

You Be The Chemist Grades - Curriculum Connections British Columbia 5-8

Note: No numbers/letters are assigned to curriculum outcomes for grades 5, 6 and 7. The document below assigns numbers to curriculum outcomes beginning at 1 for the first outcome in each unit. Suggested achievement indicators for each outcome are then assigned letters beginning at 'a' for the first point.

Lesson 1: Goofy Putty

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials
- C1.b. accurately measure, record, and present data collected during an experiment involving solutions and mixtures
- C1.c. describe chemical and physical changes in matter, citing examples

Grade 8: none

Lesson 2: Goldenrod Detector

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C3.c. use test papers with teacher support to carefully analyse various substances and solutions for acidic or basic characteristics (pH scale)

Grade 8: none

Lesson 3: Rusting Wool

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.c. describe chemical and physical changes in matter, citing examples

Grade 8: none

Lesson 4: Buoyant Butter

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C7.c. conduct experiments to calculate the density of regularly shaped objects [$D = m/V$] and irregularly shaped objects [$D = m/(V_2 - V_1)$]

Lesson 5: Rubber Eggs

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.c. describe chemical and physical changes in matter, citing examples

Grade 8: none

Lesson 6: The Moving Molecule Stomp

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C6.b distinguish between solids, liquids, and gases based on particle arrangement and motion
- C6.c. define terms related to changes of state (e.g., temperature, heat, evaporation, condensation, solidification, melting, sublimation)

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C6.b. distinguish between solids, liquids, and gases based on particle arrangement and motion
- C6.c. define terms related to changes of state (e.g., temperature, heat, evaporation, condensation, solidification, melting, sublimation)

Lesson 7: Lumpy Liquids

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials

Grade 8: none

Lesson 8: Milk Rainbow

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials

Grade 8: none

Lesson 9: Egg-Dye Solutions

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C3.c. use test papers with teacher support to carefully analyse various substances and solutions for acidic or basic characteristics (pH scale)

Grade 8: none

Lesson 10: Iron In Cereal

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C2.a. accurately sort products found in the home into substances, suspensions, emulsions, mechanical mixtures, and solutions and summarize their similarities and differences

Grade 8: none

Lesson 11: The Great Escape

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C2.a. accurately sort products found in the home into substances, suspensions, emulsions, mechanical mixtures, and solutions and summarize their similarities and differences
- C3.a. describe the effects of a variety of factors (e.g., type of solute, type of solvent, temperature) on solubility

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C6.c. define terms related to changes of state (e.g., temperature, heat, evaporation, condensation, solidification, melting, sublimation)

Lesson 12: Diaper Polymers

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials
- C1.c. describe chemical and physical changes in matter, citing examples

Grade 8: none

Lesson 13: Disappearing Glass

Grade 5: none

Grade 6: none

Grade 7: none

Grade 8: UNIT: OPTICS

- C1.c. describe how waves are reflected off a barrier and refracted when passing from one medium to another
- C2.b. identify and describe properties of visible light (e.g., prism to demonstrate spectrum of colour, pinhole camera to demonstrate how light travels in a straight line)
- C2.e. demonstrate how visible light is refracted (e.g., bending of rays, changes of speed, diverging and converging lenses)

Lesson 14: Wacky Waxy Watercolours

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C2.a. accurately sort products found in the home into substances, suspensions, emulsions, mechanical mixtures, and solutions and summarize their similarities and differences
- C2.b. correctly relate the particle theory to the properties of elements, compounds, and mixtures

Grade 8: none

Lesson 15: Floating Paper Clips

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials

Grade 8: none

Lesson 16: Fountain Of Soda

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.c. describe chemical and physical changes in matter, citing examples
- C2.a. accurately sort products found in the home into substances, suspensions, emulsions, mechanical mixtures, and solutions and summarize their similarities and differences
- C3.a. describe the effects of a variety of factors (e.g., type of solute, type of solvent, temperature) on solubility

Grade 8: none

Lesson 17: Blubber In Sea Mammals

Grade 5: none

Grade 6: UNIT: DIVERSITY OF LIFE

- DL2.a. identify two or more specific adaptations of various life forms (e.g., colouration or other physical characteristics, mimicry or other behaviour)
- DL2.b. suggest a plausible explanation of how particular adaptations help life forms interact in their environments

Grade 7: none

Grade 8: none

Lesson 18: Puffed Rice Fleas

Grade 5: none

Grade 6: UNIT: ELECTRICITY

- E1.a. identify the charges (like, unlike, or no charge) of pairs of statically charged objects (e.g., charged through rubbing various fibres and solid materials) by systematically and accurately testing their attractions
- EL1.b. describe and distinguish between friction-produced electrical charge (static) and chemically produced electric charge (batteries)
- EL3.b. create circuits that reliably produce light, heat, sound, motion, and magnetic effects

Grade 7: none

Grade 8: none

Lesson 19: Hold The Salt

Grade 5: none

Grade 6: none

Grade 7: UNIT: CHEMISTRY

- C1.c. describe chemical and physical changes in matter, citing examples
- C2.a. accurately sort products found in the home into substances, suspensions, emulsions, mechanical mixtures, and solutions and summarize their similarities and differences

Grade 8: none

Lesson 20: Liquid Rainbow

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials
- C1.b. accurately measure, record, and present data collected during an experiment involving solutions and mixtures

Grade 8: none

Lesson 21: Making Paper

Grade 5: none

Grade 6: none

Grade 7: none

Grade 8: none

Lesson 22: Balloon Rockets

Grade 5: UNIT: FORCES AND SIMPLE MACHINES

- FSM1. a. accurately describe the effects of increasing and decreasing the amount of force applied to an object (e.g., lifting a wooden block)

Grade 6: UNIT: EXPLORATION OF EXTREME ENVIRONMENTS

- EEE2.a. identify several types of equipment and methods currently used to explore extreme environments (e.g., scuba, fibre optics, Mars Lander)

Grade 7: none

Grade 8: none

Lesson 23: Paper Chromatography

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials
- C2.a. accurately sort products found in the home into substances, suspensions, emulsions, mechanical mixtures, and solutions and summarize their similarities and differences
- C2.b. correctly relate the particle theory to the properties of elements, compounds, and mixtures

Grade 8: none

Lesson 24: Exploding Bags

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.c. describe chemical and physical changes in matter, citing examples

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C8.a. explain pressure with reference to force and area (i.e., compression and expansion)

Lesson 25: Gasping For Air

Grade 5: none

Grade 6: UNIT: EXPLORATION OF EXTREME ENVIRONMENTS

- EEE1.a. identify the salient characteristics of an extreme environment (e.g., space, polar ice, oceans, volcanoes, and the atmosphere — a place that humans do not naturally inhabit but choose to explore)

Grade 7: none

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C8.a. explain pressure with reference to force and area (i.e., compression and expansion)

Lesson 26: Capillary Carnations

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials
- C2.b. correctly relate the particle theory to the properties of elements, compounds, and mixtures

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C5.a. define *force* (push or pull of one object on another)

Lesson 27: Melting Ice With Salt

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials

- C1.b. accurately measure, record, and present data collected during an experiment involving solutions and mixtures
- C1.c. describe chemical and physical changes in matter, citing examples

Grade 8: none

Lesson 28: Separating Salt & Pepper

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.b. accurately measure, record, and present data collected during an experiment involving solutions and mixtures

Grade 8: none

Lesson 29: Antigravity Water

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C5.a. define *force* (push or pull of one object on another)
- C5.b. list different types of forces (e.g., magnetic, friction, gravitational, elastic, electrical)

Lesson 30: Solid Or Liquid?

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials
- C1.c. describe chemical and physical changes in matter, citing examples

Grade 8: none

Lesson 31: Balloon In A Bottle

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.a. identify several qualitative (e.g., colour, texture, state) and quantitative (e.g., density, melting point, freezing point) properties of materials
- C1.c. describe chemical and physical changes in matter, citing examples
- C2.b. correctly relate the particle theory to the properties of elements, compounds, and mixtures

Grade 8: UNIT: FLUIDS AND DYNAMICS

- C5.a. define *force* (push or pull of one object on another)
- C5.b. list different types of forces (e.g., magnetic, friction, gravitational, elastic, electrical)
- C7.b. describe the effects of changes in temperature on the density of solids, liquids, and gases (e.g., compression and expansion)
- C8.a. explain pressure with reference to force and area (i.e., compression and expansion)
- C8.b. describe the relationship between temperature, area, and pressure, with reference to the kinetic molecular theory

Lesson 32: Rubber-Band Racers

Grade 5: UNIT: FORCES AND SIMPLE MACHINES

- FSM1.a. accurately describe the effects of increasing and decreasing the amount of force applied to an object (e.g., lifting a wooden block)
- FSM1.b. compare the effects of friction on the movement of an object over a variety of surfaces (e.g., sandpaper, rug, smooth wood, chalk dust, gravel)

Grade 6: none

Grade 7: none

Grade 8: none

Lesson 33: T-shirt Tye-Dye

Grade 5: none

Grade 6: none

Grade 7: UNIT CHEMISTRY

- C1.c. describe chemical and physical changes in matter, citing examples
- C2.a. accurately sort products found in the home into substances, suspensions, emulsions, mechanical mixtures, and solutions and summarize their similarities and differences

Grade 8: none