

**Material Covered:**

The course is comprised of the following four main themes:

1. Life Processes
  - Living things and cells
  - Humans, micro-organisms and pathogens
  - Medicines and microbes
2. Behaviour of Matter
  - Matter
  - The States of Matter
  - Composition of Atoms
3. Energy
  - Electromagnetic radiation around you
  - The behaviour of light
4. Plate Tectonics
  - Plate tectonics
  - Geologic processes and effects

**Textbook:**

The course uses the text:

***BC Science Connections 8***

(ISBN-13:978-4-25-965068-0), McGraw-Hill Education)

**Course Design:**

The course units have been organized by topics in the textbook so that the content covered in each “unit” test will relate to the material covered within those topic areas. This should make it easier for the Grade 8 student to master the content before being tested. The projects are intended to be a demonstration of the student's knowledge of the material covered within each of the four main themes of the course.

**Notebook:**

Your notebook should be neatly organized, as this will help you study for tests. Label the unit and topic headings clearly at the top of the page. Answer questions fully, so that the information makes sense and can be used later for studying. Show what page number in the textbook the information comes from, so you can look it up again easily.

**Grading:**

This course works on a mastery system. You must pass the mastery tests in each unit to the 80% level before you can go on. In addition, there are projects at the end of each major theme. Your projects can only be submitted once, so be sure to do your best work on them. Your class mark for the course is based 60% on the unit tests and 40% on the projects.

**Goal:**

The goal of this unit is to learn about living things and the cells of which they are comprised.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate an understanding of the characteristics of living things
- Demonstrate an understanding of the nature of cells.

**What to Do in this Unit:**

- This Unit uses Topics 1.1 – 1.3 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 1 Worksheet.
- In the textbook, read Unit 1 Topics 1.1, 1.2, and 1.3. Once you are done, answer the questions in the Unit 1 Worksheet.
- To check your understanding of this unit, you should complete the Topic Reviews on pages 13, 21, and 33.
- When you are ready, ask your teacher for the Unit 1 Test. Remember, you must get 80% to pass, so studying hard is essential.

**Goal:**

The goal of this unit is to learn about the relationship of micro-organisms with living things.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate your knowledge of a micro-organisms and human interactions with micro-organisms.
- Demonstrate an understanding of the impacts of epidemics and pandemics on human populations.

**What to Do in this Unit:**

- This Unit uses Topic 1.4 and 1.5 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 2 Worksheet.
- In the textbook, read Unit 1 Topics 1.4 and 1.5. Once you are done, answer the questions on the Unit 2 Worksheet.
- To check your understanding of this unit, you should complete the Topic Reviews on page 45 and 55.
- When you are ready, ask your teacher for the Unit 2 Test. Remember, you must get 80% to pass, so studying hard is essential.

**Goal:**

The goal of this unit is to learn about the medicines that protect us from microbes that make us sick.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate your knowledge of traditional First Peoples medicines.
- Demonstrate an understanding of vaccinations and antibiotics.

**What to Do in this Unit:**

- This Unit uses Topic 1.6 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 3 Worksheet.
- In the textbook, read all of Topic 1.6, then once you are done, answer the questions in the Unit 3 Worksheet.
- To check your understanding of this unit, you should complete the Topic Review on page 75.
- When you are ready, ask your teacher for the Unit 3 Test. Remember, you must get 80% to pass, so studying hard is essential.
- Go over your work from Units 1-3. When you are ready, ask your teacher for Project #1 – Life Processes.

**Goal:**

The goal of this unit is to learn about matter.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate an understanding of how matter affects our life.
- Learn different ways to describe matter.

**What to Do in this Unit:**

- This Unit uses Topic 2.1 and 2.2 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 4 Worksheet.
- In the textbook, read Topic 2.1 and 2.2. Once you are done, answer the questions in the Unit 4 Worksheet.
- To check your understanding of this unit, you should complete the Topic Reviews on page 123 and 125.
- When you are ready, ask your teacher for the Unit 4 Test. Remember, you must get 80% to pass, so studying hard is essential.

**Goal:**

The goal of this unit is to learn about the states of matter.

**Objectives:**

By the end of this unit you should be able to:

- Describe and explain the states of matter.

**What to Do in this Unit:**

- This Unit uses Topic 2.3 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 5 Worksheet.
- In the textbook, read all of Topic 2.3, then once you are done, answer the questions in the Unit 5 Worksheet.
- To check your understanding of this unit, you should complete the Topic Review on page 145.
- When you are ready, ask your teacher for the Unit 5 Test. Remember, you must get 80% to pass, so studying hard is essential.

**Goal:**

The goal of this unit is to understand the composition of atoms.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate an understanding of the composition of atoms.

**What to Do in this Unit:**

- This Unit uses Topic 2.4 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 6 Worksheet.
- In the textbook, read all of Topic 2.4, then once you are done, answer the questions in the Unit 6 Worksheet.
- To check your understanding of this unit, you should complete the Topic Review on page 167.
- When you are ready, ask your teacher for the Unit 6 Test. Remember, you must get 80% to pass, so studying hard is essential.
- Go over your work from Units 4-6. When you are ready, ask your teacher for Project #2 – Behaviour of Matter.

**Goal:**

The goal of this unit is to understand how electromagnetic radiation shapes our world and how models can help explain the properties of electromagnetic radiation.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate an understanding that electromagnetic radiation is an important part of the world around us.
- Demonstrate your understanding of the use of visible light to model electromagnetic radiation.
- Demonstrate your knowledge of the ray, wave, and particle models of light.

**What to Do in this Unit:**

- This Unit uses Topics 3.1 and 3.2 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 7 Worksheet.
- In the textbook, read all of Topic 3.1 and 3.2, then once you are done, answer the questions in the Unit 7 Worksheet.
- To check your understanding of this unit, you should complete the Topic Review on page 199.
- When you are ready, ask your teacher for the Unit 7 Test. Remember, you must get 80% to pass, so studying hard is essential.



**Goal:**

The goal of this unit is to understand the behaviour of light.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate an understanding of how light behaves when it encounters different materials and surfaces.
- Demonstrate your knowledge of how light behaves when it is reflected.
- Demonstrate an understanding of how light behaves when it moves from one medium to another.

**What to Do in this Unit:**

- This Unit uses Topics 3.3, 3.4 and 3.5 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 8 Worksheet.
- In the textbook, read all Topics 3.3 through 3.5, then once you are done, answer the questions in the Unit 8 Worksheet.
- To check your understanding of this unit, you should complete the Topic Reviews on pages 227, 243, and 257.
- When you are ready, ask your teacher for the Unit 8 Test. Remember, you must get 80% to pass, so studying hard is essential.
- Go over your work from Units 7-8. When you are ready, ask your teacher for Project #3 – Energy.

**Goal:**

The goal of this unit is to understand plate tectonics and their movement.

**Objectives:**

- By the end of this unit you should be able to:
- Demonstrate an understanding of the theory of plate tectonics.
- Demonstrate your knowledge about tectonic plates and how their movement is connected to geological processes.

**What to Do in this Unit:**

- This Unit uses Topics 4.1 and 4.2 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 9 Worksheet.
- In the textbook, read all of Topics 4.1 and 4.2, then once you are done, answer the questions in the Unit 9 Worksheet.
  
- To check your understanding of this unit, you should complete the Topic Reviews on page 283 and 295.
  
- When you are ready, ask your teacher for the Unit 9 Test. Remember, you must get 80% to pass, so studying hard is essential.

**Goal:**

The goal of this unit is to understand how the theory of plate tectonics explains the Earth's geological processes, and how geology affects where we live.

**Objectives:**

By the end of this unit you should be able to:

- Demonstrate an understanding of where earthquakes and volcanoes occur.
- Demonstrate your knowledge of how mountains form.
- Demonstrate an understanding of how the intensity of earthquakes is measured and communicated.
- Demonstrate an understanding of how the geological history of British Columbia helps shape our lives.

**What to Do in this Unit:**

- This Unit uses Topic 4.3 and 4.4 in the *BC Science Connections 8* textbook.
- Ask your teacher for the Unit 10 Worksheets.
- In the textbook, read all of Topic 4.3 and 4.4, then once you are done, answer the questions in the Unit 10 Worksheet.
- To check your understanding of this unit, you should complete the Topic Review on page 313.
- When you are ready, ask your teacher for the Unit 10 Test. Remember, you must get 80% to pass, so studying hard is essential.
- Go over your work from Units 9—10. When you are ready, ask your teacher for Project #4 – Plate Tectonics.

**Congratulations, you have finished Science 8!**