

Maryland School Assessment

Science

2008 Public Release

Grade 8

Part 3



Part 3

Directions

Use the information to answer Numbers 24 through 26.

Over the last 150 years, the use of fossil fuels has increased, resulting in more carbon dioxide and other greenhouse gases in the atmosphere. Some scientists think that these atmospheric gases will result in global warming. Scientists have recorded data on global temperature changes and have predicted possible changes in sea level that may affect Maryland residents.

24 Which action helps reduce global warming?

- A developing highways
- B driving large vehicles
- C using renewable power sources
- D using electricity from coal burning power plants

25 Using fossil fuels in the United States will most likely contribute to rising sea levels globally by

- A increasing oxygen levels
- B decreasing oxygen levels
- C increasing carbon dioxide levels
- D decreasing carbon dioxide levels

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26 Which result of global warming will most negatively affect coastal residents in Maryland?

- A loss of shore land
- B erosion of mountains
- C decrease in average temperature
- D increase in the size of the polar ice caps



27 Rossby waves are slow-moving, long ocean waves.

What feature of a Rossby wave would change if the wavelength was doubled?

- A** The amplitude would double.
- B** The frequency would double.
- C** The amplitude would decrease by half.
- D** The frequency would decrease by half.



29 Leaf cells are one type of tree cell.

Which process occurs in a growing leaf cell?

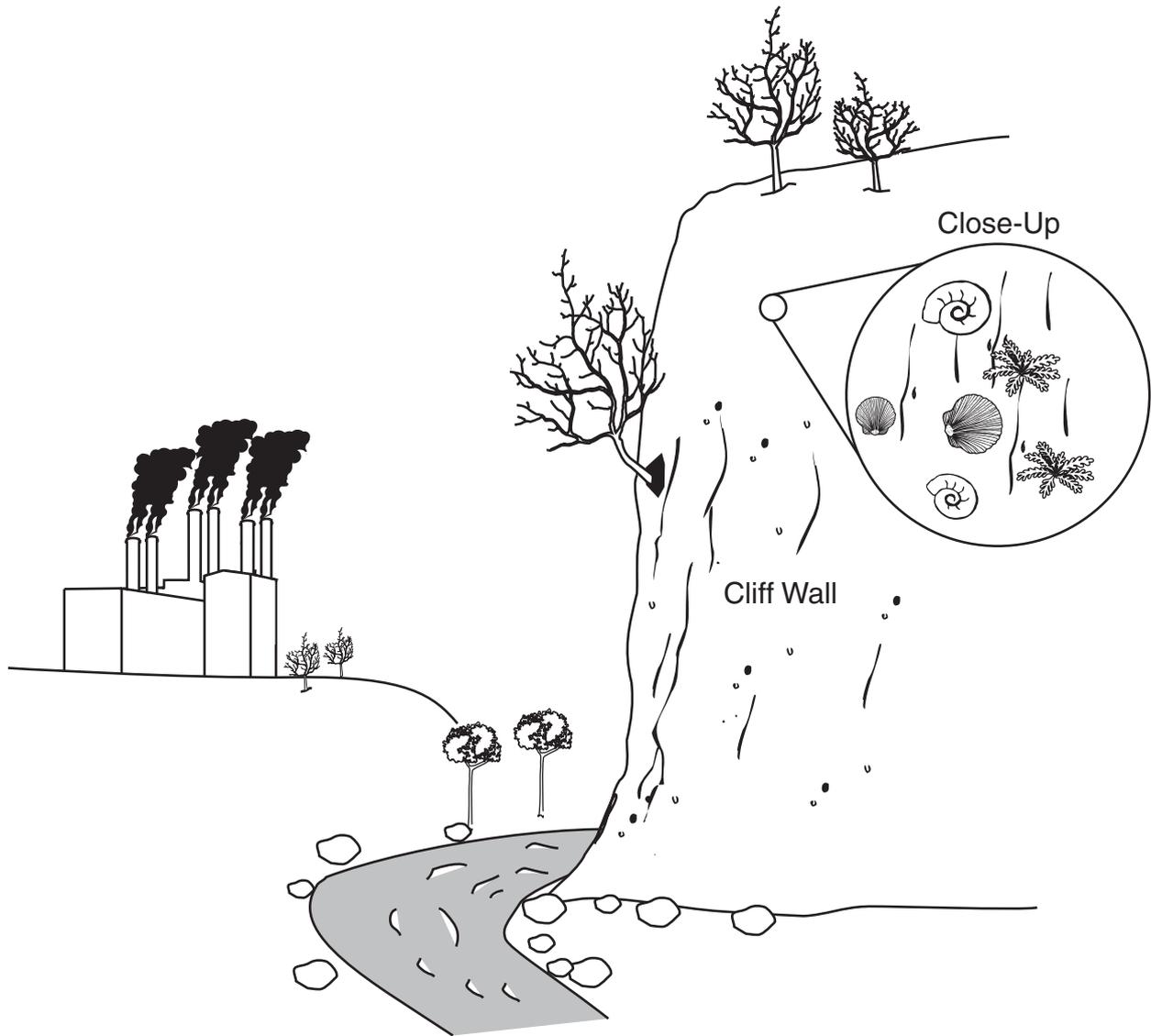
- A** evolution
- B** adaptation
- C** sugar production
- D** sexual reproduction



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Use the picture below to answer Numbers 30 through 32.



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30 Each spring, a crevice in the cliff wall widens and deepens.

What is the best explanation for how physical weathering causes the crevice to widen and deepen?

- A** Winds deposit sand into the crevice.
- B** Water freezes and expands in the crevice.
- C** Snow melts and evaporates between the rocks in the crevice.
- D** Air pollution in the area causes a reaction that widens the crevice.

31 The picture shows a close-up view of fossils found within the cliff wall.

This cliff is most likely composed of

- A** igneous rock
- B** molten rock
- C** metamorphic rock
- D** sedimentary rock

32 Why do scientists study fossils?

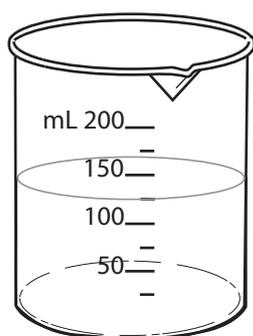
- A** to learn how the planet was formed
- B** to study how organisms changed over time
- C** to observe how drought affected the landscape
- D** to understand how weathering affected rock layers

Part 3

Directions

Use the information below to answer Numbers 33 and 34.

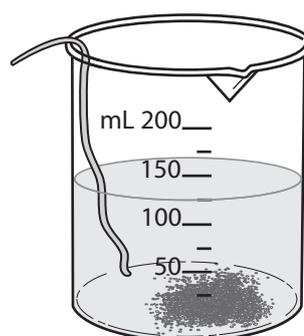
Silver nitrate (AgNO_3) a colorless powder, consists of the metallic element silver (Ag) and two non-metallic elements, nitrogen and oxygen (N and O). Silver nitrate mixed with water (H_2O) forms a clear solution. When a piece of copper wire (Cu) is put into a silver nitrate solution, the clear solution turns blue. A silvery white substance forms on the wire and falls to the bottom of the solution.



Silver Nitrate Solution



Copper Wire



Blue Solution



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33 What is the best method for separating the silvery white substance from the liquid in the beaker?

- A** absorption
- B** chromatography
- C** condensation
- D** filtration

34 Which statement best explains why silver nitrate (AgNO_3) is classified as a compound?

- A** Silver nitrate contains a metal.
- B** Silver nitrate chemically reacts with copper.
- C** Silver nitrate forms when three elements chemically combine.
- D** Silver nitrate forms a solution when mixed with water.

35 Biologists conduct investigations to learn about living organisms.

Which method helps reduce bias during an investigation?

- A** developing a hypothesis after collecting data in the investigation
- B** limiting the amount of background research before the investigation
- C** designing an investigation with repeated trials during the investigation
- D** obtaining other opinions concerning what should happen during the investigation



No Test Material on This Page

Acknowledgements

Fill 'Er Up....With Soybeans and Corn Please." Courtesy: United States Department of Agriculture.

"The Good, the Bad and the Algae." Courtesy of the Maryland Department of Natural Resources - www.maryland.gov