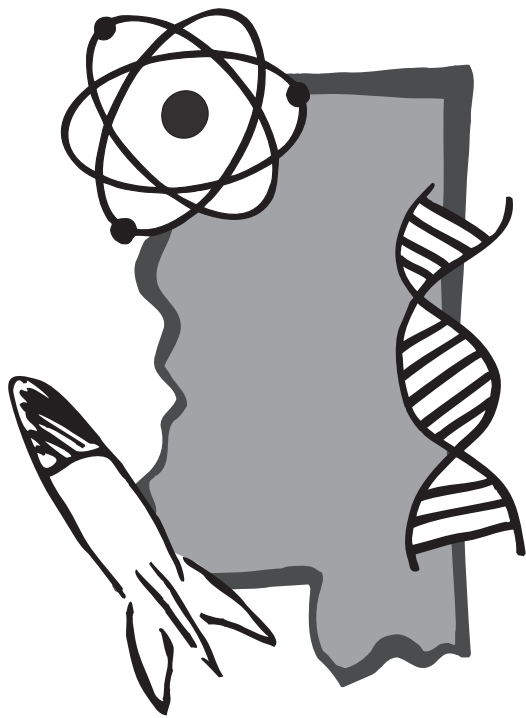


Student Name: \_\_\_\_\_



# Mississippi Science Test

**2006 Sample Test #1**

**GRADE 5**

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**Mississippi Department of Education  
Office of Student Assessment**





## Directions to the Student

Today you will be taking a sample science test for Grade 5. This is a test of your science skills and knowledge.

### **There are several important things to remember:**

1. Read each question carefully. Think about what is being asked. If a drawing or other diagram goes with a question, study it carefully to help you answer the question.
2. Write on your answer sheet only. Marks made on the test will NOT be scored.
3. You should have plenty of time to finish every question on the test. If you do not know the answer to a question, go on to the next question. You can come back to the skipped question later.

## Sample Questions

To help you understand how to answer the test questions, please look at the sample test items that follow. These samples will show you what the questions in the test are like and how to mark or write your answers.

1. A wheelbarrow allows Roger to move rocks more easily from one side of his yard to the other. The wheelbarrow is made of levers and a wheel and axle.



**Wheelbarrow**

What type of machine is the wheelbarrow?

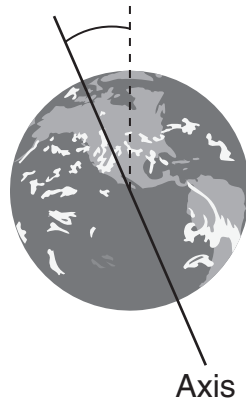
- A. Screw
  - B. Pulley
  - C. Simple
  - D. Compound
- 
2. Which of the following materials is MOST LIKELY to contain a fossil?
    - E. Plant
    - F. Rock
    - G. Diamond
    - H. Concrete

**Stop**

**Do not turn the page.**

1. The United States government passed the Endangered Species Act in 1973. What is this act MOST LIKELY designed to do?
  - A. Prevent people from hunting endangered species
  - B. Encourage people to build near endangered species
  - C. Encourage people to keep endangered species as pets
  - D. Increase the money made from selling endangered species
  
2. The antlers of a male deer look as if they could make it difficult for the deer to escape predators. How do antlers MOST LIKELY help deer in their environment?
  - E. By helping them to kill prey
  - F. By helping to give them balance
  - G. By helping to defend their territory
  - H. By helping them to store nutrients
  
3. Which of the following laws was passed in some states to reduce INDOOR air pollution?
  - A. No dumping trash in rivers
  - B. No leaded gasoline in cars
  - C. No smoking in public places
  - D. No open landfills for garbage

4. The picture below shows Earth tilted on its axis.



The tilt of Earth's axis helps to create which of the following?

- E.** Day and night
  - F.** The changing seasons
  - G.** The revolution of Earth
  - H.** The phases of the Moon
5. Noel looks at a star in the night sky. How would the star look if it was closer to Earth?
- A.** Smaller and brighter
  - B.** Smaller and dimmer
  - C.** Bigger and brighter
  - D.** Bigger and dimmer
6. Which of the following describes the locations of the Moon and planets during a solar eclipse on Earth?
- E.** Venus passes between Earth and the Sun.
  - F.** Earth passes between the Sun and the Moon.
  - G.** The Moon passes between Earth and the Sun.
  - H.** The Sun passes between Earth and the Moon.

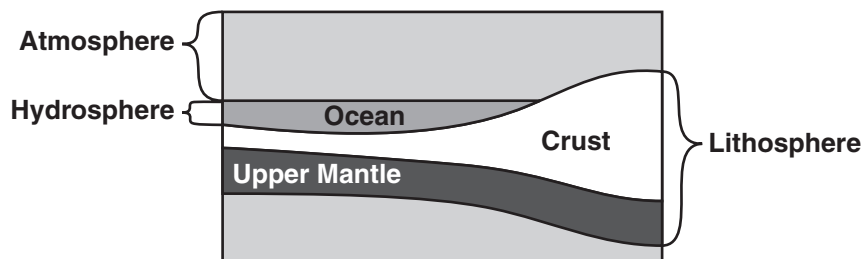
7. Which of the following is an example of a chemical change?
- A. A glass breaking
  - B. A balloon losing air
  - C. A pot of water boiling
  - D. A piece of wood burning
8. Julie looked outside of her window one morning and saw a small puddle of water. Later in the day, the puddle was gone. What process MOST LIKELY explains why the puddle was gone?
- E. Runoff
  - F. Evaporation
  - G. Precipitation
  - H. Condensation
9. Hydrogen and oxygen can combine chemically to form water. Which of the following words describes water?
- A. Ion
  - B. Atom
  - C. Element
  - D. Compound

10. A student is conducting an experiment about seed germination. When the seeds germinate, which part of the plants will grow first?
- E. Leaf
  - F. Root
  - G. Stem
  - H. Flower
11. Which of the following plants reproduces by spores?
- A. Fern
  - B. Corn
  - C. Pine tree
  - D. Dandelion
12. Which of these occurs when Earth's crust slips at a fault line?
- E. Tornadoes
  - F. Earthquakes
  - G. Snowstorms
  - H. Water erosion

13. Fossils of shellfish have been discovered on top of the Himalayan Mountains and Rocky Mountains. What is the BEST conclusion that scientists can make from these discoveries?

- A. Erosion moves fossils.
- B. Mountain animals eat seafood.
- C. Water once covered these areas.
- D. Shellfish evolved to live in water and on land.

14. The diagram below shows three of Earth's layers: the atmosphere, the hydrosphere, and the lithosphere.



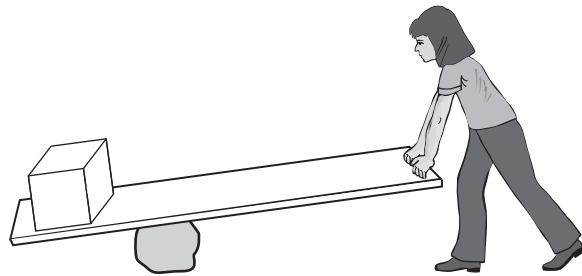
Which of these is the range in which life exists?

- E. From beneath the lithosphere to the top of the atmosphere
- F. From the bottom of the lithosphere to the top of the hydrosphere
- G. From the upper part of the hydrosphere to the top of the atmosphere
- H. From the upper part of the lithosphere to the lower part of the atmosphere

15. If scientists discover an object that has never been seen before, how could they find out if it is a living thing?

- A. Pour water on it
- B. Cover it with soil
- C. Place it in the sun
- D. Look for cells in it

16. Ball-and-socket, hinge, and immovable joints are all part of what body system?
- E. Skeletal
  - F. Nervous
  - G. Circulatory
  - H. Respiratory
17. A car, a train, a bicycle, and a skateboard are traveling at the same speed. Which object has the GREATEST kinetic energy?
- A. Car
  - B. Train
  - C. Bicycle
  - D. Skateboard
18. Look at the picture of Vanessa using a long wooden board with a rock underneath it to lift a box off the ground.



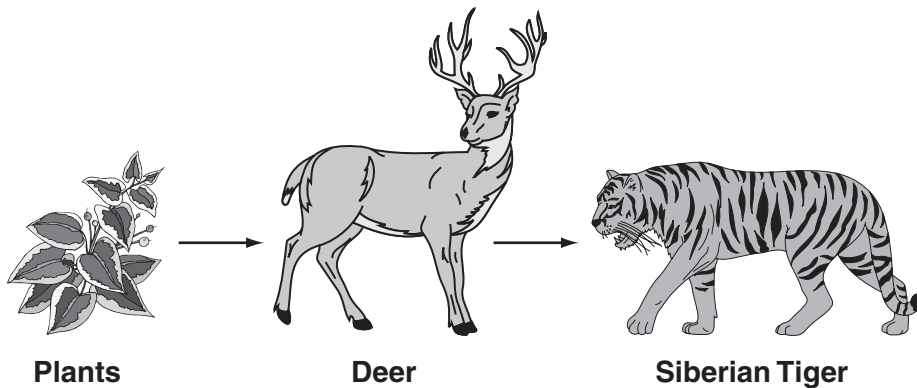
When she pushes down on one end of the board, the box at the other end lifts up. What type of simple machine is she using?

- E. Lever
- F. Pulley
- G. Inclined plane
- H. Wheel and axle

19. Which of the following transfers the MOST energy to sound?

- A. A string vibrating
- B. A raindrop falling
- C. Salt dissolving in water
- D. Electrons flowing through a wire

20. Scientists use diagrams to show connections between living things in ecosystems.



Which of the following BEST explains what this diagram represents?

- E. Why some organisms only eat plants
- F. Which animals share the same food source
- G. All the living things that can be found in the ecosystem
- H. The direction of energy flow from one organism to the next

21. Animals that live in the desert must be able to survive in very hot temperatures. Which of the following is an adaptation that helps desert animals survive in hot temperatures?

- A. Being active at night
- B. Being active day and night
- C. Being active during the day
- D. Being active in the middle of the day

- 22.** The Great Barrier Reef has a number of endangered species that live only in that ecosystem. What would **MOST LIKELY** happen if pollution killed most of the coral that made up the reef?
- E.** The endangered species would become extinct.
  - F.** The animals on the reef would find a new habitat.
  - G.** The population size of the endangered species would increase.
  - H.** The endangered species would take the place of the dead coral.
- 23.** Tosha viewed the Moon through a telescope. She saw large, round, dark areas on the surface of the Moon. Which of the following did she **MOST LIKELY** see?
- A.** Plains
  - B.** Valleys
  - C.** Craters
  - D.** Oceans
- 24.** Sir Isaac Newton explained that a force from Earth, the Moon, and the Sun causes the water level to rise and fall in the ocean. What force is Newton describing?
- E.** Gravity
  - F.** Eclipses
  - G.** Currents
  - H.** Refraction

- 25.** Bonesha's class is looking at the Moon through a telescope. How does a telescope help the students look at the Moon?
- A.** It makes the Moon look fuller.
  - B.** It makes the Moon look bigger.
  - C.** It brings the Moon closer.
  - D.** It makes the Moon shine brighter.
- 26.** Lorraine puts a pot of water on the stove. She turns on the heat and the water boils. What does the water change to as it boils?
- E.** Gas
  - F.** Heat
  - G.** Solid
  - H.** Liquid
- 27.** A question on Jamal's homework assignment asked him to explain why air is matter. Which of the following statements should Jamal write to answer the question correctly?
- A.** Air is invisible.
  - B.** Air is needed for breathing.
  - C.** Air takes up space and has mass.
  - D.** Air takes the shape of its container.

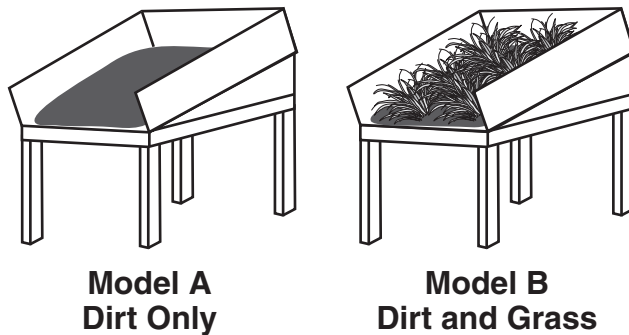
28. Which type of pollination has the greatest effect on people with allergies?

- E. Self-pollination
- F. Wind pollination
- G. Insect pollination
- H. Human pollination

29. What process produces offspring from only one parent organism?

- A. Fertilization
- B. Germination
- C. Sexual reproduction
- D. Asexual reproduction

30. A science class built the models shown below to conduct a study.



Students poured the same amount of water over both models. They observed that most of the dirt emptied out of the container in Model A and that a small amount of dirt emptied out of the container in Model B. What were the students MOST LIKELY studying?

- E. Volcanic eruptions
- F. The rock cycle
- G. Earthquakes
- H. Erosion

- 31.** In which major layer of Earth is soil found?
- A.** Crust
  - B.** Mantle
  - C.** Inner core
  - D.** Outer core
- 32.** Wendy wants to find out how much precipitation will occur during the next storm. Which tool should she use to collect these data?
- E.** Rain gauge
  - F.** Anemometer
  - G.** Thermometer
  - H.** Balance scale
- 33.** Nathan is creating a diagram to show photosynthesis. In addition to leaves, which plant part would be BEST to include in his diagram?
- A.** Bark, because it protects the stem
  - B.** Roots, because they bring in water
  - C.** Soil, because it holds the plant down
  - D.** Bacteria, because they provide nitrogen

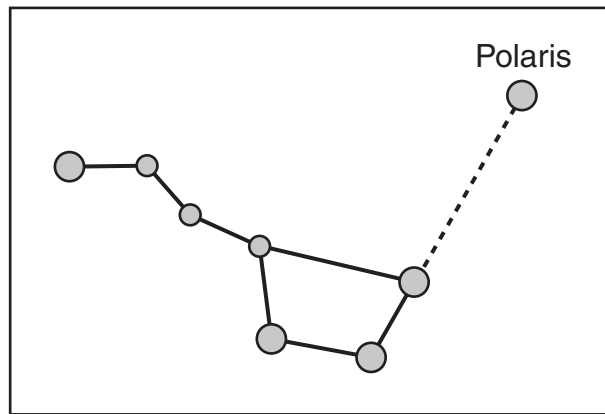
- 34.** The largest bone in the human body is the femur. Where is the femur located?
- E.** Back
  - F.** Head
  - G.** Upper leg
  - H.** Upper arm
- 35.** Which other system works with the skeletal system to provide physical support for the body?
- A.** Muscular
  - B.** Digestive
  - C.** Circulatory
  - D.** Respiratory
- 36.** Jerome wants to make an electromagnet. Which material should he use for the core?
- E.** Wood
  - F.** Plastic
  - G.** Metal
  - H.** Rubber

- 37.** Angie left her glass of water in the sunlight. When she came back, the water was warmer. Which of the following BEST describes why the water was warmer?
- A.** Energy from the Sun reflected off the water.
  - B.** Energy from the Sun evaporated some of the water.
  - C.** Energy from the Sun passed through the water.
  - D.** Energy from the Sun was absorbed by the water.
- 38.** Why is a food web MORE useful than a food chain to predict the survival of a population?
- E.** Food chains show fewer organisms.
  - F.** Food webs show more information about the habitats.
  - G.** Food webs show more predator and prey interactions.
  - H.** Food chains are limited to relationships between consumers.
- 39.** In one study, scientists found that the number of raccoons increased where people built homes in their habitats. Which of the following is MOST LIKELY the reason why the number of raccoons increased?
- A.** Raccoons no longer lived in wild areas.
  - B.** Raccoons found more food living near humans.
  - C.** More predators of raccoons live near people's homes.
  - D.** People destroyed raccoon habitats when they built homes.

40. The Mississippi Department of Wildlife and Fisheries is making an artificial reef in the Gulf of Mexico. How will this MOST LIKELY affect the fish population?

- E. The fish population will have more diseases.
- F. The fish population will increase in numbers.
- G. The fish population will become endangered.
- H. The fish population will be unaffected by reefs.

41. The picture below shows how the two stars at the end of the Big Dipper can be used to locate the star Polaris.



The Big Dipper

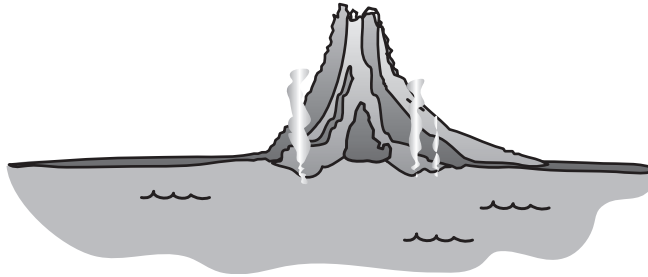
How will Polaris appear after several days?

- A. Polaris will move closer to the Big Dipper.
- B. Polaris and the Big Dipper will switch sides.
- C. Polaris will move farther away from the Big Dipper.
- D. Polaris and the Big Dipper will stay in the same arrangement.

42. Which of the following is happening as the amount of daylight increases each day in Mississippi?
- E. Earth is moving closer to the Sun.
  - F. Earth is tilting more toward the Sun.
  - G. The rotation of Earth is slowing down.
  - H. The Moon is reflecting light from the Sun.
43. Large deposits of salt are often found in deserts. For this salt to be usable, it must be separated from sand. If an engineer were designing a process to separate salt from sand, which of these differences would be the MOST useful?
- A. Salt and sand are different colors.
  - B. Salt dissolves in water but sand does not.
  - C. Grains of sand are harder than grains of salt.
  - D. Grains of salt and grains of sand have different shapes.
44. Kenesha measured the time it took her to run 30 meters. What can she calculate using the distance and time measurements?
- E. Mass
  - F. Force
  - G. Speed
  - H. Direction

45. How do young spiders know how to build webs?
- A. They watch parent spiders.
  - B. They learn from practicing every day.
  - C. Baby spiders build webs in the egg sac.
  - D. They inherit the knowledge as an instinct.
46. Ruby and Alvin are friends but they are not related. Their hair and eyes are brown. Which of the following BEST explains why Ruby and Alvin share the same hair and eye color?
- E. Ruby and Alvin both have genes.
  - F. Ruby and Alvin were probably born during the same month.
  - G. Ruby and Alvin probably ate the same kinds of food as babies.
  - H. Ruby's and Alvin's parents probably share the same hair and eye color.
47. Scott and Anita enjoyed watching bees drink the nectar from flowers in their yard. They wanted to know if the bees would still come to their yard if the petals of the flowers were removed. Why would fewer bees come to the plant if the petals of the flowers were removed?
- A. There would not be any nectar in the flowers.
  - B. The bees would not be attracted to the flowers.
  - C. The bees would not have a spot to rest on the flowers.
  - D. The bees would not be able to leave their scent on the flowers.

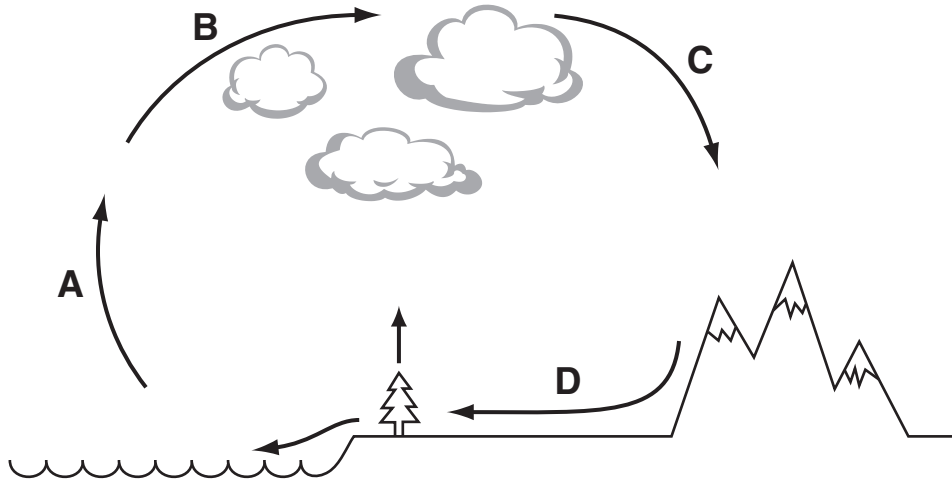
48. The picture below shows lava flowing out of a volcano and into the ocean.



What kind of rock forms when the lava cools after entering the ocean?

- E.** Igneous
- F.** Metallic
- G.** Sedimentary
- H.** Metamorphic

49. Look at the diagram below.



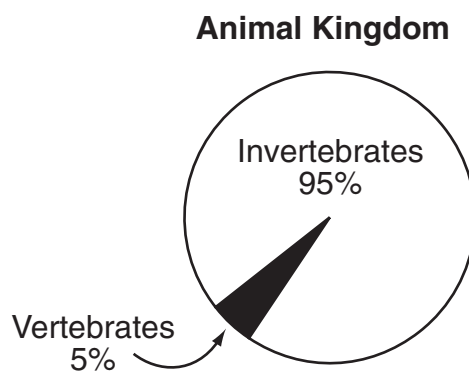
In which location on the diagram is water changing from a liquid to a gas?

- A. A
- B. B
- C. C
- D. D

50. Which human body feature allows the digestive system to separate its different processes?

- E. A valve separates the four chambers of the heart.
- F. The lungs are sacs that expand when filled with air.
- G. A valve from the stomach keeps acids out of the esophagus.
- H. The mouth is lined with cells that can tolerate acids in saliva.

51. Look at the graph below.



Which of the following animals belongs in the larger group shown on the graph?

- A. Ant
- B. Owl
- C. Lizard
- D. Goldfish

52. What happens if one bulb burns out in a set of lights with a parallel circuit?

- E. The circuit opens.
- F. The circuit breaks.
- G. The remaining bulbs stay lit.
- H. The remaining bulbs burn out.

53. Chang jumps rope. No matter how high he jumps, he still returns to the ground. What force pulls him back to the ground?

- A. Inertia
- B. Gravity
- C. Friction
- D. Pressure

54. If disease removed a species of plant from a food web, how would that ecosystem MOST LIKELY be affected?
- E. All plants in the ecosystem would become extinct.
  - F. The organisms that eat the plant would grow stronger.
  - G. Consumers of the plant would have a smaller food source.
  - H. Producers in the ecosystem would have a smaller energy supply.
55. A scientist has discovered a new plant, Plant X. After comparing it to known carnivorous plants, she made the hypothesis that Plant X is a carnivorous plant. Study the chart below showing characteristics of two carnivorous plants and Plant X.

**Plant Characteristics**

Venus Flytrap	Pitcher Plant	Plant X
Grows in bogs lacking nitrogen in soil	Grows in bogs lacking nitrogen in soil	Grows in bogs lacking nitrogen in soil
White blossoms attract insects	Honey smell attracts insects	Pink blossoms attract insects
Leaves make digestive fluid	Leaves make digestive fluid	Leaves make digestive fluid
Traps insect by closing leaves	Drowns insects in water in leaves	

Which of the following facts noted by the scientist would complete the chart to prove her hypothesis?

- A. Many kinds of insects are in the area.
- B. Insects like to eat the plant’s pink blossom.
- C. The plant has chlorophyll for photosynthesis.
- D. An insect is caught in the blossom’s sticky fluid.

**Stop**

**Do not turn the page.**

