

**North Carolina EOG Coach
Science, Grade 5**

POSTTEST

Name:

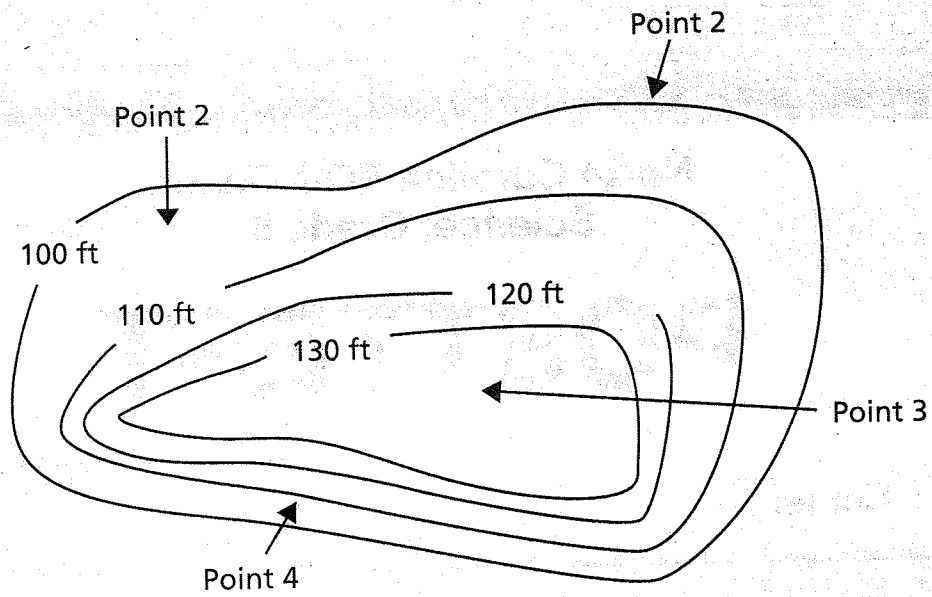
Today you will be taking a test modeled on the North Carolina Grade 5 End-of-Grade Exam. This test has 80 multiple-choice questions.

Use this checklist to review some test-taking skills and strategies:

1. Read each question carefully.
 - Pay attention while reading.
 - Stop and think about what you have read.
 - Read the directions again before answering questions.
 - Pace yourself.
 - Do not hurry through the test.
 - If you get stuck on a question, go to the next one. You can come back later and try the question again.
2. Remember, only one of the answer choices is correct.
 - Read each answer choice, even if you think you have seen the right answer already.
 - Cross out answers that you know are wrong. Only consider the answers that you have not crossed out.
3. Fill in your answer sheet carefully.

Coach 

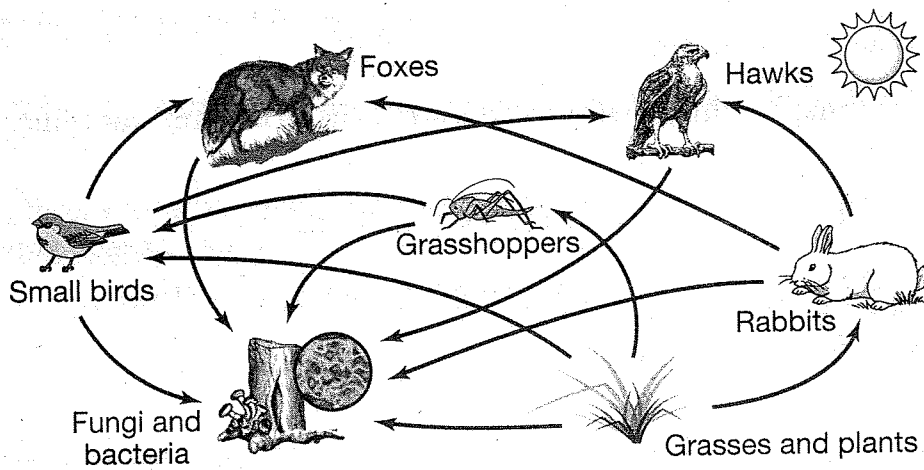
1. Look at the map below.



This is an aerial drawing of what type of landform?

- A a plain
- B a canyon
- C a hill
- D a flood plain

2. Look at the food web below.

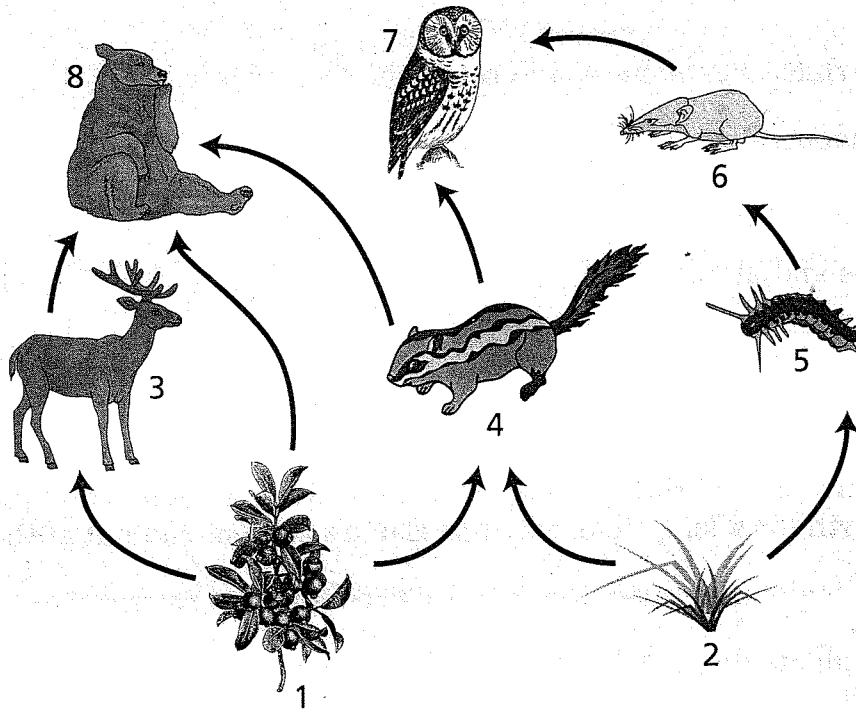


POSTTEST

Removing which organisms would cause the food web to break down?

- A grasshoppers
 - B foxes
 - C grasses and plants
 - D hawks
3. Plants absorb most of the nutrients they need from the soil. Since plants have been on Earth for a long time, why has Earth's soil not run out of these nutrients?
- A Plants make new nutrients from solar energy and return them to the soil.
 - B When plants die, nutrients are broken down by decomposers and returned to the soil.
 - C Soil nutrients are always replenished by new nutrients falling from space.
 - D Farmers must add fertilizer to keep all the nutrients from running out.
4. A scientist was asked to find a material that will keep washing machines from sliding across the floor during the spin cycle. Once he has several materials to try out, what should he do next?
- A sell washing machines with the different materials and see which type people like best

4. A scientist was asked to find a material that will keep washing machines from sliding across the floor during the spin cycle. Once he has several materials to try out, what should he do next?
- A sell washing machines with the different materials and see which type people like best
 - B make a model to test each material for sliding
 - C do a survey of families to see how often they wash clothes
 - D draw a picture of a washing machine and make a graph
5. Look at the diagram of the food web for a mountain ecosystem.



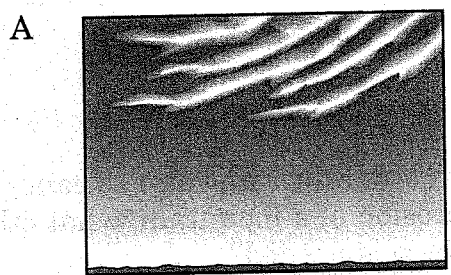
Which organisms in the food web are producers?

- A 1 and 2
- B 1, 2, and 5
- C all except 1 and 2
- D 3, 4, and 5

6. Which **best** explains why ecosystems can support many different types of organisms?

- A Ecosystems have more than enough resources for all organisms.
- B Organisms must eat other organisms to survive, so they live close to one another.
- C Different animals have adapted their own ways to obtain food, water, and living space to survive.
- D Ecosystems never change, so organisms can get used to the environment.

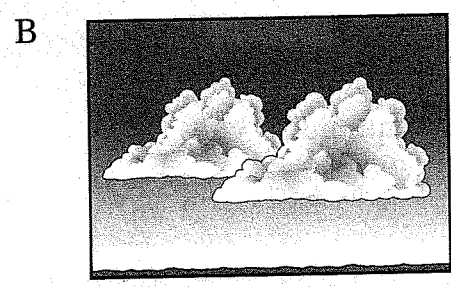
7. Which type of cloud would you expect to see on a day that is forecasted to be partly cloudy with only a small chance of scattered showers?



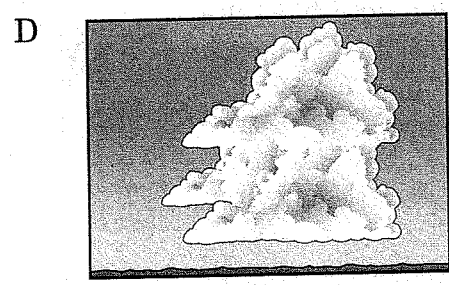
Cirrus



Stratus



Cumulus

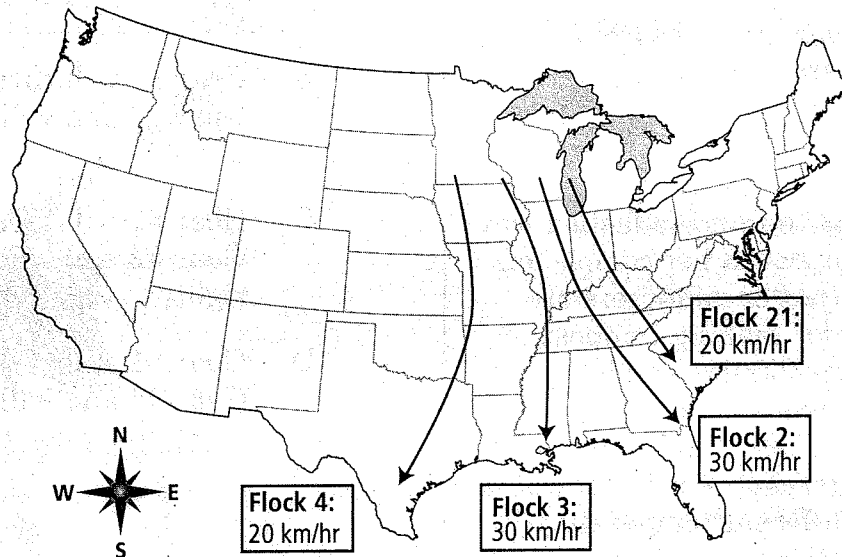


Cumulonimbus

8. In which type of ecosystem would you expect to find the most species?
- A desert
 - B farm field
 - C tropical rainforest
 - D tundra
9. Which location is *most likely* to have the greatest amount of soil erosion?
- A a level pasture with dense grasses
 - B a steep hillside with grasses and bushes
 - C a steep hillside with very few plants
 - D a very flat field with a few plants
10. Which object has the greatest momentum?
- A a car traveling at 60 kilometers per hour
 - B a freight train traveling at 20 kilometers per hour
 - C a book falling off a desk
 - D a leaf falling from a tree
11. The City of Barrenville wants more wildlife in its parks. What is something the people of Barrenville could do to promote more wildlife in their parks?
- A start a recycling program at the parks
 - B plant trees and flowers that are local to the area
 - C plant vegetable gardens near the picnic areas
 - D add more street lights at the park so people can see better at night
12. In order for rainwater to cause erosion of a mountain, what other force is needed?
- A currents
 - B magnetism
 - C humidity
 - D gravity
13. Which correctly shows the usual direction of wind at the beach?
- A always from the ocean toward the land
 - B always from the land toward the ocean
 - C from the land during the day, to the land during the night
 - D from the ocean during the day, to the ocean during the night

14. A scientist wants to determine how many acres of forests there are in Wake County, North Carolina. Which of the following would be most useful for the scientist to use?
- A street map
 - B aerial photograph
 - C topographic map
 - D shaded relief map

15. The map below shows the flight paths of four flocks of geese as they migrate south for the winter. Which flock is moving southeast at the greatest speed?



- A flock 1
 - B flock 2
 - C flock 3
 - D flock 4
16. Which *best* explains how clouds form?
- A Water from space warms as it enters Earth's atmosphere and makes steam.
 - B The water vapor combines with carbon dioxide to form white clouds.
 - C Air in the atmosphere is warmed by the Sun until it forms steam.
 - D Invisible water vapor in the air cools and condenses to become visible.

17. Wallace did an experiment on plant growth in a forest. He found that tall trees in the canopy grew ten times more leaves than the small trees under the canopy. Which statement correctly explains Wallace's observation?

- A The taller trees are older so they grow faster.
- B The smaller trees do not have as much soil in which to grow.
- C The smaller trees get less sunlight.
- D The taller trees absorb more energy from the soil.

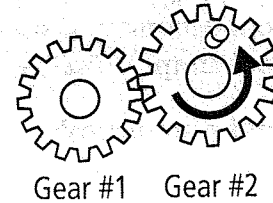
18. Carrie wants to find the fastest way to make compost in her composter. She knows that decomposers are responsible for making compost. She put lawn clippings and vegetable waste into four composters. Each composter received different amounts of water and was a different temperature.

	Hot	Cold
Watered	1	3
Not Watered	2	4

Which composter *most likely* made compost the fastest?

- A composter #1
- B composter #2
- C composter #3
- D composter #4

19. Two gears are connected as shown in the drawing below.

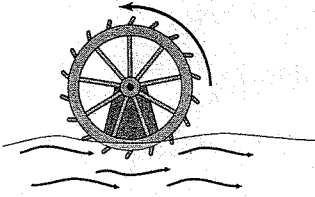


Which statement correctly describes how Gear #1 will turn when the handle on Gear #2 is turned to the left?

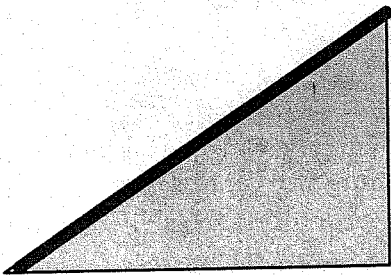
- A Gear #1 will turn faster than Gear #2 and will turn to the left.
- B Gear #1 will turn slower than Gear #2 and will turn to the left.
- C Gear #1 will turn faster than Gear #2 and will turn to the right.
- D Gear #1 will turn slower than Gear #2 and will turn to the right.

20. Which simple machine can be used to lift very heavy objects straight up?

A



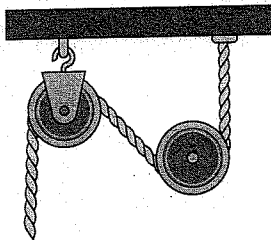
B



C



D



21. Which is a form of condensation?

A hail

B fog

C rain

D steam

22. During which conditions would erosion **most likely** be greatest?

A during a hail storm

B at the bottom of the ocean

C after a cold day

D during a flood

23. Sarah notices on her weather barometer that the atmospheric pressure is dropping outside. Which weather condition will Sarah **most likely** find if she goes outside?

A cloudy and rainy

B sunny and windy

C sunny and still

D partly cloudy but no rain

24. What happens when a large body of very warm air collides with a large body of very cold air?

A It will be sunny.

B It will be windy.

C It will get dry.

D It will be very still.

25. Look at the group of animals below.



Which animal does not share the same habitat with the other animals?

- A frog
- B racoon
- C fox
- D camel

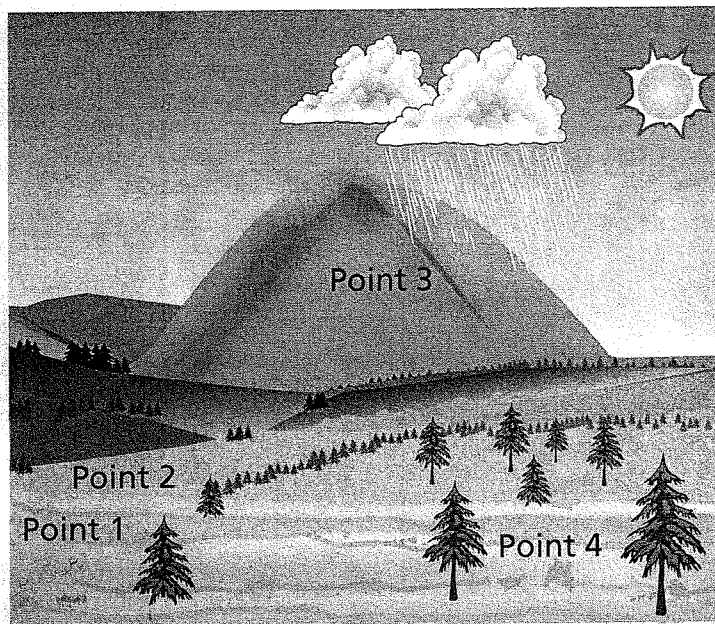
26. Which term refers to a small stream that flows into a larger river?

- A meander
- B delta
- C tributary
- D estuary

27. In order for an object to begin moving or to change its direction, which of the following must happen?

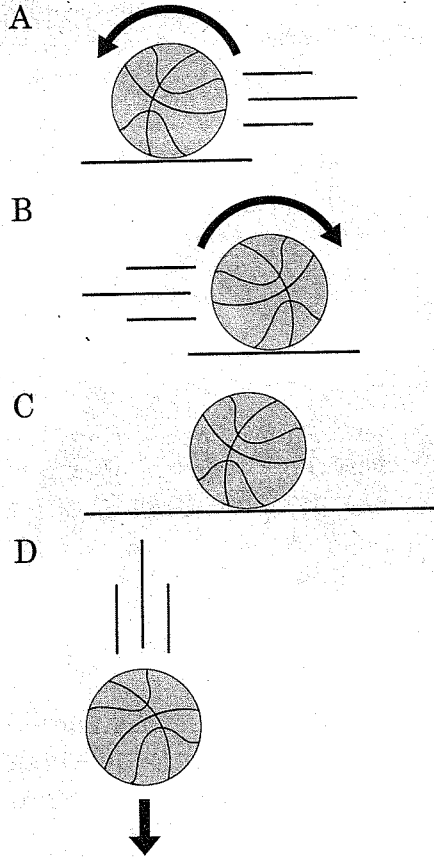
- A The object must change its mass.
- B The object must increase its mass.
- C A force must act on the object.
- D The object must become a force.

28. The drawing shows a rain shower moving from right to left over a mountain. Other than the small shower, the other places are sunny and breezy. Which point on the drawing *most likely* has the coolest temperature?



- A Point 1
- B Point 2
- C Point 3
- D Point 4

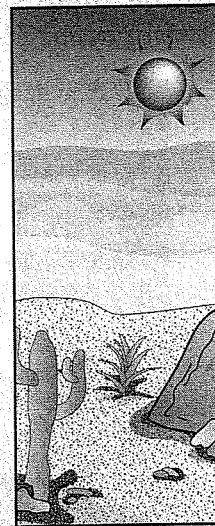
29. Which basketball has balanced forces acting on it?



30. Which is *not* an important factor in determining whether an ecosystem can support life?

- A light
- B water
- C nutrients
- D fertilizers

31. Look at the ecosystem shown below.



Which resource do the organisms in this ecosystem compete for the most?

- A sunlight
- B oxygen
- C water
- D living space

32. When rivers erode soil from their banks, soil particles are carried downstream. When the river meets the ocean, the river water slows down and many soil particles settle to the bottom. Over time, this build-up of soil particles forms what landform?

- A delta
- B mountain
- C oxbow
- D plateau

33. A scientist has collected weather data in Raleigh, North Carolina, for 15 years. He used the data to describe the general pattern of weather in Raleigh. His 15 years of data describe what feature of Raleigh conditions?

- A fronts
- B climate
- C weather
- D evolution

34. When a new neighborhood is built in a wooded area, what may happen to the animals that live in the forest?

- A They learn to live among humans.
- B They move to another forest where no other animals live.
- C They die because there is no habitat for them to live in.
- D They all become extinct.

35. Each year the number of humans on Earth increases. As the human population goes up, what else also goes up and causes harm to the environment?

- A the number of animals living in zoos
- B the need for natural resources
- C the number of flu outbreaks in cities
- D the amount of farms growing wheat

36. Which is an example of a machine that uses moving air to make the machine move?

- A race car
- B steam engine
- C pulley
- D roller coaster

37. Decomposers are organisms that break down dead plants and animals into the basic parts of organic matter. If there were no decomposers on Earth, which of the following would happen?

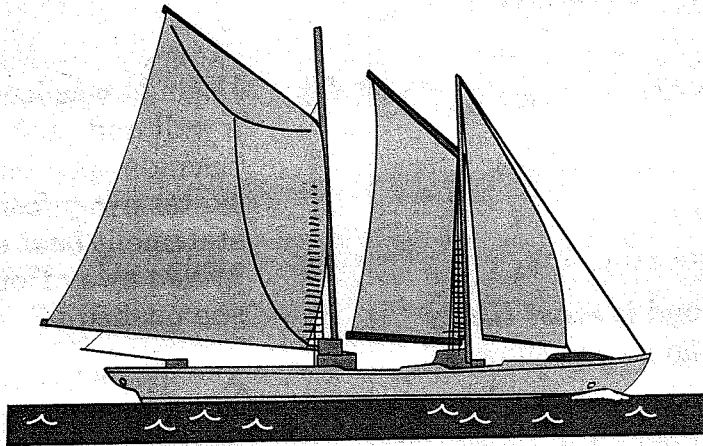
- A Plants and animals could live much longer.
- B The dead plants would pile everywhere until there was no room for anything to live.
- C There would be more nutrients for plants to grow.
- D Farmers would never have to fertilize their food crops.

38. Fast changes in temperatures can sometimes cause erosion of rocks. What often happens when a rock gets very hot then suddenly gets very cold?

- A It swells.
- B It shrinks.
- C It melts.
- D It cracks.

39. A farmer needs to figure out the best way to till and plant a steep slope on his cropland. Which pattern of tilling and planting will have the least amount of erosion?
- A parallel to the slope
 - B right diagonal to the slope
 - C perpendicular to the slope
 - D left diagonal to the slope
40. Two spaceships are traveling together through space in the same direction at the exact same speed. If there are no other objects in their view, how fast will each ship appear to be traveling to the astronauts in the other ship?
- A The other ship will seem to be moving faster.
 - B The ship will seem to be moving slower.
 - C The ship will seem to be still.
 - D The ship will seem to be moving forward.
41. A book was sitting still on a table when it suddenly started to slide across the table. Which **best** describes the forces acting on the book when it started to move?
- A balanced
 - B unbalanced
 - C pushing in one direction
 - D stronger than gravity
42. In order to know how fast an object is moving, which of the following must you know?
- A time and size
 - B gravity and mass
 - C speed and weight
 - D distance and time
43. Which of the following does **not** cause erosion of Earth's surface?
- A ice
 - B water
 - C wind
 - D trees
44. Many plants have adaptations that help them survive harsh growing conditions where they live. In which ecosystem would you **most likely** find plants with thick leaves and stems that save water?
- A rainforest
 - B desert
 - C mountain stream
 - D farm field

45. Donald learned that water can erode objects as hard as rocks. To test this, he did an experiment. Donald put a granite brick under a dripping faucet and began counting how long it would take for the water to erode a hole through the rock. About how long it will take for the water to make a hole through the rock?
- A 30 minutes C 30 years
B 30 hours D 300 years
46. Which is the most common direction of weather systems entering North Carolina?
- A moving weather from the east to the west
B moving weather from the north to the south
C moving weather from the south to the north
D moving weather from the west to the east
47. This ship was designed to travel across the oceans.



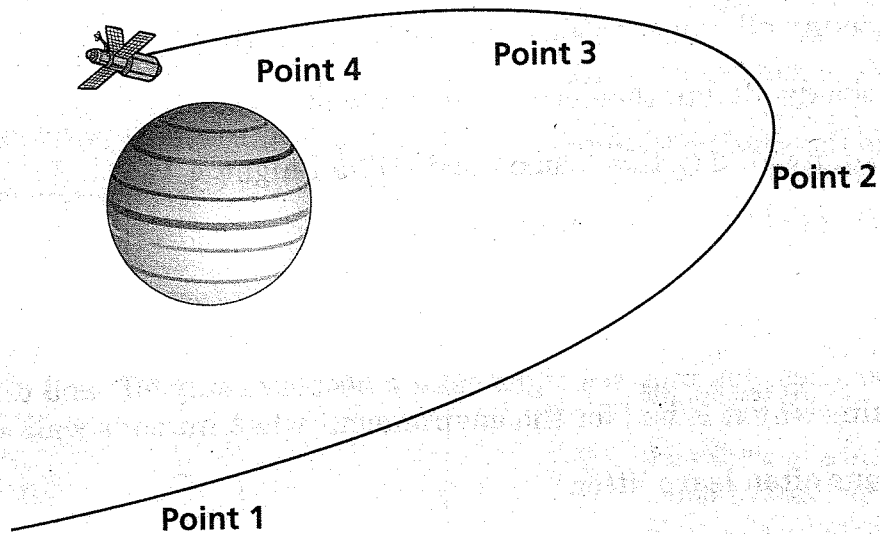
Where does the energy needed to move this ship come from?

- A the pushing of waves against the boat.
B air molecules moving quickly through the atmosphere.
C the small amount of friction between the ship and the water.
D the gravity acting on the sails.

48. What two things would **most likely** cause a landslide to occur?
- A pocket gophers and rain
 - B wind and gravity
 - C rain and gravity
 - D trees and grasses
49. Which part of the water cycle causes the least amount of erosion on land?
- A flooding
 - B precipitation
 - C run-off
 - D evaporation
50. Which type of simple machine do humans use to make it easier to lift an object?
- A wedge
 - B screw
 - C lever
 - D wheel
51. Which type of cloud is **most likely** to be in the sky on a cold, snowy day?
- A tall cumulonimbus clouds with flat tops
 - B fluffy cumulus clouds scattered throughout the sky
 - C thick stratus clouds blanketing the sky
 - D feathery cirrus clouds high in the sky
52. Wetlands are low areas of land where water collects after a storm. Humans fill wetlands with soil to build things. Without wetlands, all the storm run-off moves quickly through ditches to streams and rivers. How does this faster flow of run-off change soil erosion?
- A The land stays drier so there is less chance of soil being eroded.
 - B The run-off is carried away faster so there is less chance for erosion.
 - C The faster-running water causes more soil erosion in ditches and streams.
 - D There is less mud in the water because the wetlands are removed.
53. Lucinda was ice-skating. She faced a wall and pushed against it. Lucinda sped backward on her skates away from the wall. Which statement **best** explains why she moved away from the wall when she pushed it?
- A The friction acting on her skates was more than the force she applied to the wall.
 - B The friction acting on her skates was less than the force she applied to the wall.
 - C The wall pushed harder against her than she pushed on the wall.
 - D There was more friction acting on Lucinda than was acting on the wall.

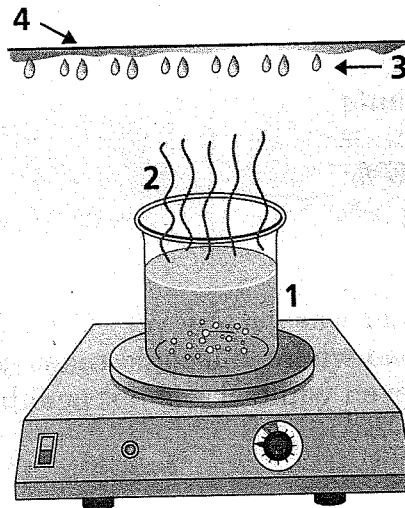
54. The Sun warms Earth's surface each day. Other weather conditions also determine how much Earth is warmed by the Sun. Which weather condition will result in the coldest temperatures at night?
- A very sunny all day, then clear and windy all night
 - B very cloudy all day, then clear and windy at night
 - C very sunny all day, then cloudy and still all night
 - D very cloudy all day and all night
55. At some beaches, you may see signs asking people to stay off sand dunes. Which **best** explains why it is bad for the environment when humans walk on dunes?
- A Humans often leave litter.
 - B The dunes become compacted and plants cannot grow.
 - C Animals are scared and they move away.
 - D The plants are killed and they are needed to reduce wind erosion.
56. Which type of organism would **most likely** be eaten last in an ecosystem's food chain?
- A meat eaters C plants
 - B plant eaters D algae
57. During a cycling race, a rider was getting very tired. She kept pedaling hard because she saw a hill ahead where she could coast downhill. What force will allow her to keep moving even while she is not pedaling?
- A gears
 - B friction
 - C gravity
 - D speed

58. The drawing shows the path of an object as it moved through space. At which point in the drawing did the object most likely have unbalanced forces acting on it?



- A Point 1
- B Point 2
- C Point 3
- D Point 4

59. Look at the beaker of heated water below.



Which numbered item shows the process of precipitation?

- A 1
- B 2
- C 3
- D 4

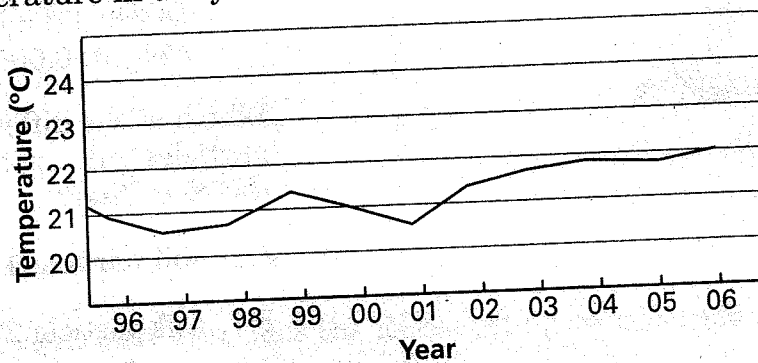
60. Which pair of animals competes for the same food source in an ecosystem?

- A grasshopper and bird
- B wolf and deer
- C moose and elk
- D bear and rattlesnake

61. Road construction workers plant grass on the bare soil slopes on the sides of new roads. What is the reason for planting grass over the bare soil?

- A to make the road more attractive
- B to give deer something to eat
- C to keep the road clean
- D to reduce soil erosion

62. The graph below shows the average yearly temperature in Titanville over a ten-year period. Based on the graph, what would be the best prediction for average yearly temperature in the year 2007?



- A It will be colder.
- B It will be warmer.
- C The temperature will be the same.
- D It will be much colder.

63. A scientist collected water samples each week at a mountain stream. One spring, a lumber company cut down all of the trees on the mountainside. Which change did the scientist **most likely** see in his water quality samples?

- A cleaner water
- B more soil particles
- C less plant nutrients
- D less water

64. Which of these organisms can make its own food?

A



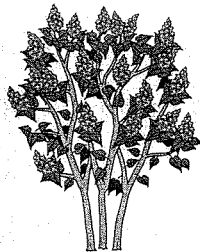
B



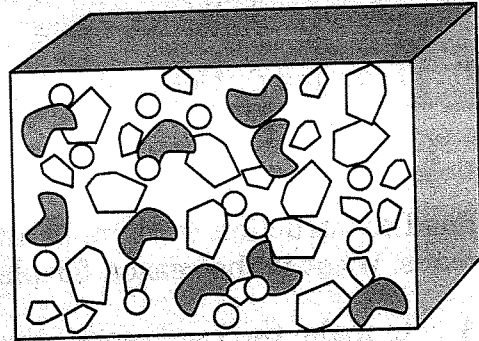
C







D



65. A flood in a stream caused erosion of soil similar to the soil sample in the drawing below. The soil was mixed into the water and carried downstream.



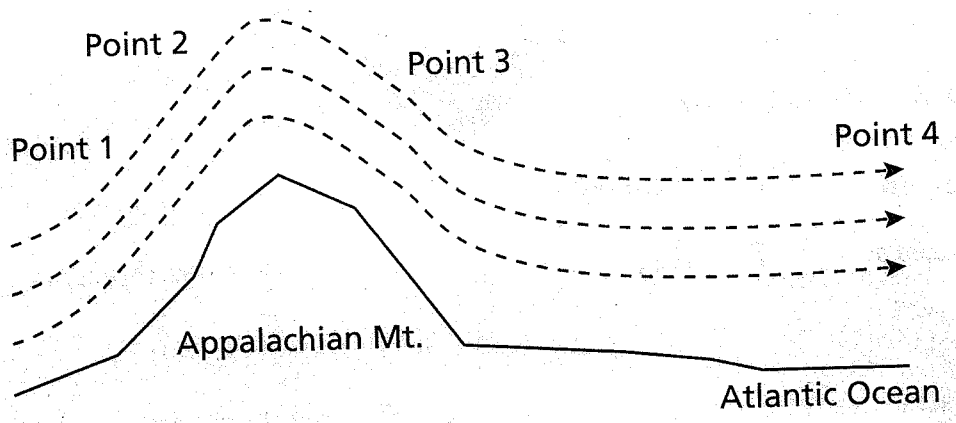
-  **Soil Particle #1**
Width: 3.0 mm
Weight: 0.05 grams
-  **Soil Particle #2**
Width: 3.0 mm
Weight: 0.75 grams
-  **Soil Particle #3**
Width: 1.0 mm
Weight: 0.05 grams
-  **Soil Particle #4**
Width: 1.0 mm
Weight: 0.005 grams

Which of the different types of soil particles will settle at the bottom of the river **last**?

- A soil particle 1
- B soil particle 2
- C soil particle 3
- D soil particle 4

66. Mathew put a ball at the top of a ramp and let go of it. He measured the time it takes to reach the bottom. Which change to his design would increase the time it takes the ball to reach the bottom of the ramp?
- A increase the steepness of the ramp
 - B start the ball at the middle of the ramp
 - C place a towel on the ramp surface
 - D place oil on the ball and on the ramp

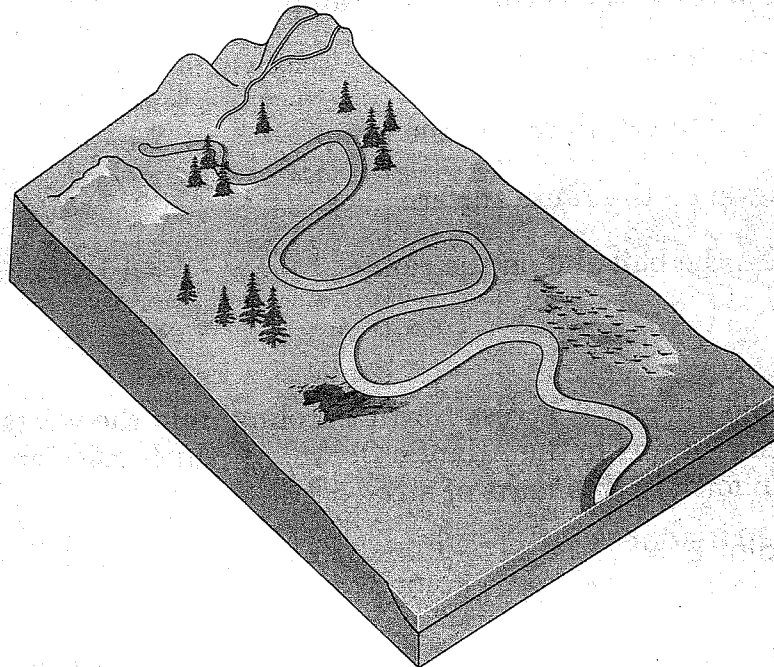
67. A mass of humid air moves across North Carolina from the western side of the Appalachian Mountains to the Atlantic Ocean. At which point on the drawing below will rain form in this mass of air?



- A point 1
- B point 2
- C point 3
- D point 4

68. Which statement *best* describes the forces acting on a parachutist that is falling at a constant speed?
- A The pull of gravity is equal to the force of air friction.
 - B The pull of gravity is getting stronger as the parachutist gets closer to the ground.
 - C The force of gravity is less than the force of air friction.
 - D The force of gravity is stronger than the force of air friction.

69. What term is used to describe the broad flat area at the center of the valley shown in the drawing below?



- A canyon C floodplain
B plateau D ridge
70. Which statement accurately describes the difference between climate and weather?
- A Climate refers to elevation and weather refers to temperature and clouds.
B Weather refers to rainfall and climate refers to temperature.
C Weather refers to the conditions in the atmosphere and climate refers to the average weather over a long period of time.
D Weather refers to the location on Earth and climate refers to weather over a long period of time.

71. Fast-flowing water was the most important factor in forming which of these landforms?

- A the Appalachian Mountains
- B Mauna Loa volcano
- C the San Andreas Fault
- D Bryce Canyon

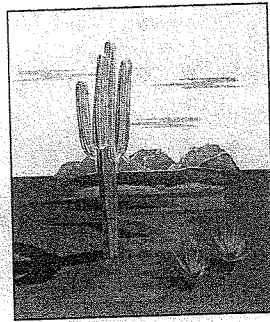
72. A student wants to study how the parts of a large system work together. Which should the student use?

- A an aerial map
- B a model
- C a microscope
- D a topographical map

73. A spaceship is traveling through space. The captain decides to fire the rocket engines and point the ship toward Earth. The spaceship reaches the desired speed, and the captain turns the engines off. The spaceship continues toward Earth and does not slow down. What term describes the ship's tendency to keep the same direction and speed after the engines are turned off?

- A inertia
- B coasting
- C friction
- D gravity

74. Look at the picture of the ecosystem drawn below.

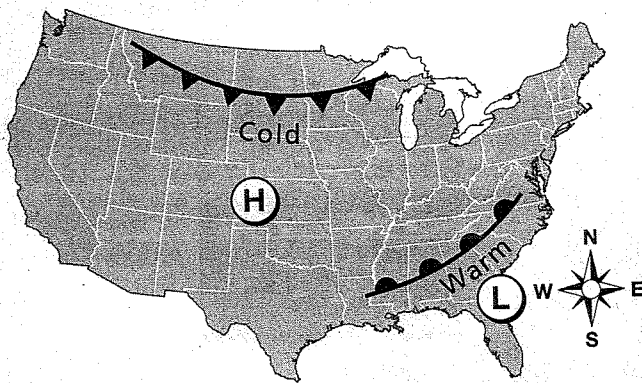


Which resource is **most** needed for the plants in this ecosystem to thrive?

- A soil nutrients
- B a humid climate
- C warm temperatures
- D wind

POSTTEST

75. Look at the weather map below.



If the low pressure area over the southeastern United States moves east over the Atlantic Ocean and the high pressure area also moves toward the east, what type of weather would be forecasted for North Carolina?

- A breezy and sunny
- B cold and rainy
- C cold and snowy
- D warm and rainy

76. A group of scientists wants to study how glaciers cause erosion in valleys. Which model could they use to study how a glacier erodes soil?

- A freeze a large lake with huge freezers and then push the frozen lake across the land
- B push bags of ice across a field
- C make large bricks of ice that contain sand and small pebbles
- D place soil in a freezer and check it once a week for erosion

77. Which of the two organisms are producers?

- A shark and angelfish
- B sea grass and coral
- C algae and seagrass
- D algae and starfish

78. Car safety engineers must crash cars to find out how safe they are. To help understand how humans may be hurt in car crashes, scientists use crash test dummies as passengers. Which is a limitation of using crash test dummies?

- A They are not good drivers like real people.
- B They are not recyclable.
- C They do not react to the accident like real people do.
- D They are shaped like humans.

79. From where does the *greatest* amount of water evaporate during the water cycle?

- A plant leaves
- B ponds
- C groundwater
- D oceans

80. In which habitat would animals **most likely** need to know how to find shelter underground?

- A river
- B grassland
- C mountain forest
- D rainforest