



Nebraska State Accountability

**Grade 8
Science
Practice Test**

Name:

Directions:

On the following pages of your test booklet are multiple-choice questions for Session 1 of the Grade 8 *Nebraska State Accountability–Science (NeSA–S)*.

Each question will ask you to select an answer from among four choices. These questions will be found in your test booklet.

For all questions:

- Read each question carefully and choose the best answer.
- You may use scratch paper to solve the problems.
- You may not use a calculator on this test.
- Be sure to answer **ALL** the questions on your answer sheet.
- Only one of the answers provided is the correct response.

When you come to the word **STOP** at the end of Session 1, you have finished Session 1 of the Grade 8 Science Test. You may review Session 1 only to check your answers. Make sure you have marked all of your answers clearly and that you have completely erased any marks you do not want. When you are finished, put your answer sheet inside your test booklet and close your test booklet.

1. Use the tables below to answer the question.

Investigation 1

Swing	Chain Length	Number of Swings in 60 Seconds	Release Point
1	250 centimeters	18	Full
2	220 centimeters	20	Full
3	190 centimeters	22	Full

Investigation 2

Swing	Chain Length	Number of Swings in 60 Seconds	Release Point
1	250 centimeters	18	$\frac{3}{4}$
2	220 centimeters	20	$\frac{1}{2}$
3	190 centimeters	22	$\frac{1}{4}$

Students perform an investigation using the swings on a playground. One of the students sits on swing 1. The swing is pulled as far as it could go and is released. The students count the number of swings in 60 seconds. The same student sits on swings 2 and 3, and repeats the procedure.

The students perform a second investigation, but this time with three different release points. The students want to find out if the release point affects the number of swings in 60 seconds. They conclude that the release point does not affect the number of swings in 60 seconds. What is the experimental design flaw in their second investigation?

- A. chain length and time are both changed
- B. all variables are controlled except chain length
- C. release point and chain length are both changed
- D. all variables are controlled except release point

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2. Which is the most basic unit of matter?

- A. compound
- B. element
- C. mixture
- D. molecule

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3. What is the measure of the pull of gravity on an object?

- A. inertia
- B. mass
- C. pressure
- D. weight

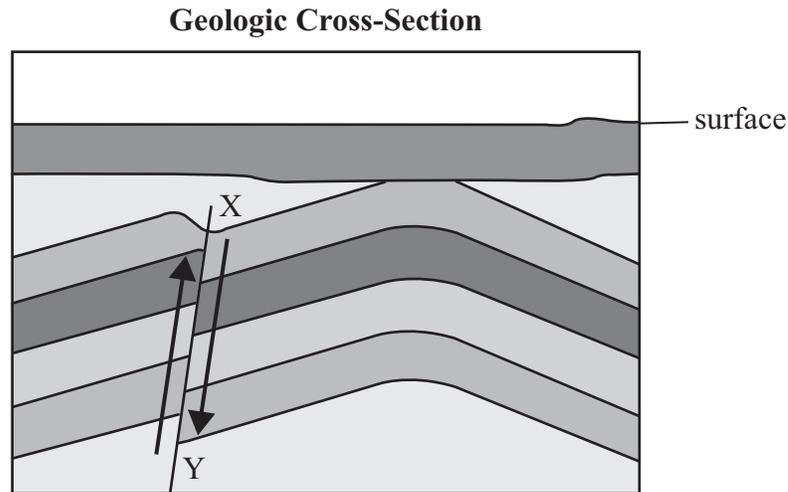
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4. What is the main function of an individual muscle cell?

- A. to grow and repair tissues
- B. to relax and contract tissues
- C. to support and protect organs
- D. to transmit and receive impulses

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5. Use the diagram below to answer the question.



What describes the event that occurred along line XY?

- A. erosion
- B. faulting
- C. sedimentary deposition
- D. volcanic eruption

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6. Which natural process results in offspring that are genetically identical to one parent?

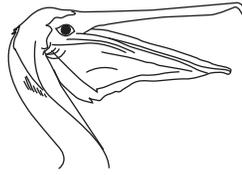
- A. asexual reproduction
- B. complete metamorphosis
- C. sexual reproduction
- D. incomplete metamorphosis

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7. Use the pictures and table below to answer the question.



cardinal



pelican



hummingbird



eagle

Bird Beaks and Diets

Characteristics of Beak	Diet
short and pointed for cracking	seeds and nuts
wide and deep for skimming	small fish and crustaceans
long and pointed for probing	insects and nectar
curved and sharp for ripping	small mammals and fish



warbler

What does a warbler MOST likely eat?

- A. fish and insects
- B. insects and nectar
- C. seeds and nuts
- D. small mammals and nuts

8. Which determines the state of matter of a substance?

- A. density
- B. temperature
- C. volume
- D. weight

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9. A student flips a light switch but the light does not turn on. Based on this information, which inference is NOT valid?

- A. The light switch is broken.
- B. The electrical connection is broken.
- C. The light bulb is burned out.
- D. The electrical wire is made of copper.

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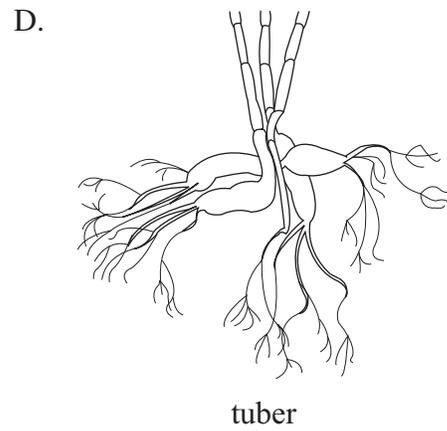
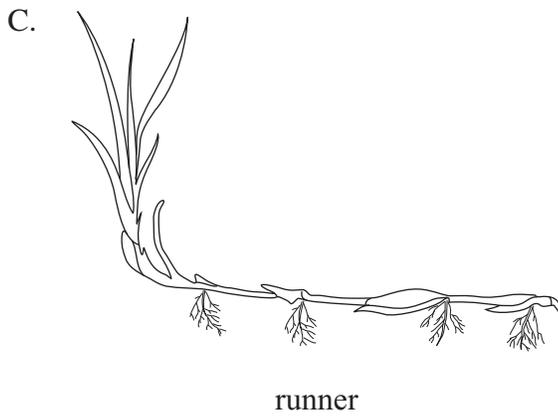
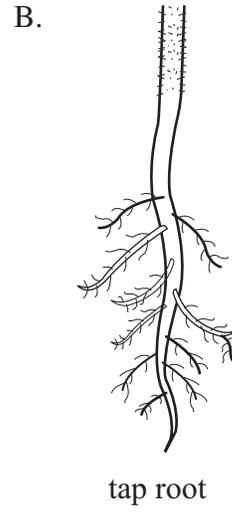
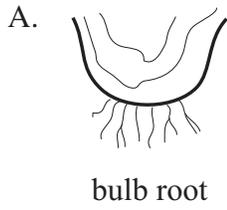
10. What is Earth's inner core made of?

- A. hot gases
- B. dense, solid metals
- C. partly-melted rock
- D. dense liquid materials

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11. Which root system BEST helps a plant to survive in a dry environment with an underground water source?



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12. Why does an apple look red?

- A. Red light waves are reflected by the apple.
- B. Red light waves are absorbed by the apple.
- C. Red light waves are reflected by a student's eyes.
- D. Red light waves are absorbed by a student's eyes.

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13. A scientist tests the effectiveness of a medicine. The medicine is administered to 2,500 volunteers who discontinue all other treatments. What is wrong with this experimental design?

- A. The experiment should include fewer volunteers.
- B. The experiment should be administered in random dosages.
- C. The experiment should include a group that does not take the medicine.
- D. The experiment should allow the volunteers to continue other treatments.

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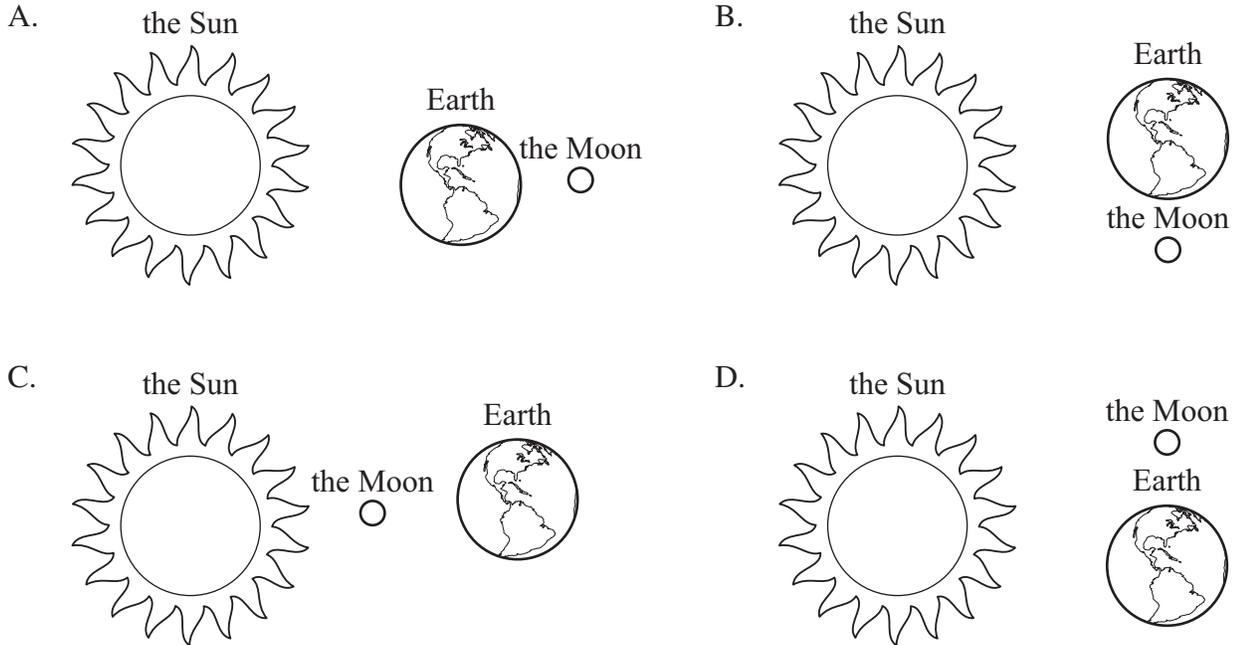
14. Which is NOT an example of a symbiotic relationship?

- A. a tick biting a white-tailed deer
- B. a caterpillar changing into a butterfly
- C. a remora fish sticking to the shell of a sea turtle
- D. a clownfish living within the parts of a sea anemone

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15. Which diagram shows the relative positions of Earth, the Moon and the Sun during a lunar eclipse?



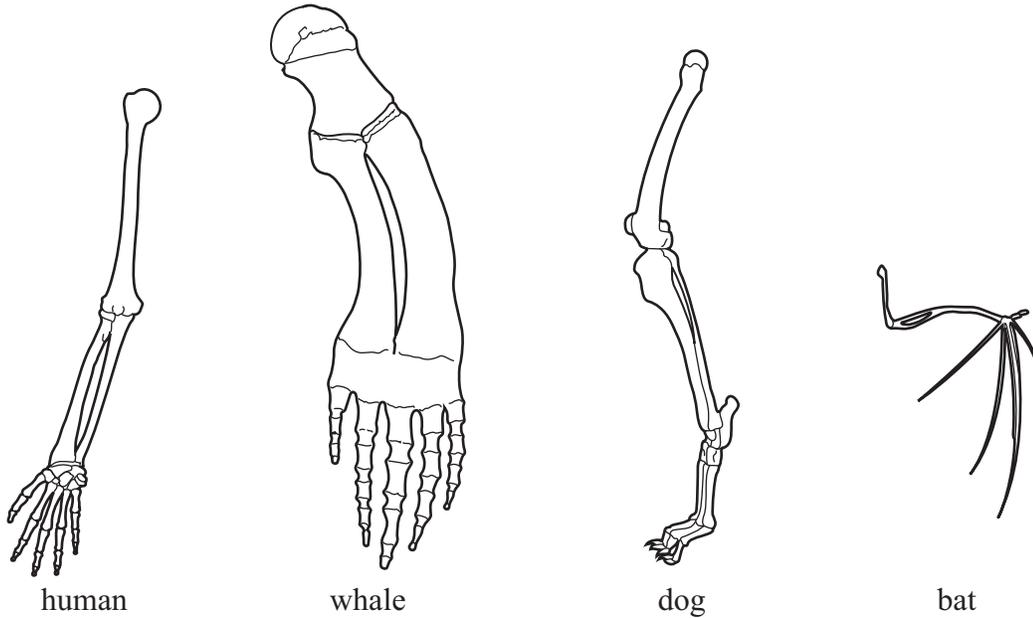
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16. A reflector helps people in cars see a bicycle when it is dark. How do bicycle reflectors work?

- A. They bounce light back from other sources.
- B. They are covered with paint that glows in the dark.
- C. They are made of a special material that gives off its own light.
- D. They are connected to batteries that allow them to produce their own light.

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17. Use the pictures below to answer the question.



What can be inferred from the bones in the pictures?

- A. all structural features are used to walk
- B. the organisms have similarities in skin features
- C. all structural features have a similar function
- D. the organisms have the same structural features

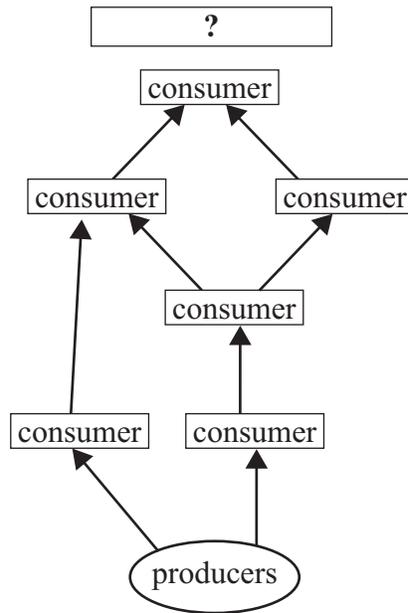
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18. Which list has all terrestrial planets?

- A. Earth, Mars, Jupiter, Saturn
- B. Mercury, Venus, Earth, Mars
- C. Mars, Saturn, Jupiter, Neptune
- D. Jupiter, Saturn, Uranus, Neptune

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19. Use the diagram below to answer the question.



Which is the title for the diagram?

- A. Energy Pyramid
- B. Food Chain
- C. Water Cycle
- D. Food Web

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20. What is the original source of the energy released when fossil fuels are burned?

- A. decayed bacteria
- B. Earth's core
- C. nuclear
- D. solar

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**Science
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Answer Key**

1	C
2	B
3	D
4	B
5	B
6	A
7	C
8	B
9	D
10	B
11	B
12	A
13	C
14	B
15	A
16	A
17	C
18	B
19	D
20	D