

## Answer Key

### Section 1 - Multiple Choice

- 1) **b**
- 2) **b**
- 3) **a**
- 4) **d**
- 5) **c**
- 6) **a**
- 7) **a**
- 8) **b**
- 9) **b**
- 10) **a**
- 11) **a**
- 12) **b**
- 13) **c**

### Section 2 - Long Answer

- 14) Answers will vary. Controlled variables are the conditions of an investigation that are kept the same in each experimental group or during each trial.
- 15) Answer will vary. The dependent variable in an experiment is what the scientist is trying to measure. It is the thing that changes depending on how the scientist changes the groups or trials.
- 16) Varies per students. Look for ability to describe an interdependent system.

## BWET Student Pre-Assessment G5

### Section 1 - Multiple Choice

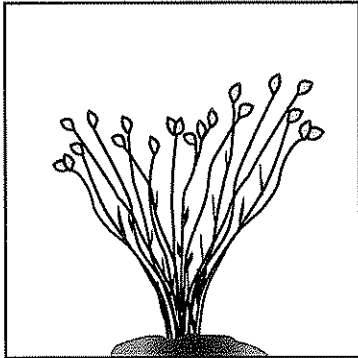
1) Most of the energy plants need in order to grow and reproduce comes from-

- (a) oxygen.
- (b) sunlight.
- (c) dirt.
- (d) rain.

3) Most of Earth's water is what kind of water?

- (a) Salt water
- (b) Freshwater
- (c) Water vapor
- (d) Ice

2)



What do plants need to transform the energy of the Sun into chemical energy?

- (a) Water and oxygen
- (b) Water and carbon dioxide
- (c) Soil and water
- (d) Carbon dioxide and oxygen

4) Where is most of Earth's water located?

- (a) Atmosphere
- (b) Glaciers
- (c) Rivers and lakes
- (d) Oceans

5) About how much of Earth's surface is covered by oceans?

- (a) 25%
- (b) 50%
- (c) 75%
- (d) 95%

For questions 6-7

Use this chart to answer the following question(s).

Plant Type	Veins?	Flower?	Spores?	Seeds?
Flowering Plant	Yes	Yes	No	Yes
Fern	Yes	No	Yes	No
Moss	No	No	Yes	No
Conifer	Yes	No	No	Yes
Algae	No	No	No	No

6) Which plant type is an apple tree?

- (a) Flowering Plant
- (b) Fern
- (c) Moss
- (d) Conifer

9) What is the first step in conducting a science investigation?

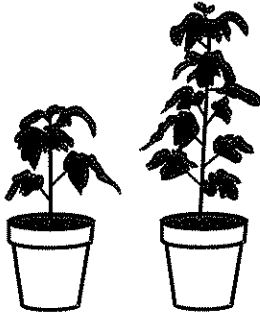
- (a) Collect data.
- (b) Develop a question.
- (c) Begin recording results.
- (d) Set up equipment.

7) A plant with visible veins, but no flowers or seeds is which plant type?

- (a) Fern
- (b) Moss
- (c) Conifer
- (d) Algae

8) How can a scientist best answer a testable question?

- (a) By looking up the answer in a book
- (b) By conducting experiments
- (c) By taking an educated guess
- (d) By asking more questions



10)

Elizabeth and Chang-li are investigating the best conditions for growing tomato plants. They place 2 tomato plants in identical clay pots. They give the plants the same amount of water and sunlight. One plant receives plant food and the other does not. After two weeks, they measure the height of both plants.

In the investigation described, which variable is the dependent variable?

- (a) Plant height
- (b) Amount of water
- (c) Time
- (d) Food

11)

**Number of Correct Answers in Round 1**

Contestant	Subject		
	Math	Science	History
B.J.	10	2	3
Anna	3	9	8
Ricardo	5	13	1
Elizabeth	8	10	5

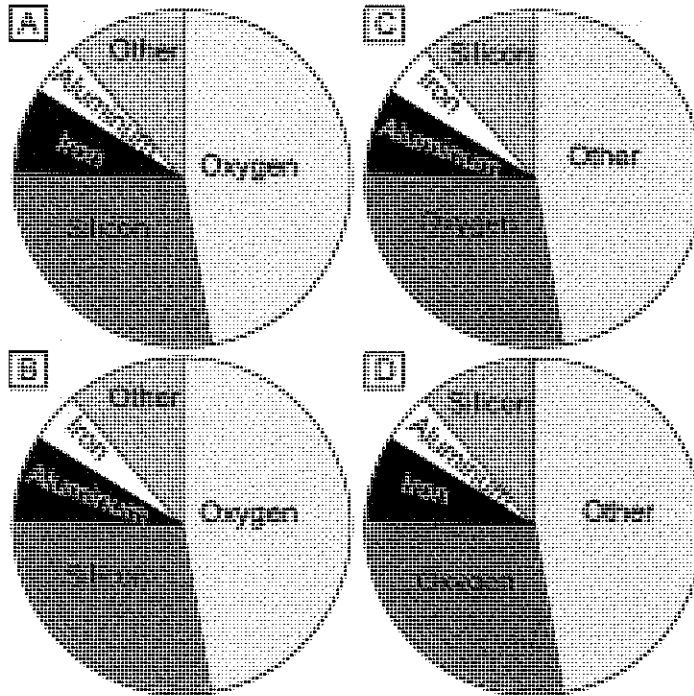
The judges in a citywide competition recorded the number of questions answered correctly by four finalists in each subject area during Round 1. Based on the data collected in the chart shown, which contestant do you predict will answer the MOST science questions correctly in Round 2?

- (a) Ricardo
- (b) B.J.
- (c) Elizabeth
- (d) Anna

12) The common elements in the earth's crust are listed in the chart.

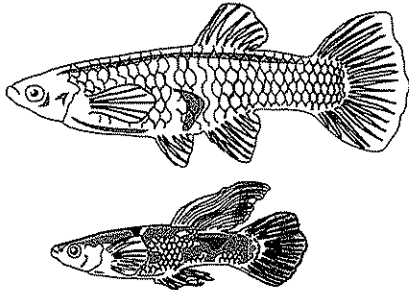
Name	% by Mass
Oxygen	46.6
Silicon	27.7
Aluminum	8.1
Iron	5.0
Other	11.1

Which graph BEST represents this information?

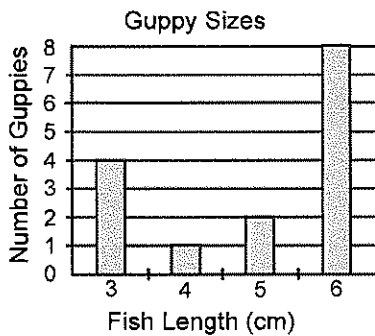


- (a) A
- (b) B
- (c) C
- (d) D

13) Male guppies are smaller and more colorful than female guppies. They have tails that may be blue, red, yellow, purple, gray or black. They are on average 3 cm long, while females are generally 6 cm long.



The graph shows the length of each guppy in an aquarium, measured to the nearest cm.



Which interpretation is most supported by the information above?

- (a) Guppies come in a wide range of sizes.
- (b) The guppies in the aquarium are colorful.
- (c) There are more female guppies in the aquarium than male guppies.
- (d) Most of the guppies in the aquarium are less than 6 cm long.

## Section 2 - Long Answer

**14)** In one or two sentences, explain what a controlled variable is.

**15)** In one or two sentences, explain what a dependent variable is.

**16)** What is an ecosystem? You may use words and diagrams to describe what you know.