**Science and Applied Sciences Focus Area**

This Focus Area can provide a foundation of skills, competencies and knowledge in areas such as Physics, Biology, Chemistry, Geology/Earth Science, Resource Sciences or Science and Technology. Students in this

Focus Area learn about the structures, properties and functioning of living and physical things and apply this knowledge to interpret and predict. Students who select this Focus Area should consider complementing Science studies with courses that develop their math skills.

For information about specific occupations related to this Focus Area, including the nature of work, main duties, working conditions and wages, employment prospects, and education and training requirements, go to: [www.workfutures.bc.c](http://www.workfutures.bc.c) At this site, use the National Occupation Classification (NOC) feature to view occupations related to: Natural and Applied Science Occupations.

For information about BC postsecondary options related to this Focus Area, go to: <http://www.educationplanner.ca/>

**Sample interest, skills and competencies related to this Focus Area**

• Interest in doing hands-on experiments

• Interest in finding out how things work

• Interest in doing mathematical calculations

• Understanding and application of the scientific method

• Observation and analysis of similarities and differences

• Collecting/measuring qualitative and quantitative data

• Communicating and interpreting data through a variety of methods

• Understanding the inter-relationship of variables in the prediction of

outcomes beyond the laboratory setting

• Formulating physical or mental models

• Designing experiments

• Collaborating with other scientists to enhance productivity

• Awareness of safety, hazards and risks of working in a scientific environment

**Sample options after Grade 12 graduation**

• Employment: Pet Groomer

• Employment: Nursery Worker

• Employment: Animal Care Worker

• Certificate program: Renewable Resources

• Certificate program: Forest Resource Technician

• Certificate program: Commercial Floristry

• Diploma program: Animal Health Technology

• Diploma program: Environmental Technician

• Diploma program: Applied Chemistry and Biotechnology

• Degree program: Bachelor of Science, Biochemistry

• Degree program: Bachelor of Science, Physics

• Degree program: Bachelor of Science, Forestry

**Sample occupation options**

• Surveyor

• Microbiologist

• Veterinary Technician

• Lab Technician

• Environmental Engineer

• Physicist

• Chemist

• Pharmacist

• Meteorologist

• Forester

• Geologist

• Chemical Engineer

• Water Quality Technician

**Elective courses that best fit this Focus Area**

Ministry Authorized Courses

• Agriculture 11 and 12

• Applications of Physics 11 and 12

• Biology 11 and 12

• Chemistry 11 and 12

• Earth Science 11 and Geology 12

• Physics 11 and 12

• Resource Sciences 11 and 12: Forests

• Science and Technology 11

• Principles of Math 12

• Calculus 12

• Work Experience 12

Board/Authority Authorized Courses

• Engineering

• Fish and Wildlife Management

• Environmental Science

• Applied Forestry

Community Learning

• Heart and Stroke Foundation’s Summer Program

• Summer science programs at post-secondary institutions

• Shad Valley Summer Program

**Sample course packages for Science and Applied Science Focus Area**

Student #1

Sandy chose this Focus Area because he has an interest in plants and wants to pursue a career in agricultural research. His participation in the local 4H program has given him an understanding of agriculture. His Focus Area courses include Biology 11, Biology 12, Chemistry 11 and Chemistry 12.

Student #2

Sally has an interest in environmental issues and belongs to her

school’s recycling club; she also enjoys science courses. She plans to become an Environmental Technician, which requires a two-year diploma program offered at her community college. Her Focus Area courses include Chemistry 11 and Chemistry 12, plus Environmental Studies 11 and 12, which are local courses offered at her school.

Student #3

Chad has an interest in science. He takes part in the local Science Fair every year and works with younger students at a summer science camp. He’s not sure of his future plans, other than entering a university program that leads to a science degree. His Focus Area courses include Chemistry 11, Chemistry 12, Biology 11, Biology 12 and Work Experience 12. He plans to pursue a work experience placement at a

government research facility.

Student #4

Kathy has an interest in forestry and would like to become a Forestry Technician. She has gained some knowledge of the industry from family members who work in forestry related jobs. Her Focus Area courses include Forests 11, Forests 12, Forestry Management 12, which is a local course offered at her school, plus Work Experience 12. She hopes to get a work experience placement with a local forestry company.