

Important Concepts . . .

Preview Review



Science

Grade 9 TEACHER KEY

W3 - Quiz

Important Concepts of Grade 9 Science

W1 - Lesson 1	Electrical Principles
W1 - Lesson 2	Electrical Circuits
W1 - Lesson 3A	Energy Consumption
W1 - Lesson 3B	The Distribution of Matter in Space
W1 - Lesson 4	Objects in Space
W1 - Lesson 5	Optical and Radio Telescopes
W1- Quiz	
W2 - Lesson 1	Physical and Chemical Properties of Materials
W2 - Lesson 2	Chemical Reactions
W2 - Lesson 3	Using the Periodic Table
W2 - Lesson 4	Naming Chemical Compounds
W2 - Lesson 5	Writing Chemical Equations
W2 - Quiz	
W3 - Lesson 1	Variation
W3 - Lesson 2	Reproduction and Patterns of Inheritance
W3 - Lesson 3A	Genes and Cell Division
W3 - Lesson 3B	Organisms and Matter in their Environment
W3 - Lesson 4	Biological and Chemical Monitoring/Acids and Bases
W3 - Lesson 5	Transfer of Materials through the Air, Ground, and Water/Biological Impacts of Hazardous Chemicals
W3 - Quiz	

Materials Required

Textbook:
Science in Action 9

Science Grade 9

Version 5

Preview/Review W3 - Quiz TEACHER KEY

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Preview/Review Concepts for Grade Nine Science

TEACHER KEY



W3 - Quiz

W3 - Quiz

/ 30 marks

This quiz should take approximately 20 minutes to complete.

Part I: Multiple Choice

Place the letter of the best answer in the blank before each question. (5 marks)

- C** 1. A group of individuals of the same species that live in a certain place is a
- A. community
 - B. ecosystem
 - C. population
 - D. niche
- D** 2. Bacteria split exactly in two during this asexual reproductive process called
- A. budding
 - B. spore production
 - C. vegetative reproduction
 - D. binary fission
- B** 3. Spaghetti is classified as a type of nutrient called
- A. protein
 - B. carbohydrate
 - C. lipid
 - D. nucleic acid
- B** 4. The movement of water from a high concentration to a low concentration across a semipermeable membrane is known as
- A. diffusion
 - B. osmosis
 - C. active transport
 - D. intake
- D** 5. An increase in concentration of a chemical as it moves up the food chain is called
- A. photolysis
 - B. decomposition
 - C. contamination
 - D. biomagnification

Part II: Matching

Match the following words to their definitions. (8 marks)

Words

- A. continuous variation
- B. discrete variation
- C. artificial selection
- D. active transport
- E. organic compound
- F. inorganic compound
- G. chromosome
- H. gene
- I. macronutrient
- J. micronutrient
- K. purebred
- L. dispersion

Definitions

- G structure in which DNA is arranged and along which genes are located
- I nutrients that organisms need in large amounts
- E a complex molecule that contains carbon
- D the movement of molecules from a low concentration to a high concentration requiring the addition of energy
- L the scattering of a substance away from its source
- K a plant or animal that has ancestors with the same form of a trait
- A differences in characteristics that have a range of form (for example, height of adults)
- C the process in which humans select individuals to reproduce

Part III: Written Response

1. State one main purpose of asexual reproduction and one of sexual reproduction. Name one type of sexual and one type of of asexual reproduction. (4 marks)

Asexual reproduction produces genetically identical cells for cell growth & repair. (1 mark)

Mitosis, Binary Fission, Spore production, Vegetative reproduction (only need 1 example for 1 mark.)

Sexual reproduction produces genetically different cells to improve survival of a species (variation) (1 mark)

Meiosis (1 mark)

2. How many chromosomes do humans have in each cell in their bodies? Where did these chromosomes come from? (2 marks)

46 chromosomes (1 mark) or 2 pairs of 23 chromosomes (1 mark).

The egg from the mother contains 23 chromosomes and the sperm from the father contains 23 chromosomes. (1 mark total)

3. Body builders must eat the right kind of nutrient to build muscle. What type of nutrient do they have to eat? (1 mark)

Protein

Give an example of a food that contains this nutrient. (1 mark)

from either fish, meat, soybeans, or nuts (1 mark for the nutrient, 1 mark for the food type.)

4. Identify two factors that determine whether or not an airborne pollutant is found five miles from the source or 100 miles from the source. (2 marks)

The amount of wind or windspeed (1 mark)

Precipitation (1 mark)

Or pollutant's properties

5. Answer the following questions dealing with acids.

- a. Explain how you could identify if a solution was an acid by using litmus paper. (1 mark)

Blue litmus paper turns red in an acid (1 mark) or red litmus

paper stays red.

- b. What is the pH of an acid? Give an example of a common household substance that is acidic. (1 mark)

An acidic pH is from 0 – 6.99. Vinegar has a pH of 2.2, or lemon juice

has a pH of 2.0

- c. How can an acid can be neutralized? (1 mark)

An acid can be neutralized by adding a base.

- d. Identify one end product of the reaction of an acid and a base. (1 mark)

A salt or water is an end product of this reaction (1 mark each).

6. Explain briefly how the addition of fertilizers to a lake can contribute to the winterkill of fish. (3 marks)

Fertilizers cause plant growth. (1 mark)

Plants die and create more food for bacteria that multiply. (1 mark)

***High numbers of bacteria lower dissolved oxygen levels in the water,
which leads to death of fish. (1 mark)***
