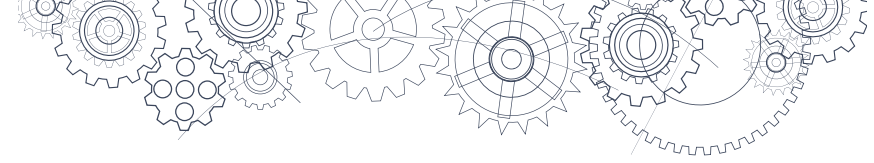


## Science K-10 – Content

Grade	Biology	Chemistry	Physics	Earth/space
<b>K</b>	<ul style="list-style-type: none"> <li>• basic needs of plants and animals</li> <li>• adaptations of local plants and animals</li> <li>• local First Peoples uses of plants and animals</li> </ul>	<ul style="list-style-type: none"> <li>• properties of familiar materials</li> </ul>	<ul style="list-style-type: none"> <li>• effects of pushes/pulls on movement</li> <li>• effects of size, shape, and materials on movement</li> </ul>	<ul style="list-style-type: none"> <li>• weather changes</li> <li>• seasonal changes</li> <li>• living things make changes to accommodate daily and seasonal cycles</li> <li>• First Peoples knowledge of seasonal changes</li> </ul>
<b>1</b>	<ul style="list-style-type: none"> <li>• classification of living and non-living things</li> <li>• names of local plants and animals</li> <li>• structural features of living things in the local environment</li> <li>• behavioural adaptations of animals in the local environment</li> </ul>	<ul style="list-style-type: none"> <li>• specific properties of materials allow us to use them in different ways</li> </ul>	<ul style="list-style-type: none"> <li>• natural and artificial sources of light and sound</li> <li>• properties of light and sound depend on their source and the objects with which they interact</li> </ul>	<ul style="list-style-type: none"> <li>• common objects in the sky</li> <li>• the knowledge of First Peoples               <ul style="list-style-type: none"> <li>– shared First Peoples knowledge of the sky</li> <li>– local First Peoples knowledge of the local landscape, plants and animals</li> <li>– local First Peoples understanding and use of seasonal rounds</li> </ul> </li> <li>• local patterns that occur on Earth and in the sky</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>• metamorphic and non-metamorphic life cycles of different organisms</li> <li>• similarities and differences between offspring and parent</li> <li>• First Peoples use of their knowledge of life cycles</li> </ul>	<ul style="list-style-type: none"> <li>• physical ways of changing materials</li> <li>• chemical ways of changing materials</li> </ul>	<ul style="list-style-type: none"> <li>• types of forces</li> </ul>	<ul style="list-style-type: none"> <li>• water sources including local watersheds</li> <li>• water conservation</li> <li>• the water cycle</li> <li>• local First People’s knowledge of water:               <ul style="list-style-type: none"> <li>– water cycles</li> <li>– conservation</li> <li>– connection to other systems</li> </ul> </li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>• biodiversity in the local environment</li> <li>• the knowledge of local First Peoples of ecosystems</li> <li>• energy is needed for life</li> </ul>	<ul style="list-style-type: none"> <li>• matter is anything that has mass and takes up space</li> <li>• atoms are building blocks of matter</li> </ul>	<ul style="list-style-type: none"> <li>• sources of thermal energy</li> <li>• transfer of thermal energy</li> </ul>	<ul style="list-style-type: none"> <li>• major local landforms</li> <li>• local First Peoples knowledge of local landforms</li> <li>• observable changes in the local environment caused by erosion and deposition by wind, water, and ice</li> </ul>

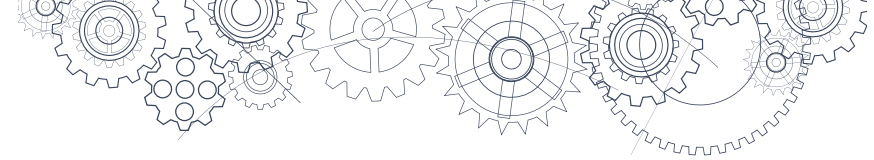




## Science K-10 – Content – continued

Grade	Biology	Chemistry	Physics	Earth/space
4	<ul style="list-style-type: none"> <li>sensing and responding:               <ul style="list-style-type: none"> <li>humans</li> <li>other animals</li> <li>plants</li> </ul> </li> <li>biomes as large regions with similar environmental features</li> </ul>	<ul style="list-style-type: none"> <li>phases of matter</li> <li>the effect of temperature on particle movement</li> </ul>	<ul style="list-style-type: none"> <li>energy:               <ul style="list-style-type: none"> <li>has various forms</li> <li>is conserved</li> </ul> </li> <li>devices that transform energy</li> </ul>	<ul style="list-style-type: none"> <li>local changes caused by Earth's axis, rotation, and orbit</li> <li>the effects of the relative positions of the sun, moon, and Earth including local First Peoples perspectives</li> </ul>
5	<ul style="list-style-type: none"> <li>basic structures and functions of body systems:               <ul style="list-style-type: none"> <li>digestive</li> <li>musculoskeletal</li> <li>respiratory</li> <li>circulatory</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>solutions and solubility</li> </ul>	<ul style="list-style-type: none"> <li>properties of simple machines and their force effects</li> <li>machines:               <ul style="list-style-type: none"> <li>constructed</li> <li>found in nature</li> </ul> </li> <li>power – the rate at which energy is transferred</li> </ul>	<ul style="list-style-type: none"> <li>the rock cycle</li> <li>local types of earth materials</li> <li>First Peoples concepts of interconnectedness in the environment</li> <li>the nature of sustainable practices around BC's resources</li> <li>First Peoples knowledge of sustainable practices</li> </ul>
6	<ul style="list-style-type: none"> <li>the basic structures and functions of body systems:               <ul style="list-style-type: none"> <li>excretory</li> <li>reproductive</li> <li>hormonal</li> <li>nervous</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>heterogeneous mixtures</li> <li>mixtures:               <ul style="list-style-type: none"> <li>separated using a difference in component properties</li> <li>local First Peoples knowledge of separation and extraction methods</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Newton's three laws of motion</li> <li>effects of balanced and unbalanced forces in daily physical activities</li> <li>force of gravity</li> </ul>	<ul style="list-style-type: none"> <li>the overall scale, structure, and age of the universe</li> <li>the position, motion, and components of our solar system in our galaxy</li> </ul>
7	<ul style="list-style-type: none"> <li>organisms have evolved over time</li> <li>survival needs</li> <li>natural selection</li> </ul>	<ul style="list-style-type: none"> <li>elements and compounds are pure substances</li> <li>crystalline structure of solids</li> <li>chemical changes</li> </ul>	<ul style="list-style-type: none"> <li>electricity               <ul style="list-style-type: none"> <li>generated in different ways with different environmental impacts</li> <li>electromagnetism</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>the fossil record provides evidence for changes in biodiversity over geological time</li> <li>First Peoples knowledge of changes in biodiversity over time</li> <li>evidence of climate change over geological time and the recent impacts of humans:               <ul style="list-style-type: none"> <li>physical records</li> <li>local First Peoples knowledge of climate change</li> </ul> </li> </ul>





## Science K-10 – Content

Grade	Biology	Chemistry	Physics	Earth/space
8	<ul style="list-style-type: none"> <li>characteristics of life</li> <li>cell theory and types of cells</li> <li>photosynthesis and cellular respiration</li> <li>the relationship of micro-organisms with living things:               <ul style="list-style-type: none"> <li>basic functions of the immune system</li> <li>vaccination and antibiotics</li> <li>impacts of epidemics and pandemics on human populations</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>kinetic molecular theory (KMT)</li> <li>atomic theory and models</li> </ul>	<ul style="list-style-type: none"> <li>protons, neutrons, and quarks</li> <li>electrons and leptons</li> <li>types and effects of electromagnetic radiation</li> <li>light:               <ul style="list-style-type: none"> <li>properties</li> <li>behaviours</li> <li>ways of sensing</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>plate tectonic movement</li> <li>major geological events of local significance</li> <li>First Peoples knowledge of:               <ul style="list-style-type: none"> <li>local geological formations</li> <li>significant local geological events</li> </ul> </li> <li>layers of Earth</li> </ul>
9	<ul style="list-style-type: none"> <li>asexual reproduction:               <ul style="list-style-type: none"> <li>mitosis</li> <li>different forms</li> </ul> </li> <li>sexual reproduction:               <ul style="list-style-type: none"> <li>meiosis</li> <li>human sexual reproduction</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>element properties as organized in the periodic table</li> <li>The arrangement of electrons determines the compounds formed by elements</li> </ul>	<ul style="list-style-type: none"> <li>circuits – must be complete for electrons to flow</li> <li>voltage, current, and resistance</li> </ul>	<ul style="list-style-type: none"> <li>effects of solar radiation on the cycling of matter and energy</li> <li>matter cycles within biotic and abiotic components of ecosystems</li> <li>sustainability of systems</li> <li>First Peoples knowledge of interconnectedness and sustainability</li> </ul>
10	<ul style="list-style-type: none"> <li>DNA structure and function</li> <li>patterns of inheritance</li> <li>mechanisms for the diversity of life               <ul style="list-style-type: none"> <li>mutation and its impact on evolution</li> <li>natural selection and artificial selection</li> </ul> </li> <li>applied genetics and ethical considerations</li> </ul>	<ul style="list-style-type: none"> <li>rearrangement of atoms in chemical reactions</li> <li>acid-base chemistry</li> <li>law of conservation of mass</li> <li>energy change during chemical reactions</li> <li>practical applications and implications of chemical processes, including First Peoples knowledge</li> </ul>	<ul style="list-style-type: none"> <li>nuclear energy and radiation</li> <li>law of conservation of energy</li> <li>potential and kinetic energy</li> <li>transformation of energy</li> <li>local and global impacts of energy transformations from technologies</li> </ul>	<ul style="list-style-type: none"> <li>formation of the universe:               <ul style="list-style-type: none"> <li>big bang theory</li> <li>components of the universe over time</li> </ul> </li> <li>astronomical data and collection methods</li> </ul>

