

STAAR CONNECTION™

Diagnostic Series™

Science
7
teacher



KAMICO®

Instructional Media, Inc.

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Science
7
teacher

Diagnostic Series™

XXII/iv/MMXVI
Version 1



KAMICO®
Instructional Media, Inc.

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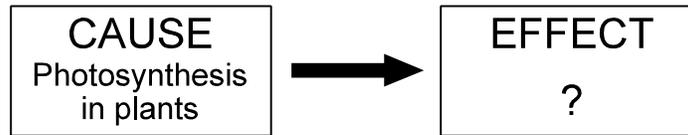
KAMICO® Instructional Media, Inc.
STAAR CONNECTION™
Diagnostic Series™
Grade 7 Science
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Name _____

Date _____

- 1** Look at the graphic organizer showing the cause and effect of a process that occurs in nature.



Which of the following effects is a result of photosynthesis in plants?

- A** Sun's chemical energy is transformed into radiant energy.
 - B** Sun's chemical energy is transformed into geothermal energy.
 - C** Sun's radiant energy is transformed into chemical energy.
 - D** Sun's radiant energy is transformed into geothermal energy.
- 2** Vincent applies a force of 100 Newtons to try to lift a heavy armchair off the floor, but the armchair does not move. He asks his father for help. Vincent's father applies a force of 100 Newtons in addition to Vincent's 100 Newtons, and between the two of them, they pick up the armchair one meter off the ground. They hold the armchair steady while they walk 10 meters to a pickup truck. They load the armchair onto the bed of the pickup truck, which is also one meter off the ground. At which point has Vincent done the most work on the armchair?
- F** when he tries to lift the armchair off the floor by himself
 - G** when he lifts the armchair off the floor with his father
 - H** when he and his father walk to the pickup truck with the armchair
 - J** when he and his father load the armchair onto the bed of the pickup truck

3 Beach grass, adapted to being buried by sand, grows on sand dunes along the Texas Gulf Coast. The grass helps reduce wind erosion of the sand dunes, while the sand dunes help protect inland areas from the crashing waves of storms. Which of the following natural events would most likely affect the sand dune ecosystem by removing the beach grass growing on the dunes?

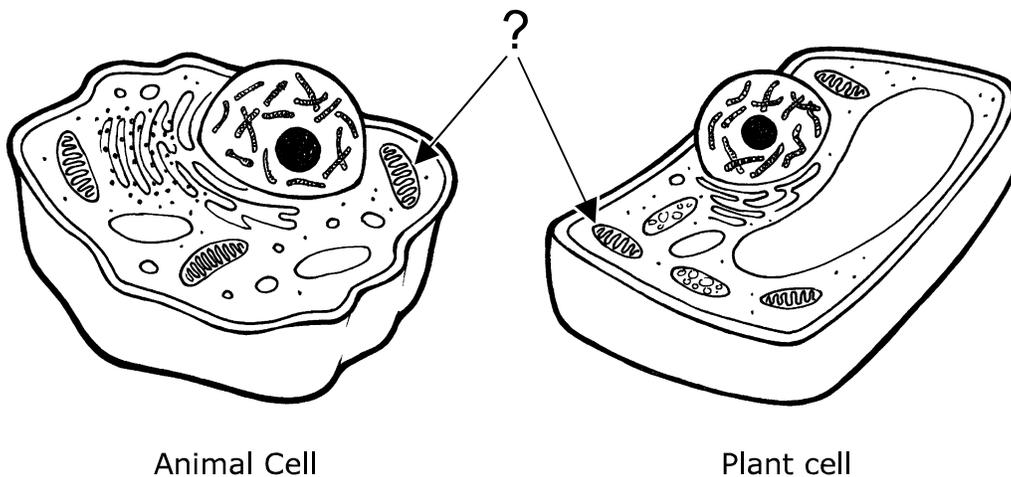
- A** fire
- B** tornado
- C** hurricane
- D** earthquake

4 Some organisms have adaptations that allow them to survive in different environments. Plants with fleshy stems, waxy coating, and shallow root systems, as well as insects and animals that conserve their energy during the day, are examples of organisms which live in a —

- F** swamp.
- G** tidal zone.
- H** prairie.
- J** desert.

- 5** Willow trees can reproduce through fragmentation, a form of asexual reproduction in which a twig from the willow tree can take root and grow into a new tree. Which statement about asexual reproduction is correct?
- A** Asexual reproduction occurs only in plants.
 - B** An offspring from asexual reproduction has identical chromosomes to those of its parent.
 - C** Asexual reproduction occurs every other generation.
 - D** An offspring from asexual reproduction must have two parents.

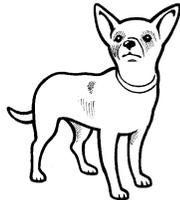
- 6** Look at the drawings of an animal cell and a plant cell.



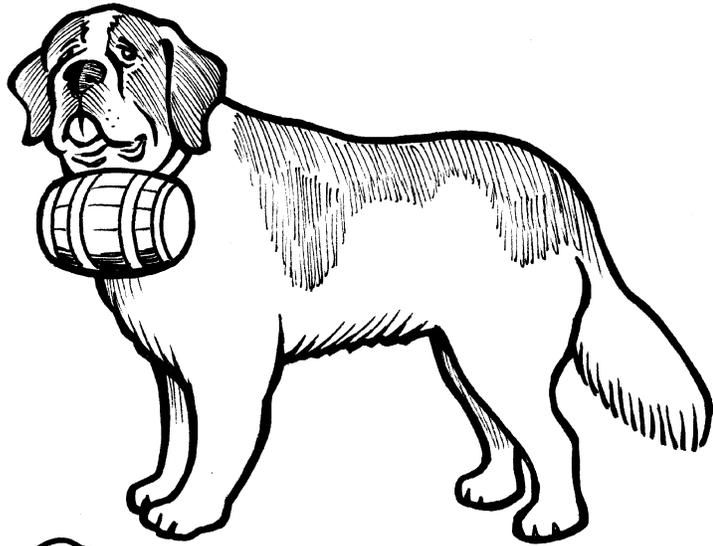
What is the name and function of the organelle indicated by the arrow?

- F** Lysosome – Lysosome stores enzymes created in the endoplasmic reticulum.
- G** Mitochondrion – Mitochondrion provides energy for the cell to use.
- H** Chloroplast – Chloroplast produces food for the cell.
- J** Vacuole – Vacuole stores waste and food inside the cell.

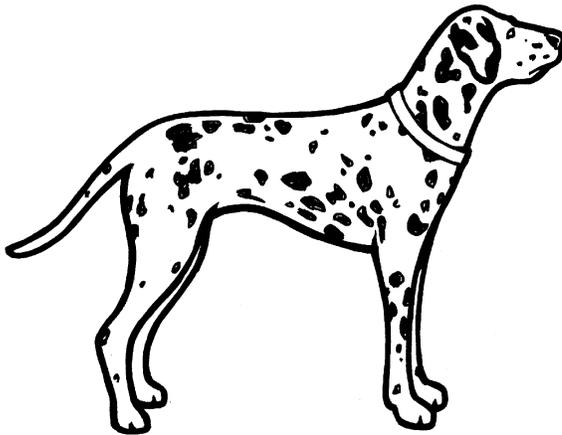
- 7 St. Bernards, chihuahuas, dalmatians, and beagles are different breeds of the same species, domestic dogs.



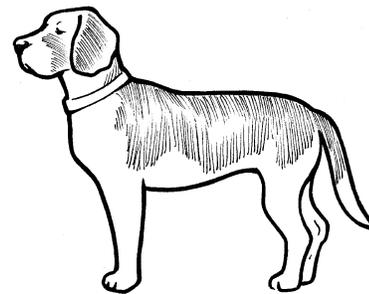
Chihuahua



St. Bernard



Dalmatian



Beagle

Which physical feature or behavior of the St. Bernard enhances its chances over the other breeds of survival in cold temperatures?

- A The St. Bernard's neck is strong enough to carry warm liquids in the flask hanging from the collar.
- B The St. Bernard's strong jaws are able to break apart and chew ice.
- C The St. Bernard's thick fur coat helps keep the dog warm.
- D The St. Bernard's large size helps its owners find it more easily.

- 8** Mr. Tyler assigns a field investigation activity to his seventh grade science students. He instructs students to compare different plants in the school's community garden. Which of the following students is **not** following an appropriate field investigation safety rule?
- F** Bonnie immediately informs Mr. Tyler that she accidentally touched poison ivy, a plant which can cause a skin rash.
 - G** Jackson carefully pulls apart the petals of a flower with his fingers to observe the parts of a flower.
 - H** Josea pushes away a small rock with a shovel to look at the exposed roots of a tree.
 - J** Cami slowly backs away from a snake slithering through the grass.
- 9** Sydney has an assignment to take a flower apart to identify its petals, stamen, pistil, sepal, and stem. She must record the data in her science notebook. What is the best way for Sydney to record the data so that she can remember and identify the parts of the flower?
- A** Write a description of the function of each part of the flower.
 - B** Organize the data in a flow chart, beginning with the outermost part of the flower at the top of the flow chart.
 - C** Draw a detailed picture of the flower and identify its parts with labels.
 - D** Construct a table which includes the name of each flower part with a description of the part's function.
- 10** Sea lions are known to eat hard indigestible objects along with their food. Some captive sea lions will even eat coins, balls, or other foreign objects thrown into their tanks by zoo visitors.
- A scientist studying sea lions reads about the animal's strange diet and comes to the conclusion that sea lions eat indigestible objects for a reason. She believes that the indigestible materials help with the sea lion's digestion and keep the animal stable in the water. What evidence would support the scientist's conclusion?
- F** observations of sea lions swimming without complications after eating indigestible objects
 - G** photographs of sea lions being fed in captivity
 - H** a study comparing the swimming ability of sea lions in captivity with the swimming ability of sea lions in the wild
 - J** a study, using controls, comparing the digestion and swimming ability of sea lions that eat indigestible objects with those that eat only digestible food

STAAR CONNECTION™
Diagnostic Series™ Grade 7 Science
TEKS Alignment Chart

Student Name:	STAAR CONNECTION™ Grade 7 Diagnostic Series Science
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The following charts provide the correct answer to each assessment question, along with the corresponding content strand, content student expectation, and process student expectation.

Circle the number of any question that has been answered incorrectly. Circle the TEKS that need additional reinforcement.

Assessment 1				
Item Number	Correct Answer	Reporting Category	Content Strand	Student Expectation (TEKS)
1	C	1	Matter and Energy	7.5A
2	G	2	Force, Motion, and Energy	7.7A
3	C	3	Earth and Space	7.8A
4	J	4	Organisms and Environments	7.10A
5	B	4	Organisms and Environments	7.14B
6	G	4	Organisms and Environments	7.12D
7	C	4	Organisms and Environments	7.11B
8	G	SIRS	Scientific Investigation and Reasoning Skills	7.1A
9	C	SIRS	Scientific Investigation and Reasoning Skills	7.2C
10	J	SIRS	Scientific Investigation and Reasoning Skills	7.3A