Processing Chemical Reactions

Ontario	
Grade 5	
Strand C: Matter and Energy	
Specific Expectations:	C2.2 identify the states of matter, and describe characteristics and properties of solids, liquids, and gases C2.4 describe physical changes in matter as changes of the state, volume, or form of the matter that do not result in the formation of a different substance C2.5 describe chemical changes in matter as changes that result in the formation of different substances, and identify signs that a chemical change has occurred
Strand A: STEM Skills and Connections	
Specific Expectations:	A3.1 describe practical applications of science and technology concepts in various occupations, including skilled trades, and how these applications address real-world problems
Grade 7	
Pure Substances and Mixtures	
Specific Expectations:	C1.2 assess environmental and social impacts of different industrial methods used to separate mixtures C2.3 distinguish between homogenous and heterogenous mixtures C2.7 explain various processes used to separate mixtures, including solutions, into their components, and identify some applications of these processes
Strand A: STEM Skills and Connections	
Specific Expectations:	A3.1 describe practical applications of science and technology concepts in various occupations, including skilled trades, and how these applications address real-world problems

Grade 10 Academic	
Strand C: Chemistry	
Specific Expectations:	C1.1 analyse, on the basis of research, various safety and environmental issues associated with chemical reactions and their reactants and/or product(s) (e.g., chemical reactions related to the use of cyanide in gold mining, the corrosion of metal supports on bridges, the use of different antibacterial agents such as chlorine and bromine in recreational pools) C3.3 describe the types of evidence that indicate chemical change (e.g., changes in colour, the production of a gas, the formation of a precipitate, the production or absorption of heat, the production of light) C3.5 describe, on the basis of observation, the reactants in and products of a variety of chemical reactions, including synthesis, decomposition, and displacement reactions (e.g., reactions occurring when magnesium burns or in the production of oxygen from hydrogen peroxide; the reaction of iron and copper sulphate; reactions occurring when fossil fuels burn C3.6 describe the process of acid–base neutralization (i.e., an acid reacts with a base to form a salt and often water)
Strand A: Scientific Investigation Skills and Career Exploration	
Specific Expectations:	A1. demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analysing and interpreting, and communicating) A2. identify and describe a variety of careers related to the fields of science under study, and identify scientists, including Canadians, who have made contributions to those fields