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# INTRODUCTION TO SCIENCE

## SAMPLE TESTS and TEST KEYS

The Oregon Department of Education provides sample tests in science to demonstrate the content and types of questions students who are tested at Grade 5/Benchmark 2, Grade 8/Benchmark 3 and High School might encounter on the Oregon Statewide Assessment called Oregon Assessment of Knowledge and Skills (OAKS). Items on the sample test were taken from earlier years' Statewide Assessments and have been aligned to the 2009 Science Content Standards. These items are no longer secure and have been released for public use. Science assessment items are designed to measure students' knowledge and skills about the physical and living universe in the following categories.

### Structure and Function of

- ▶ Physical Science;
- ▶ Life Science; and
- ▶ Earth and Space Science.

### Interaction and Change of

- ▶ Physical Science;
- ▶ Life Science; and
- ▶ Earth and Space science.

### Scientific Inquiry

### Engineering Design

## WHY PROVIDE SAMPLE TESTS?

Most students feel some anxiety as they approach a test. The more confident students feel about their knowledge of the topic, the less anxious they feel. It also may help students feel comfortable if they are familiar with the test format. Teachers want to know how the state content standards are represented on these tests. This sample test helps teachers see the multiple choice format used for test questions on the OAKS online assessment.

## HOW TO USE THE SAMPLE TEST

The Oregon Department of Education periodically updates paper sample tests and also provides a fully adaptive practice test at <http://www.oaks.k12.or.us/>. To ensure complete readiness for the OAKS online assessment, students are encouraged to access the online practice test.

A list of test-taking tips for students follows this introduction. Teachers may use the tips to:

- ▶ generate individual and class discussion;
- ▶ call attention to helpful strategies students can use to prepare for test questions; and
- ▶ share ideas with parents of ways to help reduce test anxiety and promote good study habits at home.

An answer key for this sample test is provided at the end of this sample test. In addition to the correct answers, the key also identifies which of the reporting categories each question is designed to assess.

A table following the answer key shows how students are likely to perform on the Statewide Assessment given their answers on this sample test. This is only a short practice test. It is not an absolute predictor of how a student will do on the OAKS online assessment.

Teachers may have students take the sample test, score each item, and discuss any or all of the items and answers. Students usually benefit from analyzing both the correct and incorrect answers.

Sample tests also may be shared with parents to help them understand some of the types of questions their child will encounter on the test. Sample test questions may be reprinted in newsletters or shared at community meetings to better understand the state assessment system. Although the sample tests are not as comprehensive as the actual tests, they do provide a sampling of the subject area content and difficulty level students will encounter as part of Oregon's science assessment.

# TEST-TAKING TIPS

Students: Use these tips to help you prepare for the test.

## BEFORE THE TEST

- ▶ Develop a positive attitude. Tell yourself, “I will do my best on this test.”
- ▶ Get a good night’s sleep the night before the test.
- ▶ Get up early enough to avoid hurrying to get ready for school.
- ▶ Eat a good breakfast (and lunch, if your test is in the afternoon).

## DURING THE TEST

- ▶ Stay calm.
- ▶ Listen carefully to directions from the teacher.
- ▶ Ask questions if you don’t understand what to do.
- ▶ Before you read an item on the test, preview the questions that follow for tips to help you focus your reading.
- ▶ After reading an item, read the entire first question and all the answer choices. Stop and think of an answer. Look to see if one of the choices is similar to your answer.
- ▶ Read each test question and all the answer choices carefully. Try to analyze what the question is really asking.
- ▶ Pace yourself. If you come to a difficult question, it may be better to skip it and go on. Then come back and really focus on the difficult questions one at a time.

- ▶ This is *not* a timed test. If you need more time to finish the test, tell your teacher.
- ▶ If you are not sure of an answer to a question, try these tips:
- ▶ Get rid of the answers you know are not correct and choose among the rest.
- ▶ Read through all the answers very carefully, and then go back to the question. Sometimes you can pick up clues just by thinking about the different answers you have been given to choose from.
- ▶ If you get stuck on a question, skip it and come back later.
- ▶ It is OK to guess on this test. Try to make your best guess, but make sure you answer all questions.

## AFTER THE TEST

- ▶ Before you submit your test, check it over. Change an answer only if you have a good reason. Generally, it is better to stick with your first choice.
- ▶ Make sure you have marked an answer for every question, even if you had to guess.
- ▶ Don’t worry about the test once it is finished. Go on to do your best work on your other school assignments.

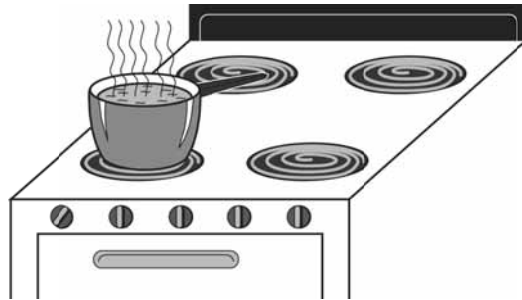
## ***DIRECTIONS***

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Read each of the questions and decide on the BEST answer. There are many different kinds of questions, so read each one carefully before marking an answer on your answer sheet. When there is an introduction to a set of questions, read it carefully, since it will contain important information you may need.

## ***CHANGING STATES***

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**1**

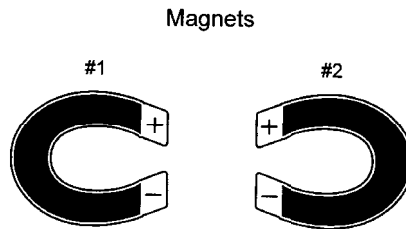
What change of state is shown?

- A. Liquid to gas
  - B. Solid to gas
  - C. Gas to liquid
  - D. Solid to liquid
- 
-

## ▼ Science

### 2

The two magnets were placed near each other on a table top. Which statement about the magnetic force of these two magnets is true?

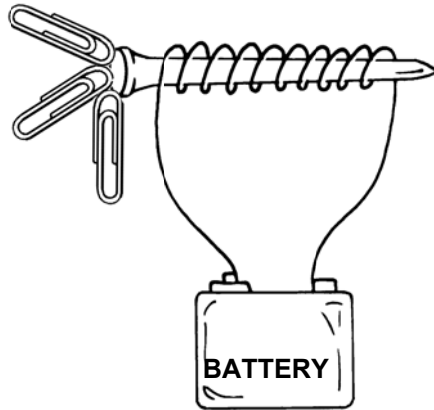


- A. The two magnets will be attracted to each other.
  - B. The two magnets will repel each other.
  - C. There will be no force between the magnets.
  - D. The magnetic force will change the magnets.
-

**PAPER CLIP ELECTROMAGNETS**

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Rachel made four electromagnets by winding coils of copper wire around a nail. She connected each end of the wire to a battery to form an electromagnet which she used to pick up paper clips.

**3**

In this experiment, what kind of energy is changed directly into magnetic energy?

- A. Heat energy
  - B. Electrical energy
  - C. Chemical energy
  - D. Light energy
- 
- 

**4**

Leshawna used the same force in the same way to push on three boxes. The boxes weighed 3 kg, 5 kg, and 10 kg. Which box moved most quickly, and which moved most slowly?

- A. The 10 kg box moved most quickly; the 3 kg box moved most slowly.
  - B. The 5 kg box moved most quickly; the 10 kg box moved most slowly.
  - C. The 10 kg box moved most quickly; the 5 kg box moved most slowly.
  - D. The 3 kg box moved most quickly; the 10 kg box moved most slowly.
- 
-

# ▼ Science

## *WALKING FIELD TRIP*

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Mrs. Baker's class went on a walking field trip to a river near the school. They stopped at four places along the way and collected samples of earth materials. Here is a table of what they found. From the information in the table, answer the questions that follow.

<b>SAMPLE NUMBER</b>	<b>DESCRIPTION OF SAMPLE</b>	<b>WHERE FOUND</b>
1	reddish material that felt "slimy" and stuck to the hands, made a tight ball when squeezed	in a pile near a sign reading "AJAX CLAY PIT"
2	shiny black hard chunks the size of a fist, seemed less dense than most rocks	near a train filled with coal in open-topped cars
3	clean mixture of sand, gravel and small pebbles	in the river bottom
4	dark brown mixture of sand, clay, and decaying plants, moist enough to make a ball when squeezed together	in a flat area near the walking path

**5**

Which sample of material might be used for energy to make electricity?

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

**6**

Which material would be part of the ingredients used to make cement sidewalks?

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



**7**

How can police detectives use the dirt on a suspect's shoes as evidence that the suspect was in a certain location?

- A. Shoes react differently to different types of soils.
  - B. Footprints are often left in the soft dirt.
  - C. Each shoe leaves a unique footprint.
  - D. Soils differ from place to place in color and texture.
- 
- 

**8**

Which statement best describes Earth's movement in relation to the sun?

- A. The sun goes around the Earth.
  - B. The sun and Earth go around each other.
  - C. The Earth goes around the sun.
  - D. The sun and Earth go around other planets.
- 
- 

**9**

If all green plants died, would lions survive?

- A. Yes, lions do not eat green plants.
  - B. Yes, lions could still eat other animals.
  - C. No, the animals that lions eat need to eat green plants.
  - D. No, they would have no more plants to eat.
- 
- 

**10**

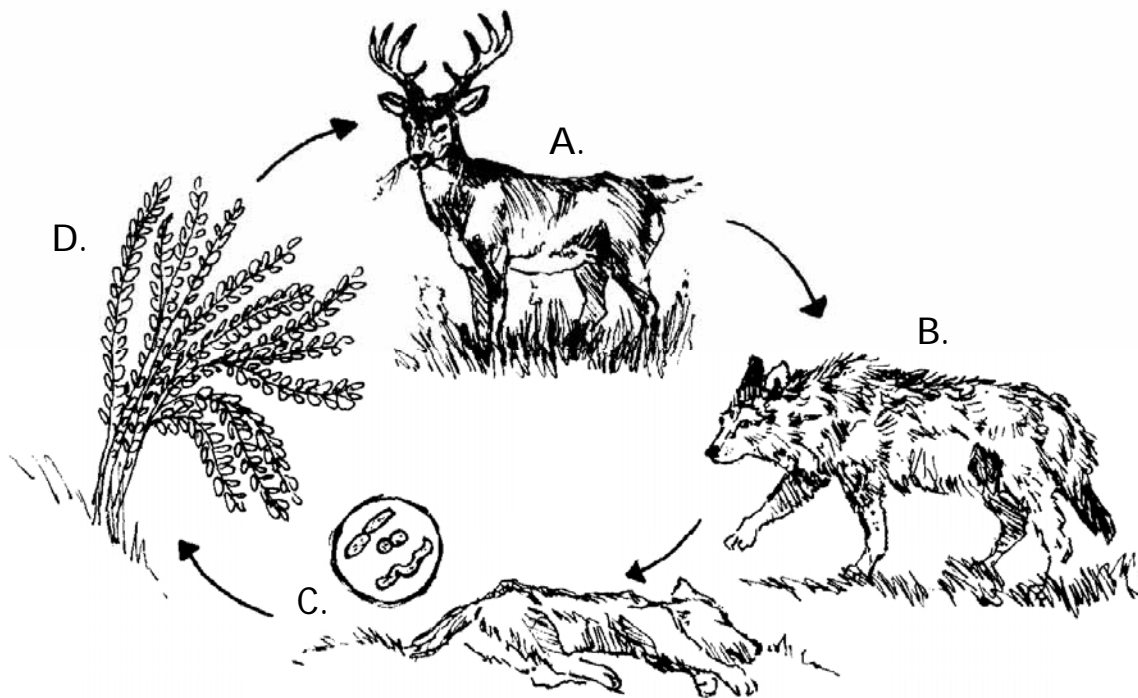
Animals have adaptations that help them in survival. One example of this is the giraffe's long neck. What primary purpose does this adaptation serve?

- A. Protection from heat
  - B. Gathering of food
  - C. Protection from predators
  - D. Increased speed
- 
-

# ▼ Science

## FOOD CYCLE

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**11**

Which picture represents a decomposer?

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

**12**

Which picture represents a producer?

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

**13**

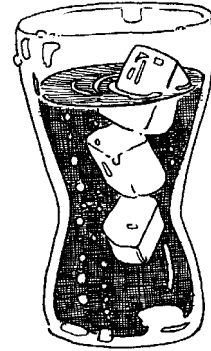
A frog is a vertebrate that can also be classified as

- A. an amphibian.
  - B. a fish.
  - C. a reptile.
  - D. an arthropod.
-

**14**

Eduardo pours himself a glass of cola with ice in it. Identify which objects are solid, liquid, and gas.

- A. The cola is the solid, the ice is the liquid, and the bubbles are the gas.
- B. The ice is the solid, the bubbles are the liquids, and the cola is the gas.
- C. The bubbles are the solids, the cola is the liquid, and the ice is the gas.
- D. The ice is the solid, the cola is the liquid, and the bubbles are the gas.



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**15**

When you hook up a battery to a complete circuit, what flows through the wires from one pole of the battery to the other?

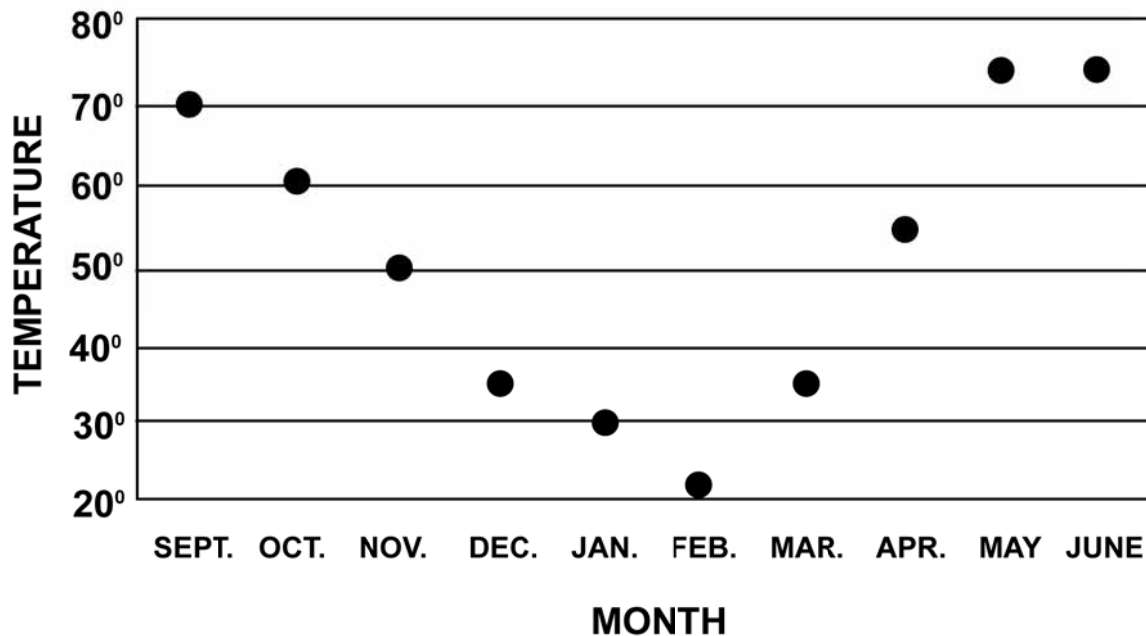
- A. Heat
  - B. Electricity
  - C. Light
  - D. Sound
-

## ▼ Science

### TEMPERATURE CHART

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A class recorded the outdoor temperatures at noon on the first day of the month all year. They made this chart.



**16**

What was the temperature on the first day of March?

- A. 30°
- B. 75°
- C. 35°
- D. 40°

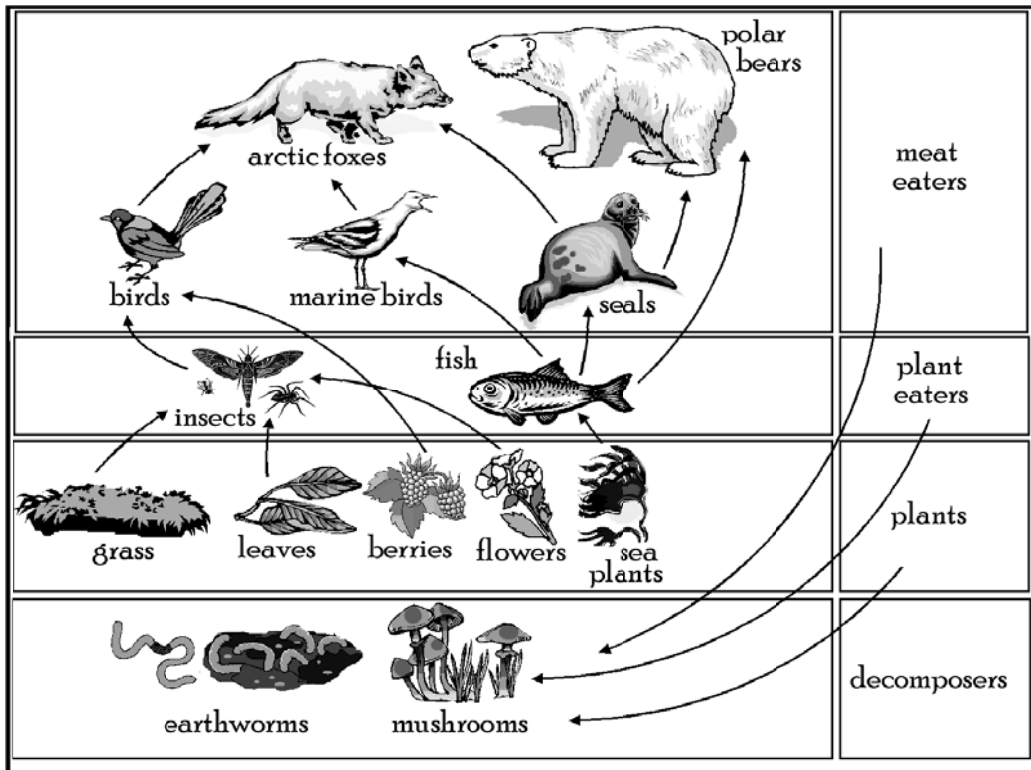
**17**

If you compared the temperature on the first day of October with the first day of January, you would find the temperature

- A. went down.
- B. stayed the same.
- C. rose slightly.
- D. rose a lot.

**FOOD WEB**

Look at the figure below. It shows some of the animals that live on an island.



The arrows show the source of energy for these living creatures. For example, the arrow pointing from the fish to the seal shows that the seals eat fish as a source of energy.

**18**

What do marine birds eat as a source of energy?

- A. Berries      B. Fish      C. Leaves      D. Mushrooms

**19**

According to this diagram, what do insects and fish eat as a source of energy?

- A. Meat eaters      B. Plant eaters      C. Plants      D. Decomposers

**20**

For a source of energy, arctic foxes eat

- A. grass.      B. flowers.      C. insects.      D. seals.

# Oregon Science Sample Test

Use number 2 pencil.  
Do NOT use ink or ball point pen.  
Make heavy dark marks that completely fill the circle.  
Erase completely any marks you wish to change.

Name of Student  
\_\_\_\_\_

Name of Teacher  
\_\_\_\_\_

Name of School  
\_\_\_\_\_

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

**GRADE 5/Benchmark 2 SCIENCE  
SAMPLE TEST KEY, 2011-2012**

Item	Key	Score Reporting Category
1	A	Interaction and Change/Physical
2	B	Interaction and Change/Physical
3	B	Structure and Function/Physical
4	D	Interaction and Change/Physical
5	B	Structure and Function/Earth and Space
6	C	Structure and Function/Earth and Space
7	D	Structure and Function/Earth and Space
8	C	Structure and Function/Earth and Space
9	C	Interaction and Change/Life
10	B	Interaction and Change/Life
11	C	Interaction and Change/Life
12	D	Interaction and Change/Life
13	A	Structure and Function/Life
14	D	Structure and Function/Physical
15	B	Structure and Function/Physical
16	C	Interaction and Change/Earth and Space
17	A	Scientific Inquiry
18	B	Interaction and Change/Life
19	C	Interaction and Change/Life
20	D	Interaction and Change/Life

**CONVERTING TO A RIT SCORE**

Number Correct	RIT Score	Number Correct	RIT Score
1	179	11	216
2	187	12	218
3	192	13	221
4	196	14	224
5	199	15	227*
6	203	16	231
7	205	17	235
8	208	18	240**
9	211	19	249
10	213	20	257

\* Likely to **Meet** Grade 5/Benchmark 2 standard

\*\* Likely to **Exceed** Grade 5/Benchmark 2 standard

Note: This sample test is for practice only; scores may not be substituted for the Oregon Statewide Assessment.

**Oregon Department of Education**

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