

## Curriculum Connections

### Alpine Plants

There are numerous connections between the Alpine Plants Pathway and the BC curriculum. The table below highlights these connections and serves as a starting point to plan teaching units or lesson plans.

Combine lesson plans for grade levels with similar Big Ideas. The strongest Big Idea connections to the curriculum within the pathway are the following:

- Science 3: Wind, water, and ice change the shape of the land
- Science 3: Living things are diverse, can be grouped, and interact in their ecosystems
- Science 4: All living things sense and respond to their environment.
- Science 7: Earth and its climate have changed over geological time
- Science 10, DNA is the basis for the diversity of living

Subject/ Grade	Big Idea	Content	Pathway Connections
Science 3	Wind, water and ice change the shape of the land.	<ul style="list-style-type: none"> <li>• Major local landforms</li> <li>• Observable changes in the local environment caused by erosion and deposition by wind, water and ice</li> </ul>	<i>Look:</i> Photos and descriptions of landforms created by glaciers
Science 3	Living things are diverse, can be grouped and interact in their ecosystems.	<ul style="list-style-type: none"> <li>• Biodiversity in the local environment</li> </ul>	<i>Look:</i> Photos of alpine plants <i>Watch:</i> Mary Gibson Henry, Bioblitz Discoveries
Science 4	All living things and their environment are interdependent.	<ul style="list-style-type: none"> <li>• Biomes are large regions with similar environmental features</li> </ul>	<i>Look:</i> Features of the alpine tundra <i>Listen:</i> Alpine Biome, Alpine Plant Adaptations. <i>Watch:</i> Videos that show features of the alpine.
Science 4	All living things sense and respond to their environment.	<ul style="list-style-type: none"> <li>• How plants sense, respond, and adapt to stimuli in their environment</li> </ul>	<i>Look and Listen:</i> photos, audio files and descriptions of alpine plant adaptations
Science 7	Earth and its climate have changed over geological time.	<ul style="list-style-type: none"> <li>• Evidence of climate change over geological time and the recent impacts of humans</li> </ul>	<i>Look:</i> glaciers and connection to Pleistocene ice age landscape. <i>Listen:</i> most of the sound files
Science 10	DNA is the basis for	<ul style="list-style-type: none"> <li>• DNA structure and</li> </ul>	<i>Read:</i> <i>What's Insight</i> articles

Subject/ Grade	Big Idea	Content	Pathway Connections
	the diversity of living things	function <ul style="list-style-type: none"> <li>• Mechanisms for the diversity of life</li> </ul>	on the origin of BC's alpine flora. (Research using DNA analysis to understand environmental history, evolution, plant biogeography and biodiversity)
Science 11	Evolution occurs at the population level	<ul style="list-style-type: none"> <li>• Microevolution:                             <ul style="list-style-type: none"> <li>○ adaptation to changing environments</li> <li>○ changes in DNA</li> <li>○ natural selection</li> </ul> </li> <li>• Macroevolution:                             <ul style="list-style-type: none"> <li>○ speciation</li> <li>○ processes of macroevolution</li> <li>○ evidence for macroevolution</li> </ul> </li> <li>• Evidence for phylogenetic relationships</li> </ul>	<i>Read: What's Insight</i> articles on the origin of BC's alpine flora. (Research using DNA analysis to understand environmental history, evolution, plant biogeography and biodiversity)
Environmental Science 11	<ul style="list-style-type: none"> <li>• Complex roles and relationships contribute to diversity of ecosystems</li> <li>• Changing ecosystems are maintained by natural processes</li> <li>• Human practices affect the sustainability of ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Abiotic characteristics</li> <li>• Succession</li> <li>• Human actions and their impact on ecosystem integrity</li> </ul>	<i>Look:</i> photos and descriptions about habitat diversity <i>Listen:</i> Environmental change over time in the alpine.
Environmental Science 12	<ul style="list-style-type: none"> <li>• Human activities cause changes in the global climate system</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to climate systems</li> <li>• Impacts of global warming</li> </ul>	<i>Listen:</i> Climate change clips. Consider what will happen to alpine ecosystems with climate change (including plants, animals, glaciers/water cycle)