Grade 2 - Integrated Unit: Science
5 Weeks
Polar Environments, Plants and Animals

Opportunities for Differentiation
(Content, Process, Product)
- Selection of appropriate level text for Independent Reading (process)
- Selection of appropriate level of text for Guided Reading (process)
- Grouping of students with similar needs & skills (process)
- Modification of non-assessment tasks to support student learning (content & product adjustments)

Real Life Connections / Application
- Students will learn to explain how to observe and tell about plants and animals based on how they look, and how they act.
- Students will explain that the earth is made up of land, air and water and that we have a responsibility to take care of them all.

Math
- Use and analysis of maps, charts & grids

Science
- Explain how to observe and tell about plants and animals based on how they look, and how they act. 2.A
- Describe how author’s show plants and animals behaving like people and this is not real. 2.B
- Tell about the important parts of plants and animals. 2.C
- Explain that the earth is made up of land, air and water. 3.0
- Tell about land forms and bodies of water on earth. 3.A
- Describe the weather changes between days and across seasons and affects nature and people. 3.B

Unit Assessment:
Content: Vocabulary quiz (Teacher Made)
On Demand task– Gray Wolf – (Reading AtoZ)

Writing
- Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. (W.2.2)
- With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. (W.2.5)
- Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (W.2.7)

Unit Assessment:
Performance task: Select a polar habitat. Using what you learned, tell what you know about that polar habitat. Be sure to include the following: Capitalization and punctuation, complete sentences, include topic sentence, 3 details and a conclusion.

Language
- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (L.2.1)
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (L.2.2)
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies. (L.2.4)
- Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe. (L.2.6)

Speaking & Listening
- Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. (SL.2.1)
- Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (SL.2.2)

Reading
Informational (Visualizing):
- Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (RI.2.1)
- Know and use various text to locate key facts or information in a text efficiently. (RI.2.5)
- Describe how reasons support specific points the author makes in a text. (RI.2.8)
- Participate in collaborative conversations with diverse partners about major events and challenges. (RI.2.3)
- By the end of year, read and comprehend informational texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range. (RI.2.10)

Literature:
- Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (RL.2.1)
- Describe how characters in a story respond to major events and challenges. (RL.2.3)
- Describe how words and phrases supply rhythm and meaning in a story, poem, or song. (RL.2.4)
- By the end of year, read and comprehend literature, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range. (RL.2.10)

Social Studies
Unit Assessment
Not applicable

Technology/Art/Physical Education
- Use of digital tools to prepare project on polar region
- Drama: Reader’s Theater

Math
- Use and analysis of maps, charts & grids

Science
- Explain how to observe and tell about plants and animals based on how they look, and how they act. 2.A
- Describe how author’s show plants and animals behaving like people and this is not real. 2.B
- Tell about the important parts of plants and animals. 2.C
- Explain that the earth is made up of land, air and water. 3.0
- Talk about land forms and bodies of water on earth. 3.A
- Describe the weather changes between days and across seasons and affects nature and people. 3.B

Unit Assessment:
Content: Vocabulary quiz (Teacher Made)
On Demand task– Gray Wolf – (Reading AtoZ)

Writing
- Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. (W.2.2)
- With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. (W.2.5)
- Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (W.2.7)

Unit Assessment:
Performance task: Select a polar habitat. Using what you learned, tell what you know about that polar habitat. Be sure to include the following: Capitalization and punctuation, complete sentences, include topic sentence, 3 details and a conclusion.

Language
- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (L.2.1)
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (L.2.2)
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies. (L.2.4)
- Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe. (L.2.6)

Speaking & Listening
- Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. (SL.2.1)
- Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (SL.2.2)
**UNIT 4**
**UNIT TITLE:** Polar Environments, Plants and Animals  
**TIME FRAME:** Approximately 5 weeks  

**UNIT DESCRIPTION:**  
This unit focuses on plant and animal life forms found in polar-regions, how they meet their needs and adapt to the changes in their environments. Throughout this unit students will learn how to infer information from text when the author does not make specific statements. They will also learn how to effectively use powerful words in their written text to engage readers.

**STANDARDS:**  
Please see the following attached documents for details of the specific standards addressed by this unit:  
- CCLS ELA  
- NYS Social Studies Framework and NYS Science Standards

**STUDENT UNDERSTANDINGS:**  
Students will know and/or be able to:

<table>
<thead>
<tr>
<th>ELA</th>
<th>Writing</th>
<th>Speaking and Listening</th>
<th>Language</th>
</tr>
</thead>
</table>
| I can tell who, what, where, when, why and how after reading stories. RL.2.1  
I can retell a story. RL.2.2  
I can tell how characters in a story respond to parts in a story. RL.2.3  
I can understand how words in a story can sound like music. RL.2.4  
I can find and understand the beginning, middle and end of a story. RL.2.5  
I can use words and pictures to help me tell about the characters, setting and plot. RL.2.7  
I can Read and Understand Second Grade Fiction RL.2.10 | I can write to persuade. W.2.1  
I can write to teach. W.2.2  
I can write to tell a story. W.2.3  
I can revise and edit my writing. W.2.5  
I can publish my writing. W.2.6  
I can record what I find when reading. W.2.7  
I can work with a partner to research. W.2.7  
I can remember what I have been taught to answer a question. W.2.8 | I can follow rules for discussions. SL.2.1  
I can participate in conversations with others. SL.2.1  
I can ask questions during discussions. SL.2.1  
I can tell about the key ideas and details after I listen or read. SL.2.2  
I can ask and answer a question about what a speaker says. SL.2.3  
I can tell a story aloud. SL.2.4  
I can draw to share what I am reading or have done. SL.2.5  
I can answer questions out loud in complete sentences. SL.2.6 | I can use collective nouns. L.2.1 (a group of people, a pride of lions)  
I can use plural nouns. L.2.1  
I can use adjectives correctly. L.2.1  
I can write complete second grade sentences. L.2.1  
I can join two sentences together (compound sentences.) L.2.1  
I can use commas in greetings and closings of letters. L.2.1 |
I can capitalize proper nouns. L.2.2
I can use spelling patterns when writing words. L.2.2
I can use a dictionary to check and correct spelling. L.2.2
I can write, speak, read and listen by using what I know. L.2.3
I can use dictionaries and glossaries to help me understand new words. L.2.4
I can use my senses to me describe things. L.2.5
I can tell the difference between similar verbs. L.2.5
I can use adjectives to describe nouns. L.2.6

Science
I can explain that the world has many types of plants and animals. 2.0
I can explain how to observe and tell about plants and animals based on how they look, and how they act. 2.A
I can describe how author’s show plants and animals behaving like people and this is not real. 2.B
I can tell about the important parts of plants and animals. 2.C
I can explain that the earth is made up of land, air and water. 3.0
I can talk about land forms and bodies of water on earth. 3.A
I can describe the weather changes between days and across seasons and affects nature and people. 3.B

ESSENTIAL QUESTIONS:
1. What are the different polar environments?
2. What types of plants and animals live in the polar-regions?
3. How do plants and animals meet their needs in a polar environment?
4. How do readers use images to remember information?
5. How do readers revise their images when they learn new information from text?
6. How do organized writers use word choice to make their writing more interesting?

ACADEMIC VOCABULARY:

<table>
<thead>
<tr>
<th>TIER 1 WORDS</th>
<th>ELA</th>
<th>SOCIAL STUDIES</th>
<th>SCIENCE</th>
<th>MATH, TECH’, MISC’</th>
</tr>
</thead>
<tbody>
<tr>
<td>charts and graphs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIER 2 WORDS</th>
<th>ELA</th>
<th>SOCIAL STUDIES</th>
<th>SCIENCE</th>
<th>MATH, TECH’, MISC’</th>
</tr>
</thead>
<tbody>
<tr>
<td>bold, main idea</td>
<td></td>
<td></td>
<td>poles, prey, coast, axis</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIER 3 WORDS</th>
<th>ELA</th>
<th>SOCIAL STUDIES</th>
<th>SCIENCE</th>
<th>MATH, TECH’, MISC’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion, table of contents (contents), heading, fact boxes, maps, diagrams, glossary, italics, captions, labels, index, character traits, adjectives, word choice, inference</td>
<td></td>
<td>Continent, equator, hemisphere, ocean,</td>
<td>Traits, adaptations, environment, habitat, tundra, Arctic, Antarctic, camouflage, predator, food chain, food web, producer, consumer, migrate, permafrost, herbivore, carnivore, omnivore</td>
<td></td>
</tr>
</tbody>
</table>
RESOURCES:

Websites:
- [www.brainpopjr.com](http://www.brainpopjr.com) – continents, Arctic
- Google Earth
- YouTube
- Tundra poetry - sciencepoems.net/sciencepoems/tundra.aspx

Text:

<table>
<thead>
<tr>
<th>LITERATURE</th>
<th>OPINION/INFORMATIONAL</th>
<th>POETRY</th>
<th>OTHER (MAPS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tacky the Penguin</strong></td>
<td>Animals of the Arctic and Antarctic (BB)</td>
<td>In Praise of Penguins</td>
<td>National Geographic Atlases</td>
</tr>
<tr>
<td><strong>Tacky and the Emperor</strong></td>
<td>Polar Habitats</td>
<td>Traveling Wonders</td>
<td>Teacher: Comprehension Connections, Reading with Meaning (2nd ed.)</td>
</tr>
<tr>
<td><strong>Tacky stories</strong></td>
<td>The Top and Bottom of the World</td>
<td>Tundra - sciencepoems.net/sciencepoems/tundra.aspx</td>
<td></td>
</tr>
<tr>
<td><strong>The Three Snowbears</strong></td>
<td>North Pole, South Pole</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amazing Arctic Animals</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ice is Nice</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explore the tundra</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arctic Tundra</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tundra Food Chains</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A Tundra food Chain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tundra Food Webs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>What if There Were No Lemmings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arctic Life (AtoZ)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CROSS-CURRICULA CONNECTIONS:

Art:
- Use of digital tools to prepare project on polar region

Music:
- Drama: Reader’s Theatre

Library/Research:

Physical Education: