

*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

Publisher: Alberta Distance Learning Centre

Author: Nicole Bondarchuk

In-House Reviewer: Barb Philips

Project Coordinator: Dennis McCarthy

Preview/Review Publishing Coordinating Team: Nina Johnson,

Laura Renkema, and Donna Silgard



The Alberta Distance Learning Centre has an Internet site that you may find useful. The address is as follows: <http://www.adlc.ca>

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

### ALL RIGHTS RESERVED

Copyright © 2007, by Alberta Distance Learning Centre, 4601-63 Avenue, Barrhead, Alberta, Canada, T7N 1P4. Additional copies may be obtained from the Alberta Distance Learning Centre.

No part of this courseware may be reproduced or transmitted in any form, electronic or mechanical, including photocopying (unless otherwise indicated), recording, or any information storage and retrieval system, without the written permission of Alberta Distance Learning Centre.

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Distance Learning Centre so that appropriate corrective action can be taken.

**IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.**

# 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)***

---

---

