Geography

Year 10: The Living World – Cold Environments

Assessment Opportunities	Literacy/Reading opportunities	CEIAG Links
During each topic students complete a mid-unit knowledge test based on the unit knowledge covered. Students also complete an end-of unit assessment which includes key vocabulary, knowledge questions, geographical and extend writing. During the year, students complete a mid-year and end-of year assessment which assesses students on all content covered.	Tier 2 vocabulary is identified on page 2/3 of this SOL in the key knowledge list and is shown in *italics*. Tier 3 vocabulary is identified on page 2/3 of this SOL in the key knowledge list and is shown in **bold**. Reading opportunities take place regularly throughout all Geography schemes of learning. Extended writing opportunities take place regularly throughout all Geography schemes of learning. This is identified within this SOL (highlighted in yellow).	Use of satellite images. Use of different forms of maps and mapping tools. Links to environmental management made throughout topic – how do we conserve cold environments? Environment and agriculture Science/ conservation/ Engineering/ global governance

Curriculum vision:

"Our aim is to deliver a curriculum that is inclusive, relevant and progressive for all learners."

UNIT TITLE: Cold Environments

<table>
<tr>
<td rowspan="3">Estimated Lesson Breakdown
1) Characteristics of cold environments
2) Adaptations in cold environments
3) Adaptations/issues related to biodiversity
4) Opportunities in Alaska
5) Challenges in Alaska
6) Opportunities vs challenges
7) Diagnostic/therapies
8) Economic development in Alaska
9) Managing economic development in Alaska
10) Assessment snapshot</td>
<td>Assessment
Lesson 7 – diagnostic/therapies (KB1, KB2)
Lesson 10 – Assessment snapshot (KB1, KB2, KB3)</td>
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<tr>
<td>Practice Exam Questions
Lesson 6- To what extent do cold environments provide opportunities (9 marks)
Lesson 9 – To what extent can strategies to manage economic development be effective (9 marks)</td>
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<td>Skills Coverage
AM2 – Recognise and describe distributions and patterns of both human and physical features
AM4 – analyse the inter-relationship between physical and human factors on maps and establish associations between observed patterns on thematic maps
P3 – use and interpret ground, aerial and satellite photographs
P4 – describe physical landscapes from photographs
P6 – label and annotate diagrams, maps, graphs, sketches and photographs
Q1 -Use quantitative data to communicate geographical information: maps</td>
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<td>Notes
•</td>
<td>Knowledge Stands/Links to Previous Learning
Changing weather and climate:
• 7.5 The Arctic – Factors affecting the distribution of ecosystems (latitude and latitude).
• 8.4 Is the world becoming drier? – How Hadley cells, rain shadow and prevailing winds influence climate
Global Ecosystems
• 7.5 The Arctic – The components of ecosystems, distribution of major world ecosystems
• 8.4 Is the world becoming drier? Distribution of characteristics of hot deserts. The causes of desertification.
Global Economic Development
• 8.3 Why are all countries not equally developed? Overview of climatic factors leading to lower levels of development</td>
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<td>Specification Content</td>
<td>Teaching List – Key words in bold
Tier 2 words in Bold/italics</td>
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The physical characteristics of cold environments. The interdependence of climate, water, soils, plants, animals and people. How plants and animals adapt to the physical conditions. Issues related to biodiversity.	○ The distribution of hot deserts ○ The key ***characteristics*** of **Tundra** and polar climates (temperature, rainfall) ○ The ***challenges*** for survival in cold environments: temperature, lack of rainfall. ○ The ***adaptation*** of animals in cold environments: Polar bears, arctic fox, arctic hare. ○ The adaptation of plants in cold environments: Tufted saxifrage, arctic moss.
A case study of a hot desert to illustrate: development opportunities in cold environments: mineral extraction, energy, farming, tourism challenges of developing cold environments: extreme temperatures, water supply, inaccessibility.	○ Development ***opportunities*** in Alaska, **including mineral extraction, energy, fishing and tourism**. ○ ***Challenges*** within Alaska: natural resource distribution, Trans-Alaskan pipeline, extreme temperatures, provision of buildings and infrastructure.
Reasons why cold environments are at risk from economic exploitation. Strategies used to balance the needs of economic development and conservation in cold environments.	○ Overview of the value of cold environments as ***wilderness areas*** and why these fragile environments should be protected. ○ Strategies to reduce the impacts of economic development in cold environments including use of ***technology, role of governments, international agreements and conservation groups.***