

GRADE 5

STUDENT PRACTICE TEST BOOKLET

Student Name: _____



MEA

Maine Educational Assessment

RELEASED 2014 SCIENCE ITEMS

Maine Department of Education

SCIENCE PRACTICE TEST

This practice test has sixteen multiple-choice questions and two constructed-response questions.

Choose the best answer for each multiple-choice question. Fill in the bubble next to your answer choices for questions 1 through 16 on page 2 of your practice test answer booklet.

- 1 Four different living things are shown below.



amoeba



flea



fungus



plant

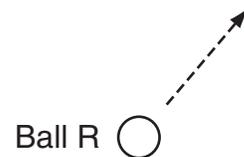
Which organism is made up of only one cell?

- A. an amoeba
 - B. a flea
 - C. a fungus
 - D. a plant
- 2 A student climbs up a rocky mountain trail in Maine. She sees many small pieces of rock on the path. Which action **most likely** made the small pieces of rock?
- A. sand blowing into cracks
 - B. leaves pressing down tightly
 - C. ice breaking large rocks apart
 - D. shells and bones sticking together

- 3 The Sun is classified as a star. Which characteristic identifies the Sun as a star?

- A. The Sun spins on its axis.
- B. The Sun is located outside the Milky Way galaxy.
- C. The Sun is part of the Big Dipper.
- D. The Sun produces light and energy in a nuclear reaction.

- 4 The diagram below shows the direction of a stationary ball after it is hit by another ball.



Where should another ball hit Ball R so that Ball R moves along the dotted path?

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

PLEASE GO ON →

- 5 The table below shows two groups of organisms.

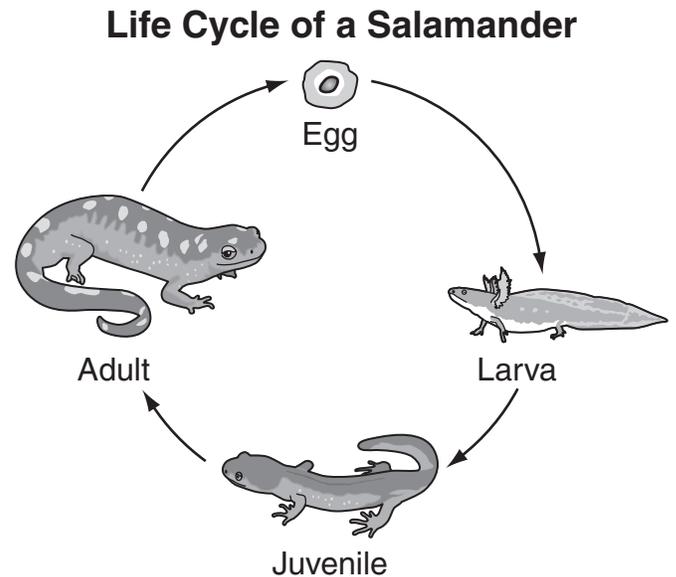
Group 1	Group 2
Ostrich	Robin
Penguin	Eagle
Tree frog	Hawk
Gray squirrel	Pigeon

How are the organisms sorted into two groups?

- A. The animals in Group 1 cannot fly, and the animals in Group 2 can fly.
- B. The animals in Group 1 are mammals, and the animals in Group 2 are not mammals.
- C. The animals in Group 1 have feathers, and the animals in Group 2 do not have feathers.
- D. The animals in Group 1 do not eat plants, and the animals in Group 2 do eat plants.
- 6 What information is needed to calculate the speed of a car?
- A. the road conditions and type of tires
- B. the type of engine and the amount of gas used by the engine
- C. the car length and distance traveled
- D. the distance traveled and the time to go that distance

- 7 Which object is **best** seen with a microscope?
- A. human cell
- B. cow heart
- C. oak leaf
- D. chicken leg

- 8 The diagram below shows the life cycle of a salamander.



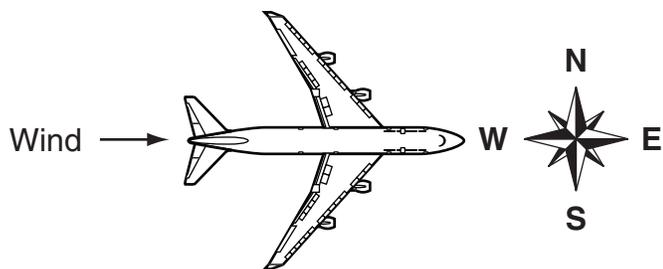
Which behavior of a salamander changes the **most** from a larva to an adult?

- A. The adult can stay in water longer than a larva.
- B. The adult can eat smaller food than a larva.
- C. The adult can find food on land more easily than a larva.
- D. The adult can communicate with other adults better than a larva.

PLEASE GO ON ➡

- 9 A lizard in a desert sits on a warm rock. Where does the heat energy in the rock come from?
- A. the Sun
 - B. the lizard's skin
 - C. deep within Earth
 - D. the decay of plant materials

- 10 The diagram below shows a jet airplane flying east when a gust of wind directly from the west pushes it.



Which of the following changes after the wind pushes the plane?

- A. the weight of the plane
- B. the speed of the plane
- C. the direction of the plane
- D. the pull of gravity on the plane

- 11 A scientist compares ancient animal tracks to modern animal tracks. Which conclusion is the scientist **most likely** to reach?
- A. Some ancient animals and some modern animals walk on four legs.
 - B. Most ancient animals and most modern animals hunt animals for food.
 - C. The same animals that lived long ago also live today.
 - D. All animals can walk.

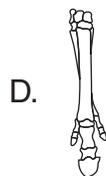
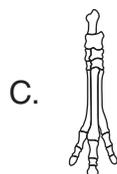
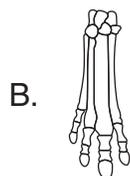
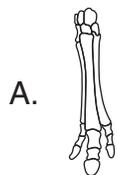
- 12 A student dissolves 20 g of table salt in a glass of water. Which statement explains what happens to the weight of the table salt after it dissolves?
- A. The weight decreases because the pieces of table salt are much smaller.
 - B. The weight increases because the table salt is spread throughout the water.
 - C. The weight stays the same because the amount of table salt does not change.
 - D. The weight is zero because the table salt has become a liquid.

PLEASE GO ON ➔

- 13 The drawing below shows the front leg bones of a horse.



Which fossil leg bones belonged to the **most recent** ancestor of the horse?



- 14 Which event would **most likely** result in more food for organisms that are scavengers?
- A. Fish die and sink to the bottom of a pond.
 - B. Trees take up and store water with roots.
 - C. Beavers build a new dam and lodge.
 - D. Plants get more sunshine and water.

- 15 In the summer, the Sun shines directly on different places on Earth as Earth rotates. At about what time of day is the Sun highest in the summer sky in Maine?

- A. 6:00 A.M.
- B. 10:00 A.M.
- C. 1:00 P.M.
- D. 3:00 P.M.

- 16 Some animals have advantages and disadvantages because they are different. Which of the following has a **disadvantage** compared to other animals in its population?

- A. a polar bear that has dark-colored fur
- B. a deer with long legs
- C. a rabbit that can run fast
- D. a hummingbird with a long beak

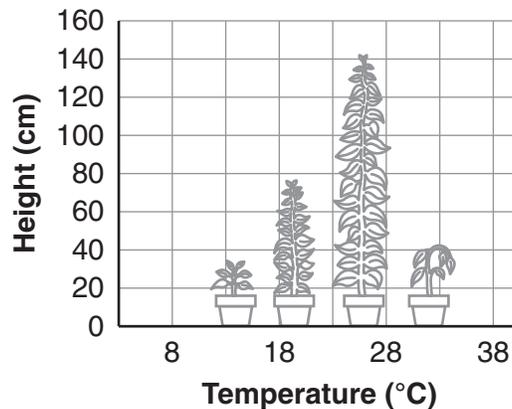
PLEASE GO ON ➡

Write your answers to constructed-response questions 17 and 18 in the boxes provided on pages 2 and 3 of your practice test answer booklet. Be sure to answer and label all parts of the questions.

- 17 The Sun is a star.
- Name **two** characteristics that the Sun shares with other stars in the universe.
 - Describe **two** ways that the Sun looks different from other stars in the sky.
 - Explain each difference you described in part b.

Be sure to label parts a, b, and c in your answer booklet.

- 18 Students in a fifth-grade science class are investigating how an organism is affected by temperature changes in the organism's habitat. They grow four of the same type of plant at different temperatures. All of the plants are cared for in the same way. The results of the investigation are shown below.



- Based on the graph, make a statement about what the graph tells you about how temperature affects the plants. Support your statement with evidence from the graph.
- Explain how organisms can be affected by changes in their habitat **and** explain how this connects to your statement in part a.

Be sure to label parts a and b in your answer booklet.

