

You Be The Chemist Grades– Curriculum Connections Quebec Curriculum 5-8

Note 1: In Quebec, Grades 5 and 6 are known as Year 1 and Year 2, respectively, of Elementary Cycle 3. The curriculum outlines student outcomes which should be achieved by the end of the entire Cycle, not by the end of each of the two years respectively. The curriculum expectations referred to below are those which are described as being first learned in these grades, as opposed to having been learned in earlier grades and being applied or re-investigated in Elementary Cycle 3.

Note 2: In Quebec, Grades 7 and 8 are known as Year 1 and Year 2, respectively, of Secondary Cycle 1. The curriculum outlines student outcomes which should be achieved by the end of the entire Cycle, not by the end of each of the two years respectively. Outcomes will be referred to by first stating the unit of study, then the applicable General Concept(s), then the applicable Compulsory Concept(s), assigned letters a, b, c, and so on from the first Compulsory Concept in each General Concept category.

Lesson 1: Goofy Putty

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. k. Recognizes the materials of which an object is made
- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes b. Chemical change
- Changes d. Mixtures
- Changes e. Solutions

Lesson 2: Goldenrod Detector

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties f. Acidity/alkalinity

Lesson 3: Rusting Wool

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. k. Recognizes the materials of which an object is made

- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes b. Chemical change

UNIT: THE EARTH AND SPACE

- General characteristics of the Earth d. Atmosphere
- General characteristics of the Earth f. Atmospheric layers
- General characteristics of the Earth h. Air (composition)

Lesson 4: Buoyant Butter

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. i. Explains the buoyancy of a substance in another substance, using their respective densities (relative density)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties
- Properties b. Mass
- Properties c. Volume

Lesson 5: Rubber Eggs

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. k. Recognizes the materials of which an object is made
- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes b. Chemical change

Lesson 6: The Moving Molecule Stomp

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)

- F 1. a. Appropriately uses terminology related to the material world
- B 1. b. Identifies sources of energy in his/her environment (e.g. moving water, chemical reaction in a battery, sunlight)

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties e. States of matter
- Changes a. Physical change

Lesson 7: Lumpy Liquids

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes b. Chemical change
- Changes d. Mixtures
- Changes f. Separation of mixtures

Lesson 8: Milk Rainbow

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties
- Changes d. Mixtures
- Changes e. Solutions

Lesson 9: Egg-Dye Solutions

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties f. Acidity/alkalinity
- Changes b. Chemical change

Lesson 10: Iron In Cereal

Elementary Cycle 3: UNIT: MATERIAL WORLD

- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes d. Mixtures

Lesson 11: The Great Escape

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties d. Temperature
- Changes d. Mixtures

Lesson 12: Diaper Polymers

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes b. Chemical change

Lesson 13: Disappearing Glass

Elementary Cycle 3: UNIT: MATERIAL WORLD

- B 2. F. Describes the behaviour of light rays (reflection, refraction)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties

UNIT: THE EARTH AND SPACE

- Astronomical phenomena c. Light (properties)

Lesson 14: Wacky Waxy Watercolours

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties

Lesson 15: Floating Paper Clips

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties

Lesson 16: Fountain Of Soda

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes b. Chemical change
- Changes d. Mixtures
- Changes e. Solutions

Lesson 17: Blubber In Sea Mammals

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- B 2. a. Distinguishes between substances that are thermal conductors and those that are thermal insulators

- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- B 3. a. Describes situations in which human beings consume energy (e.g. heating, transportation, food consumption, recreation)
- B 3. c. Explains the insulating properties of various substances (e.g. polystyrene, mineral wool, straw)
- F 1. a. Appropriately uses terminology related to the material world

UNIT: LIVING THINGS

- A 1. b. Describes activities connected to the metabolism of living things (transformation of energy, growth, maintenance of systems and body temperature)

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties d. Temperature

UNIT: THE LIVING WORLD

- Diversity of life forms a. Habitat
- Diversity of life forms e. Physical and behavioural adaptation

Lesson 18: Puffed Rice Fleas

Elementary Cycle 3: UNIT: MATERIAL WORLD

- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: none

Lesson 19: Hold The Salt

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes a. Physical change
- Changes d. Mixtures
- Changes e. Solutions
- Changes f. Separation of mixtures

Lesson 20: Liquid Rainbow

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. i. Explains the buoyancy of a substance in another substance, using their respective densities (relative density)
- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)

- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties
- Properties b. Mass
- Properties c. Volume
- Changes d. Mixtures
- Changes e. Solutions

Lesson 21: Making Paper

Elementary Cycle 3: none

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes d. Mixtures

Lesson 22: Balloon Rockets

Elementary Cycle 3: UNIT: MATERIAL WORLD

- C 4. a. Recognizes various manifestations of pressure (e.g. inflatable balloon, atmospheric pressure, airplane wing)
- C 4. b. Describes the effects of pressure on an object (e.g. compression, displacement, increase in temperature)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE TECHNOLOGICAL WORLD

- Forces and motion b. Effects of a force

Lesson 23: Paper Chromatography

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- A 1. k. Recognizes the materials of which an object is made
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes d. Mixtures
- Changes f. Separation of mixtures

Lesson 24: Exploding Bags

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 5. b. Demonstrates that chemical changes (e.g. cooking, combustion, oxidation, acid-base reactions) change the properties of matter
- C 4. a. Recognizes various manifestations of pressure (e.g. inflatable balloon, atmospheric pressure, airplane wing)
- C 4. b. Describes the effects of pressure on an object (e.g. compression, displacement, increase in temperature)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties f. Acidity/alkalinity
- Changes b. Chemical change

Lesson 25: Gasping For Air

Elementary Cycle 3: UNIT: MATERIAL WORLD

- C 4. a. Recognizes various manifestations of pressure (e.g. inflatable balloon, atmospheric pressure, airplane wing)
- C 4. b. Describes the effects of pressure on an object (e.g. compression, displacement, increase in temperature)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties c. Volume

Lesson 26: Capillary Carnations

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties

Lesson 27: Melting Ice With Salt

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)

- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties
- Properties d. Temperature
- Changes a. Physical change

Lesson 28: Separating Salt & Pepper

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties
- Changes a. Physical change
- Changes b. Chemical change
- Changes d. Mixtures
- Changes e. Solutions
- Changes f. Separation of mixtures

Lesson 29: Antigravity Water

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties

Lesson 30: Solid Or Liquid?

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties

- Properties e. States of matter
- Changes a. Physical change
- Changes d. Mixtures

Lesson 31: Balloon In A Bottle

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- C 4. a. Recognizes various manifestations of pressure (e.g. inflatable balloon, atmospheric pressure, airplane wing)
- D 4. a. Identifies the mechanical parts (e.g. gears, cams, springs, simple machines, connecting rods)
- D 4. b. Recognizes two types of motion (rotation and translation)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Properties a. Characteristic properties
- Properties c. Volume
- Properties d. Temperature

Lesson 32: Rubber-Band Racers

Elementary Cycle 3: UNIT: MATERIAL WORLD

- B 1. a. Describes different forms of energy (mechanical, electrical, light, chemical, heat, sound, nuclear)
- C 3. e. Recognizes the transformations of energy from one form to another in various devices (e.g. flashlight: chemical to light; electric kettle: electrical to heat)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- E 4. e. Uses appropriate assembling methods (e.g. screws, glue, nails, tacks, nuts)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE TECHNOLOGICAL WORLD

- Technological systems d. Energy transformations
- Forces and motion b. Effects of a force

Lesson 33: T-shirt Tye-Dye

Elementary Cycle 3: UNIT: MATERIAL WORLD

- A 1. j. Describes various other physical properties of an object, a substance or a material (e.g. elasticity, hardness, solubility)
- E 1. a. Appropriately uses simple measuring instruments (rulers, dropper, graduated cylinder, balance, thermometer, chronometer)
- F 1. a. Appropriately uses terminology related to the material world

Secondary Cycle 1: UNIT: THE MATERIAL WORLD

- Changes d. Mixtures

- Changes e. Solutions
- Changes f. Separation of mixtures