**Area of Learning: SOCIAL STUDIES — Physical Geography Grade 12**

**BIG IDEAS**

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| Incorporating data from a variety of sources allows us to better understand our globally connected world. |  | Natural processes have an impact on the landscape and human settlement. |  | Interactions between human activities and the atmosphere affect local and global weather and climate. |

**Learning Standards**

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| **Curricular Competencies** | **Content** |
| *Students are expected to be able to do the following:** **Use geographic inquiry processes and geographic literacy skills to ask questions; gather, interpret, and analyze data and ideas from a variety of sources and spatial/temporal scales; and communicate findings and decisions (evidence and interpretation)**
* **Assess the significance of places by identifying the physical and/or human features that characterize them (sense of place)**
* **Assess the interpretations of geographic evidence after investigating points of contention, reliability of sources, and adequacy of evidence (evidence and interpretation)**
* **Draw conclusions about the variation and distribution of geographic phenomena over time and space (patterns and trends)**
* **Evaluate how particular geographic actions or events affect human practices or outcomes (geographical value judgments)**
* **Evaluate features or aspects of geographic phenomena or locations to explain what makes them worthy of attention or recognition (geographical importance)**
* **Identify and assess how human and environmental factors and events influence each other (interactions and associations)**
* **Make reasoned ethical judgments about controversial actions in the past and/or present, and determine whether we have a responsibility to respond (geographical value judgments)**
 | *Students are expected to know the following:** structure of, feedback within, and equilibrium of natural systems
* distinguishing features of the atmosphere, hydrosphere, cryosphere, lithosphere, biosphere, and anthroposphere
* connections and interactions between the spheres
* features and processes of plate tectonics and their effects on human and natural systems
* features and processes of gradation and their effects on human and natural systems
* natural disasters and their effects on human and natural systems
* features and processes of Sun–Earth interactions and resulting patterns of climate, landscapes, and ecosystems
* climate, weather, and interactions between humans and the atmosphere
* characteristics of global biomes, including climate, soil, and vegetation
* features and processes of the anthroposphere and their effects on natural systems.
* natural resources and sustainability
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|  **SOCIAL STUDIES – Physical GeographyCurricular Competencies – Elaborations Grade 12** |
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| * **Use geographic inquiry processes and geographic literacy skills to ask questions; gather, interpret, and analyze data and ideas from a variety of sources and spatial/temporal scales; and communicate findings and decisions (evidence and interpretation):**

Sample activities:* + Undertake a field site visit to compare and contrast different plant communities.
	+ Use topographic maps to understand modern terrain patterns associated with historical events (e.g., glaciation).
	+ Use satellite imagery of cloud cover to look at atmospheric circulation patterns.
	+ Use GIS to map flood potential.
	+ Use air photos to view mountainous environments in order to examine life zones and hydrological patterns and processes.
	+ Use regional weather charts to explain current and near future local weather conditions.
	+ Develop an understanding of the concept of spatial scale by examining an issue at three scales (e.g., how is a changing climate impacting local water use, regional precipitation patterns, and global distribution of moisture?).
* **Assess the significance of places by identifying the physical and/or human features that characterize them (sense of place):**

Sample activities:* + Identify unique characteristics that help to make a place stand out, and determine how they were formed (e.g., river valleys and flood plains, volcanic activity).
	+ Develop boundaries on a map to delineate areas of regional differentiation (e.g., climate regions).
* **Assess the interpretations of geographic evidence after investigating points of contention, reliability of sources, and adequacy of evidence (evidence and interpretation):**

Sample topics:* + environmental issues around:
		- resource development
		- urban sprawl
		- infrastructure development in the form of dams or pipelines
* **Draw conclusions about the variation and distribution of geographic phenomena over time and space (patterns and trends):**

Key topics:* + Recognize patterns – geographic or environmental phenomena that repeat over time and space.
	+ Recognize trends – variations in the consistency of a natural phenomenon in a particular setting over a period of time.

Sample activities:* + Research the Ring of Fire, which encircles the Pacific, and how it has affected life in coastal British Columbia.
	+ Examine the impact of urban growth on soil erosion, the water cycle, agricultural land.
	+ Study the location of the world’s jungles or deserts: why are they there, how long have they been there, and how are they currently changing?
	+ Research how mountains are formed and where they are found.
* **Evaluate how particular geographic actions or events affect human practices or outcomes (geographical value judgments):**

Sample topic:* + climate change and rising sea levels, and how they affect the planet and people in different regions
* **Evaluate features or aspects of geographic phenomena or locations to explain what makes them worthy of attention or recognition (geographical importance):**

Sample topics:* + landforms and how they occurred (e.g., glaciated landscapes, volcanic features, stream drainage patterns, deserts)
	+ weather patterns, and possible changes to them
	+ extreme weather (hurricanes, tornadoes, hail, ice storms) and distribution of these events
* **Identify and assess how human and environmental factors and events influence each other (interactions and associations):**

Sample topics:* + human modification of the lithosphere for resource extraction, settlement, agriculture
	+ human modification of the atmosphere by changing the rate of exchange of gases (e.g., release of CO2 through burning of fossil fuels)
	+ human modification of the biosphere by hunting, domesticating, bio-altering, and geographically relocating other species
	+ storm protection of coastal cities by wetlands
	+ settlement patterns associated with access to natural resources (e.g., risk of farming on a flood plain in rich soils developed by river flooding)
	+ global climate change and ocean acidification
	+ deforestation
	+ coral reef bleaching
	+ depletion of ozone layer
	+ global atmospheric circulation patterns
	+ acid precipitation
	+ wild species at risk
	+ drainage patterns, agriculture, and coastal dead zones
	+ weather modification
* **Make reasoned ethical judgments about controversial actions in the past and/or present, and determine whether we have a responsibility to respond (geographical value judgments):**

Key questions:* + How much responsibility do we have for the environment?
	+ Should people sacrifice some of their standard of living to halt global climate change?
	+ Can the oceans survive human impacts?
	+ What are the reasons for and against limiting natural resource extraction? Do you think we should limit extraction?
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