slopes, high vegetation
6. What are the characteristics of a dry landscape? Angular slopes, exposed bedrock
7. According to the graph above, what type of weathering will occur if the average yearly temperature is 20°C and the average yearly precipitation is 100 cm? Moderate chemical

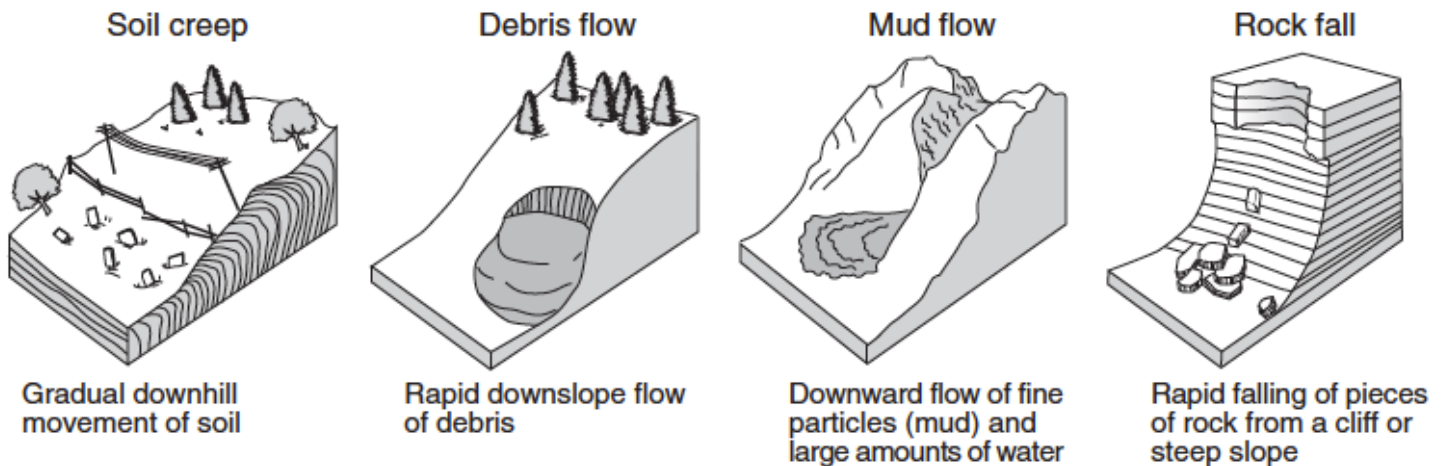
## Part 6: Surface Processes

### Ocean Waves



1. When looking at the groin, which compass direction will have the largest beach? East
2. Sediments deposited by ocean waves can create landmasses known as, barrier islands.  
Examples of these are Jones Beach and Fire Island.
3. Ocean currents follow the same path as the prevailing winds.
4. Which direction is the current on the diagram above flowing? West

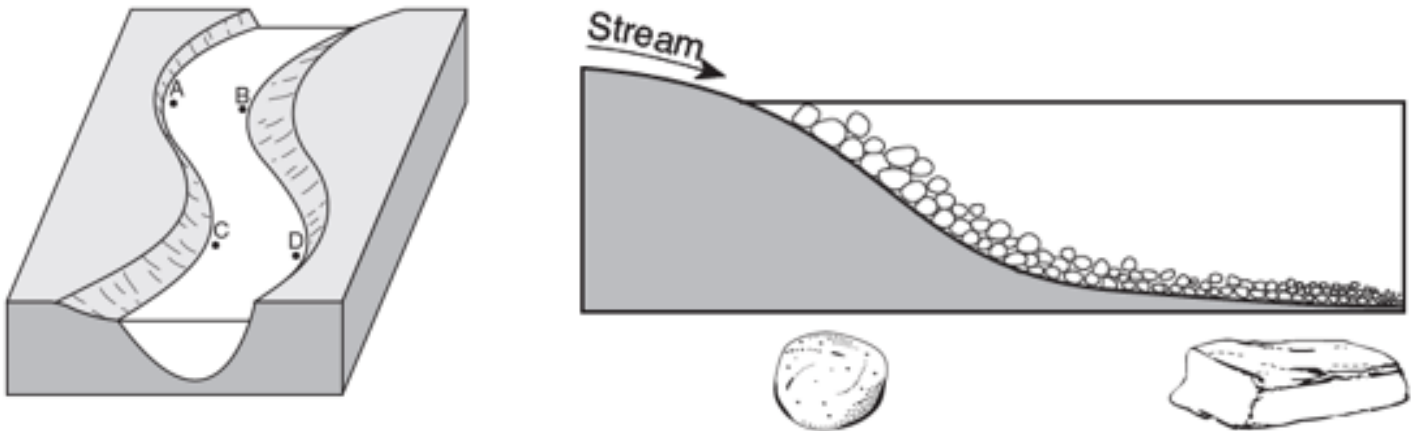
### Mass Movement



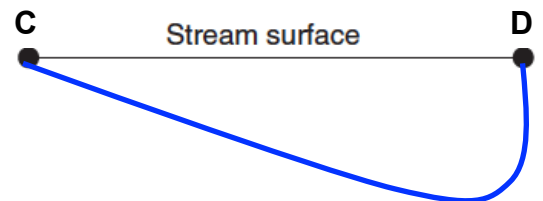
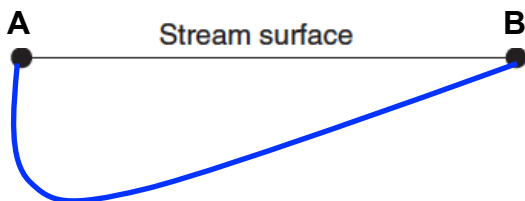
1. What is the major force behind all four types of erosion shown above? Gravity
2. What type of sediments would be produced by mass movement? Angular and unsorted
3. Glaciers and gravity produce unsorted sediments. Wind and water produce sorted sediments.
4. Which of the four diagrams above has the greatest velocity? Rock fall

## Part 6: Surface Processes

### Stream Erosion & Deposition

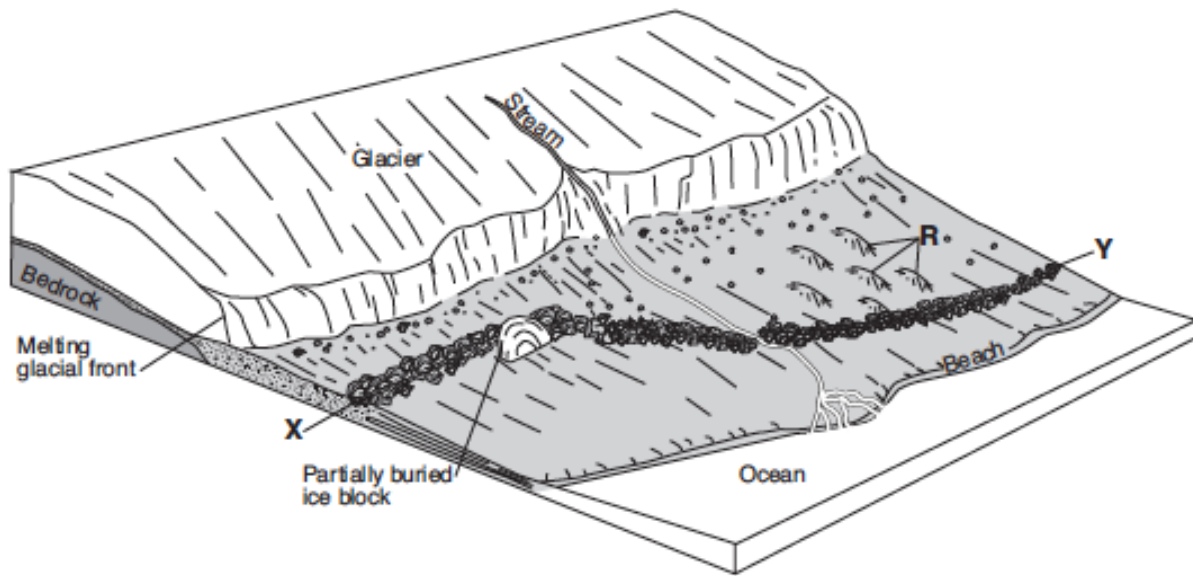


1. Above there are two rocks, one rounded and one angular. How did the rock become round?  
Abrasion (bumping into other rocks)
2. What is deposition? Releasing or settling of sediments by water, wind, ice, gravity, and waves
3. What is erosion? Movement or transport of sediments by water, wind, ice, gravity, and waves
4. On the left diagram, which positions would have the most erosion? A and D (outside of curve)
5. On the left diagram, which position would have the most deposition? B and C (inside of curve)
6. What is the relationship between stream velocity and slope? As slope increases, velocity increases.  
As velocity increases,
7. What is the relationship between stream velocity and discharge? discharge increases.
8. Why does water erode more outside of a meander? Water is moving faster.
9. Why does water deposit more on the inside of a meander? Water is moving slower.
10. Why are sediments deposited when a stream enters a larger body of water? Water velocity decreases.  
When a stream enters a large body of water the velocity of the
11. What is horizontal sorting? stream slows and the largest particles settle out first at the  
mouth of the stream.
12. On the diagram below, draw a line to represent the shape of the stream bottom from point A to point B. Then, draw a line to represent the shape of the stream bottom from point C to D.



## Part 6: Surface Processes

### Glaciers



1. After the glacier melts, what evidence might be found on the surface of the bedrock indicating that the glacier had passed over the surface? Scratches, grooves, drumlins, erratics
2. Describe the most likely shape of the valley being formed due to erosion by this glacier. U-shaped
3. What is the name of the elongated hills labeled R? Drumlins The elongated hills labeled R are most useful in determining the direction the glacier moved.
4. Which feature will most likely form when the partially buried ice block melts? Kettle lake
5. The ridge of unsorted sediments from X to Y is called a moraine.
6. What is a glacial erratic? Rocks that were transported to new locations by glaciers.
7. Describe one difference between the arrangement of sediment in the moraines and the arrangement of sediment in the outwash plain. Moraine is unsorted and unlayered.  
Outwash plain is sorted and layered.
8. Explain why the glacial ice absorbs less solar radiation than the surrounding exposed bedrock and soil. Ice is light colored and smooth so it reflects light.
9. Sediments found in the outwash plain range in diameter from 0.0004 to 0.006 centimeter. What name is given to this size sediment? Silt

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### Landscapes

Match the landscapes on the left with the stream drainage patterns on the right.

