



# Science Courses at St. James Collegiate

Grade 9 Science  
SC10F

Grade 9  
Environmental Science  
SC11G

Grade 10 Science  
SC20F

*Recommended  
60% in SC20F*

## Topics in Science

## Specialized Science Courses

Grade 11  
Horticulture  
BI31G

Grade 11  
Topics in Science  
SC30S

Grade 12  
Topics in Science  
SC40S

## Chemistry

## Physics

## Biology

Grade 11  
CH30S

Grade 11  
PH30S

Grade 11  
BI30S

Grade 12  
Lab Skills 40S

Grade 12  
CH40S

Grade 12  
PH40S

Grade 11  
BI40S

## St. James Collegiate Science Course Descriptions

### **Grade 9 Science (SC10F)**

Units of Study:

- Atoms and Elements
- Nature of Electricity
- Reproduction
- Exploring the Universe

### **Environmental Studies (SC11G)**

Units of study:

- Sustainability
- Ecosystems and Wildlife
- Forestry
- Soils
- Aquatics

Course concepts and outcomes will have a primarily Manitoba-based focus

### **Grade 10 Science (SC20F)**

Units of Study:

- Dynamics of Ecosystems
- Chemistry in Action
- In Motion (Physics)
- Weather Dynamics

### **Grade 11 Chemistry (CH30S)**

Units of Study:

- Physical Properties of Matter
- Gases and the atmosphere
- Chemical Reactions
- Solutions
- Organic Chemistry

### **Grade 11 Biology (BI30S)**

Units of Study:

- Wellness and Homeostasis
- Digestion and Nutrition
- Transportation and Respiration
- Excretion and Waste Management
- Protection and Control
- Wellness and Homeostatic Changes

### **Grade 11 Physics (PH30S)**

Units of Study:

- Waves
- Nature of Light
- Mechanics
- Fields

### **Grade 11/12 Topics in Science (SC30/40S)**

Units are determined by Teacher.

Possible Units of Study:

- Crime Scene Investigation/Forensics
- Climate Change in Canada
- The Human Endeavour in Space
- Medical and Health Technologies
- Sports Science

### **Grade 11 Horticulture (BI31G)**

Units of Study:

- Structure and Function of Plant Cells
- Plant Anatomy and Physiology
- Types of plants
- Propagation of Plants
- Greenhouse/Garden Design

### **Grade 12 Chemistry (CH40S)**

Units of Study:

- Aqueous Reactions
- Kinetics
- Atomic Structure
- Chemical Equilibria
- Acid-Base Equilibria
- Electrochemistry

### **Grade 12 Biology (BI40S)**

Units of Study:

- Understanding Biological Inheritance
- Mechanisms of Inheritance
- Evolutionary Theory & Biodiversity
- Organizing Biodiversity
- Conservation of Biodiversity

### **Grade 12 Physics (PH40S)**

Units of Study:

- Kinematics
- Dynamics
- Momentum
- Projectile Motion
- Circular Motion
- Work and Energy

### **Grade 12 Lab Skills 40S**

Post-Secondary preparatory course emphasizing lab skills, reports, research methods. Intended for students who have successfully completed chemistry, biology or physics at the grade 11 level.

**Note:** For more information regarding Science Curricula, please see the course selection guide or visit: <http://www.edu.gov.mb.ca/k12/cur/science/scicurr.html>