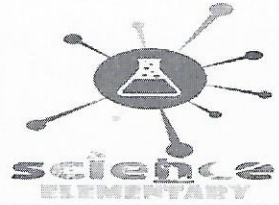


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EGYPTIAN AMERICAN INTERNATIONAL SCHOOL

EGYPTIAN AMERICAN INTERNATIONAL SCHOOL
Elementary Science Department
Semester 1 GRADE 4
Review Answer sheet



Name :

class :

Date:

Adaptation
Chlorophyll
Fertilization
Incomplete metamorphosis
Photosynthesis
Pollination
Spore
Environment

Unit 3 Review Vocabulary Review

Vocabulary Review:

1. The process by which plants use energy from the sun to change carbon dioxide and water into sugar and oxygen is called photosynthesis.
2. Animals that have three stages in their life cycles go through incomplete me
3. A characteristic that helps an animal survive adaptation.
4. The substance in leaves that makes them appear green in color is chlorophyll.
5. The process by which a sperm cell joins with an egg cell is called fertilization.
6. A cell from a fern plant that can produce a new plant called a spore.
7. All the living and non-living in an area environment.
8. The movement of sperm cells from the male part of a flower to the female part occurs through the process of pollination.

Apply Inquiry and Review the Big Idea

Write the answers to these questions.

11.

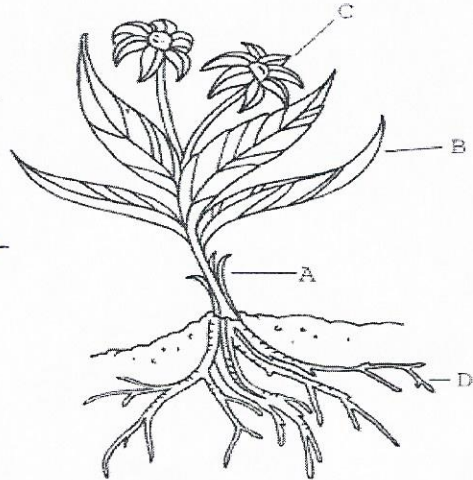
The illustration shows common structures of a flowering plant. Identify each plant part, and describe its function.

Structure A: Stem → Support and Transport.

Structure B: Leaf → Makes food for the plant.

Structure C: Flower → Responsible for reproduction.

Structure D: Root → Anchors the plant in soil. Absorbs water & nutrients from soil.



12.

Sayana is testing where bean seeds germinate more quickly. She places several bean seeds into two plastic bags—one containing moist soil and the other moist paper towels. What does she need to do to make this a fair experiment?

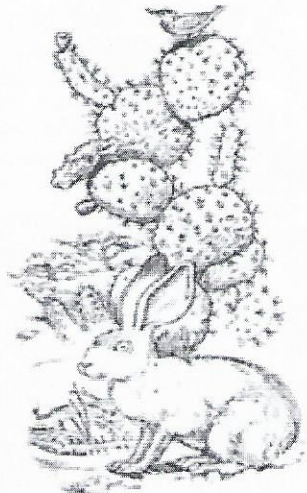
Same number of seeds in each bag.
Same amount of water added in soil & in paper towel.

13.

This picture shows organisms that live in a desert environment. Choose one of the organisms. Identify one of its physical adaptations, and describe how the adaptation helps the organism live in a desert environment.

Jack rabbit: Thin fur, Large ears.

Cactus: Spines
Wide root system, shallow roots to get water from any rain.



Unit 6 Review

Vocabulary Review

Constellation
Axis
Orbit
Rotate

1. When things turn like a top, they rotate.
2. Earth turns around an imaginary line called axis.
3. The path that one object takes around another object in space is its orbit.
4. A group of stars that seems to form a pattern in the night sky constellation.

Science Concepts

Fill in the letter of the choice that best answers the question.

1. (A) (B) (C) (D)

2. (A) (B) (C) (D)

3. (A) (B) (C) (D)

4. (A) (B) (C) (D)

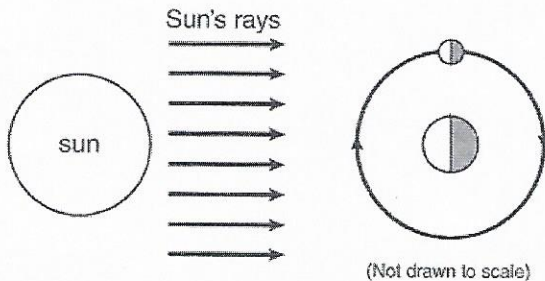
5. (A) (B) (C) (D)

6. (A) (B) (C) (D)

Apply Inquiry and Review the Big Idea

Write the answers to these questions.

The diagram below shows Earth, the moon, and the sun.
This diagram is not drawn to scale.



extra

Use the diagram to explain why you can see the moon from Earth.

Because the moon reflects light from the
Sun as it moves around Earth.

Unit 7 Review

Vocabulary Review

Density
Mass
Volume
Matter

1. Anything that takes up space and has mass is matter.
2. The amount of matter in an object is its mass.
3. The amount of space an object takes up is its volume.
4. The amount of matter present in a certain volume of a substance is its density.

Science Concepts

Fill in the letter of the choice that best answers the question.

1. (A) (B) (C) (D)

2. (A) (B) (C) (D)

3. (A) (B) (C) (D)

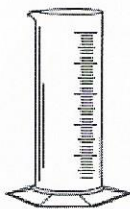
4. (A) (B) (C) (D)

Apply Inquiry and Review the Big Idea

Write the answers to these questions.

5.

Jason wanted to find the volume of two rocks. How could he use the tools shown below to find the volume of these irregularly shaped rocks?



- Step 1 - 1st fill the graduated cylinder with water
- Step 2 Record the volume (V_1)
- Step 3. Attach the rock to the rope and insert it in the graduated cylinder → Record the volume (V_2)
- Calculate the volume of the rock: $V_2 - V_1$
- Repeat Step 3 with the second rock.

6.

You have a red box and a black box that are exactly the same size. The red box is heavier than the black one. What can you conclude about the densities of the two boxes?

$$\text{Density} = \frac{\text{mass}}{\text{volume}}$$

Red box → Bigger mass → Bigger density.

7.

Suppose you wanted to describe an object to someone, but you could not name it.

a. Which properties could you include in your description if you could only share information that you can determine with your senses?

Color, shape, size, texture, hardness.

b. If you were able to use simple measuring tools, what other properties of the object could you include in your description?

- Mass using digital balance.

- Volume using ruler.

- Density by $d = \frac{\text{Mass}}{\text{Volume}}$

Unit 9 Review Vocabulary Review

Conduction
Convection
Heat
Kinetic energy
Potential energy
Radiation

1. The energy of motion kinetic energy.
2. The energy something has because of its position or condition is potential energy.
3. The energy that moves between objects of different temperatures is heat.
4. The transfer or movement of heat between two objects touching conduction.
5. The transfer of heat within a liquid or a gas convection.
6. The movement of heat without matter to carry it radiation.

Science Concepts

Fill in the letter of the choice that best answers the question.

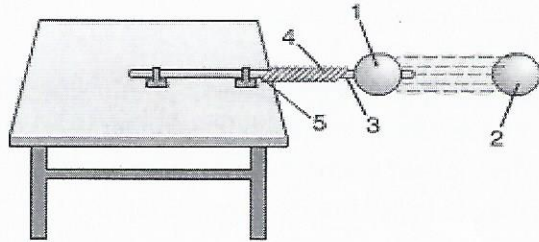
1. (A) (B) (C) (D)
2. (A) (B) (C) (D)
3. (A) (B) (C) (D)
4. (A) (B) (C) (D)
5. (A) (B) (C) (D)
6. (A) (B) (C) (D)
7. (A) (B) (C) (D)
8. (A) (B) (C) (D)
9. (A) (B) (C) (D)
10. (A) (B) (C) (D)

Apply Inquiry and Review the Big Idea

Write the answers to these questions.

11.

Luis is studying motion. He is using two balls—Ball 1 and Ball 2. The picture shows the equipment he is using. To shoot each ball, Luis pulls back on the stick (5), which compresses the spring (4). When he releases the stick, the ball shoots forward.



Suppose Ball 1 and Ball 2 are shot from the table with the same force. How does the potential and kinetic energy of Ball 1 compare to that of Ball 2?

Potential energy of Ball 1 is greater than potential energy of Ball 2.

Kinetic energy of Ball 2 is greater than Ball 1.

12. Paula is camping with her family. After their parents light a fire, Paula and her sister stand nearby to warm their hands. Her sister thinks that conduction warms their hands. Paula disagrees. Explain all methods of heat transfer taking place as they warm their hands.

Campfire → Convection by heating—the air above it and radiation—through waves on the sides of the campfire.

Name :

class :

Date:

Unit 3 Review

Science Concepts

Fill in the letter of the choice that best answers the question.

- | | |
|--|---|
| <p>1. Plants get the energy they need to live by changing substances into the sugars they use for food. Which two substances do plants change during photosynthesis to make food?</p> <p><input type="radio"/> (A) sugar and water</p> <p><input type="radio"/> (B) sugar and oxygen</p> <p><input checked="" type="radio"/> (C) carbon dioxide and water</p> <p><input type="radio"/> (D) carbon dioxide and oxygen</p> | <p>2. Which stage below is part of incomplete metamorphosis—but not of complete metamorphosis?</p> <p><input type="radio"/> (A) adult</p> <p><input type="radio"/> (B) egg</p> <p><input checked="" type="radio"/> (C) nymph</p> <p><input type="radio"/> (D) pupa</p> |
| <p>3. The bristlecone pine tree produces cones that are either male or female. In contrast, the fishpoison tree has flowers that contain both male and female parts. What can you infer about these two trees?</p> <p><input checked="" type="radio"/> (A) Both trees carry out sexual reproduction.</p> <p><input type="radio"/> (B) Both trees have incredibly long life cycles.</p> <p><input type="radio"/> (C) Both trees can disperse their seeds very far.</p> <p><input type="radio"/> (D) Both trees need insects to carry out pollination.</p> | <p>4. The bald cypress tree produces seeds protected within cones. This type of tree is found in swampy areas where heavy rains produce floods. The flood waters help spread the cones throughout the swampy areas. What role do the flood waters play in the life cycle of the bald cypress tree?</p> <p><input type="radio"/> (A) pollination</p> <p><input type="radio"/> (B) fertilization</p> <p><input checked="" type="radio"/> (C) seed dispersal</p> <p><input type="radio"/> (D) removal of dead leaves</p> |

5. This picture shows a butterfly and bees visiting a flower to obtain nectar.



Which process are these insects helping the plant carry out?

- (A) pollination
- (B) germination
- (C) seed dispersal
- (D) photosynthesis

6. The caddis fly is an insect that can live in streams for months. When its body is more wormlike, this fly builds an underwater house from pebbles to protect it from predators. Which stage of metamorphosis is the fly in at this point?

- (A) egg
- (B) adult
- (C) larva
- (D) pupa

7. Sharks can smell very small amounts of substances in ocean water. What does this physical adaptation most likely help sharks do?

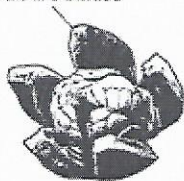
- (A) sense water temperature
- (B) find a place to lay eggs
- (C) find a safe place to hide
- (D) find food that is far away

8. Sarai visits the local nature center. She sees a number of young animals. Which of the animals hatches from an egg?

- (A) a turtle
- (B) a cheetah
- (C) a dolphin
- (D) a bear

9. A mahogany tree produces seeds that look like the picture below.

Fan-like blades



Notice the blades on the surface of this seed. What role do these blades play in the life cycle of a mahogany tree?

- (A) protect the seed
- (B) end the plant's life cycle
- (C) store food for the seedling
- (D) help disperse the tree's seeds

10. Which of the following lists stages in the life cycle of a seed plant?

- (A) spore, reproduction, maturity
- (B) germination, maturity, reproduction
- (C) egg, larva, pupa, adult
- (D) germination, nymph, spore, death

Unit 6 Review

Science Concepts

Fill in the letter of the choice that best answers the question.

1. The picture below is a two-dimensional model of how Earth moves in space.



How long does it take for Earth to complete one full movement?

- A 1 day C 1 month
 B 1 week D 1 year
3. In the United States, an August day is usually hotter than a January day. Why is this true?
- A The sun gives off more heat in the summer.
 B Earth is closer to the sun in summer and farther away in winter.
 C Earth's rotation slows down in the summer and speeds up in winter.
 D Earth's North Pole tilts toward the sun in summer and away from it in winter.

2. A fourth grader in the United States does an experiment in her science class. At the same time, a fourth grader in China is asleep. Why is it daytime in the United States while it is nighttime in China?

- A Earth's rotation
 B Earth's revolution
 C the moon's revolution
 D Earth's path as it orbits the sun

4. Some constellations are visible from different places on Earth only during part of the year. Why are these constellations not visible from every location on Earth year-round?

- A because of the sun's rotation
 B because of the moon's revolution
 C because of Earth's rotation
 D because of Earth's revolution

5. The same side of the moon always faces Earth. Why is this?

- A Half the moon faces the sun.
 B The moon does not rotate like Earth does.
 C The moon's revolution and rotation are about the same length.
 D Earth blocks part of the sunlight that shines on the moon's surface.

6. Which of the following correctly lists the planets of the solar system in order of distance from the sun? *extra*

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

Unit 7 Review

Science Concepts

Fill in the letter of the choice that best answers the question.

1. Leila wants to describe the physical properties of an object. Which property is she describing when she determines the space taken up by the object?

(A) mass (C) density
(B) weight ~~(D) volume~~

2. Shayna is classifying a group of objects by their physical properties. She puts a soccer ball, a blue marble, and an orange in one group. Which property did she most likely use to classify these objects?

(A) size ~~(C) shape~~
(B) color (D) hardness

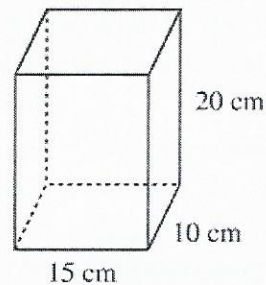
3. A science teacher instructs his students to make a chart identifying the physical properties of each object below.



Which of the following would be **best** to use for this chart of physical properties?

(A) age, color, length, mass
(B) hardness, mass, name, odor
(C) length, shape, name, texture
~~(D) color, hardness, mass, length~~

4. Amit measured the volume of the cube below. His measurements are shown on the diagram.



What is the volume of Amit's cube?

(A) 45 cubic centimeters
(B) 180 cubic centimeters
(C) 1,500 cubic centimeters
~~(D) 3,000 cubic centimeters~~

Unit 9 Review

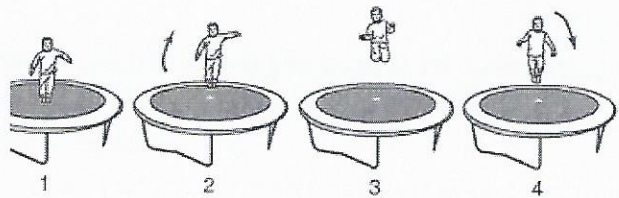
Science Concepts

Fill in the letter of the choice that best answers the question.

1. Objects that vibrate make energy. Which type of energy results from vibrations that travel through the air?

- A sound C potential
 B chemical D electrical

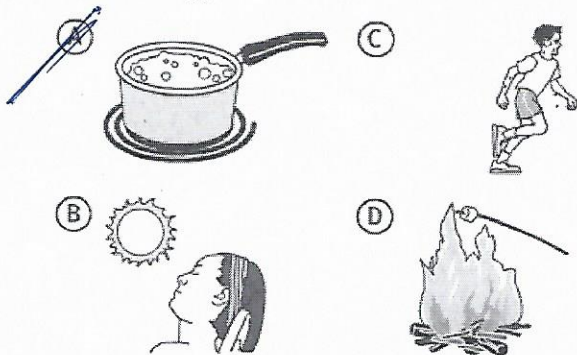
2. Niko jumps on a trampoline. The pictures below show him at different points during jumping.



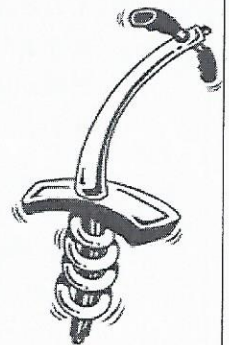
At which point does Niko have the most potential energy?

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

3. Energy can change form. Which picture shows electrical energy changing into heat energy?



4. Ang has a pogo stick like the one shown. When he jumps on it, the spring squeezes toward the ground and then moves back to its starting position.



The potential and kinetic energies of the spring are forms of which type of energy?

- A chemical energy
 B electrical energy
 C magnetic energy
 D mechanical energy

5.

The **total** energy of water as it falls from a waterfall is which type of energy?

- (A) heat (C) kinetic
 (B) potential (D) mechanical

6.

What type of energy change takes place as a car burns fuel to race down a track?

- (A) electrical energy to light energy
 (B) kinetic energy to potential energy
 (C) chemical energy to kinetic energy
 (D) mechanical energy to kinetic energy

7.

Rondell knows that radiation is a form of heat transfer. Which example describes a transfer of heat through radiation?

- (A) A cup of hot tea warms a hand.
 (B) A flame warms air in a hot air balloon.
 (C) A puddle of water warms under the sun.
 (D) A pot of boiling water warms on a gas burner.

8.

Trey holds an ice cube in his hand. After some time passes, the ice cube begins to melt. Which term describes the process of heat transfer?

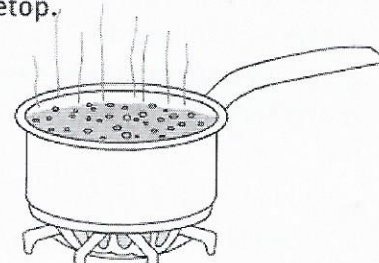
- (A) radiation
 (B) insulation
 (C) conduction
 (D) convection

9.

A scientist measures the movement of energy between a pot of hot water and a cold metal spoon. What is he measuring?

- (A) heat (C) insulation
 (B) current (D) temperature

10. This picture shows a pot of water heating on a stovetop.



Which statement explains what happens to the water in the pot?

- (A) The water temperature decreases inside the pot.
 (B) The water will freeze when it gathers enough heat.
 (C) Heat energy travels from the water in the pot to the burner.
 (D) Heat energy travels from the burner to the pot and then to the water.