



EXPEDITIONARY
LEARNING

Grade 5: Module 3B: Unit 2: Lesson 1

Building Background Knowledge: How Canada's Natural Resources Meet the Needs and Wants of People Today



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (RI.5.1)

I can explain the relationships between two or more individuals, events, ideas, or concepts in a technical text based on specific information in the text. (RI.5.3)

I can read and comprehend informational texts, including history/social studies, science, and technical texts, independently and proficiently. (RI.5.10)

Supporting Learning Targets

- I can explain how natural resources found in Canada meet the needs and wants of people today.
- I can use established criteria to select a text for independent reading.

Ongoing Assessment

- Gist annotations
- Chalk Talk charts
- Independent reading selection



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Engaging the Reader: Natural Resources in Canada (10 minutes) 2. Work Time <ol style="list-style-type: none"> A. Annotating the Gist: Products Made from Mineral, Oil, and Gas Resources (15 minutes) B. Second Read: Creating Resource Webs to Explain How Canada's Natural Resources Meet People's Needs and Wants (20 minutes) C. Independent Reading Selection (10 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief and Review of Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Reread the article "Products of Mining in Canada: From Batteries to Vehicles." B. Complete your Homework: Resource Web 	<ul style="list-style-type: none"> • In this second unit, students shift their focus from learning about how Inuit people of the past used the natural resources available in the Arctic to adapt and meet the needs of their community, to learning about the types of resources currently found in Canada, how they are used to meet the needs and wants of people today, and the ways that resource industries can modify the physical environment. • The first half of the unit focuses solely on the types of natural resources found in Canada and how they are used to develop products that meet the needs of people throughout the Western Hemisphere. The second half of the unit continues to build students' understanding of how people's needs and wants are met through natural resources but adds an additional focus on ways that resource industries can modify (affect, change) the physical environment. • Note that throughout this unit, every effort has been made to locate a variety of texts and images at a fifth-grade level that offer a balanced perspective regarding the use of natural resources as well as the effects of resource extraction. The texts and media intentionally blend information not only about negative effects on surrounding land, air, and water but also ways that resource industries implement reclamation projects aimed at returning areas to their natural condition. • During the Opening, students revisit the guiding questions from Unit 1 to synthesize their learning and share out big ideas. Then, students are introduced to the new guiding questions that will ground their work for the first half of the unit (the third guiding question for this unit will be introduced in Lesson 6). • After reading to determine and annotate the gist of two new informational articles about mineral, oil, and gas resources in Canada, and how they are used to meet people's needs and wants, students work within groups to complete Chalk Talk charts to show and explain how minerals, oil, and gas are used to create products that people want and/or need. Then, students share out ideas from their Chalk Talk charts to help create a new class anchor chart titled Canada's Natural Resources. Students will refer to this anchor chart and add to it throughout the unit to help them "see" the multiple ways in which natural resources are used to meet people's daily needs and wants. • During the final part of Work Time, students use the Criteria for Selecting Texts anchor chart from Unit 1 to help them choose a new independent reading text. • In advance: <ul style="list-style-type: none"> – Add the first two Unit 2 guiding questions to the Guiding Questions anchor chart from Unit 1 (see Unit 2 Overview as well as the Opening of this lesson).



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">– Prepare technology for students to explore the “Products” website found at http://www.oilandgasinfo.ca/oil-gas-you/products/ or for you to display this website for students to read with you.– Review the Popcorn Read protocol and Thumb-o-Meter in Checking for Understanding techniques (Appendix 1).– Create a new anchor chart: Big Ideas.– Preview Glossary of Terms: Teacher Resource in “Preparation and Materials” from the Unit 2 Overview to support students’ understanding of the topics addressed in this unit.– Create a new anchor chart titled Canada’s Natural Resources (see blank example in supporting materials and the complete teacher resource in Unit 2 Overview).– Create one Chalk Talk chart for each group (see example in supporting materials).– Have a variety of independent reading texts for students to choose from.– Determine whether you will have students remain in their same groups from Unit 1 or whether you will assign students to new groups of four; display groups, for student reference.– Post: Learning targets; anchor charts from Unit 1: Guiding Questions, Natural Environment, Group Norms, Vocabulary Strategies, Criteria for Selecting Texts.



Lesson Vocabulary	Materials
available, resources, needs, wants, integrate, media, build, knowledge, explain, criteria, select; provide, essential, products, consumer goods, infrastructure, central role	<ul style="list-style-type: none">• Guiding Questions anchor chart (from Unit 1, Lesson 1)• Big Ideas anchor chart (new; teacher-created)• Natural Environment anchor chart (from Unit 1, Lesson 2)• Document camera• Oil and Gas map (one to display)• Glossary of Terms: Teacher Resource (see Unit 2 Overview, "Preparation and Materials")• Minerals map (one to display)• Group Norms anchor chart (from Unit 1, Lesson 1)• "Products of Mining in Canada: From Batteries to Vehicles" (one per student)• "Products" website and technology to display it (found at http://www.oilandgasinfo.ca/oil-gas-you/products/)• Vocabulary Strategies anchor chart (from Unit 1, Lesson 2)• Chalk Talk chart (one per group; teacher-created)• Chalk Talk task card (one per group)• Canada's Natural Resources anchor chart (new; teacher-created)• Criteria for Selecting Texts anchor chart (from Unit 1, Lesson 1)• Homework: Resource Web (one per student)



Opening	Meeting Students' Needs
<p>A. Engaging the Reader: Natural Resources in Canada (10 minutes)</p> <ul style="list-style-type: none">• Congratulate the class on completing the first unit of this module, during which they learned about how the native Inuit people of the past used animal, plant, and land resources to adapt to the harsh Arctic environment and to meet the needs of their community.• Focus students' attention on the Guiding Questions anchor chart and read the Unit 1 guiding questions aloud:<ul style="list-style-type: none">* "How do people adapt to their environment and use the resources that are available to meet their needs?"* "How do the ideas conveyed through informational texts help us understand complex relationships?"• Then, direct students to the new Big Ideas anchor chart and ask them to think about and discuss with nearby peers:<ul style="list-style-type: none">* What do you think were the big ideas of Unit 1?"• After 1 or 2 minutes, invite a few students to share their thinking aloud. Listen for suggestions such as:<ul style="list-style-type: none">* "The Inuit people adapted to their environment and used natural resources such as animals, plants and stone to meet the needs of their community; they used natural resources to build homes, make clothing and tools.* "The ideas conveyed through features found in informational texts such as images, captions, italicized font, and section titles texts can help us understand complex relationships."• Record a synthesis of students' ideas on the Big Ideas anchor chart.• Point out and ask students to chorally read the new Unit 2 guiding questions on the Guiding Questions anchor chart:<ul style="list-style-type: none">* "How are Canada's available resources used to meet people's needs and wants today?"* "How can I integrate information from a variety of texts and media to build knowledge about a topic?"• Underline the words <i>available</i>, <i>resources</i>, <i>needs</i>, <i>wants</i>, <i>integrate</i>, <i>media</i>, <i>build</i>, and <i>knowledge</i>.• Ask students to think about and discuss with a partner what they think these terms mean, based on context and previous understandings of familiar terms.• After 2 or 3 minutes, cold call a few students to share their thinking with the class. Listen for ideas such as:<ul style="list-style-type: none">– "<i>Available</i> means something you can get; it exists and is obtainable."– "<i>Resources</i> are supplies—things people need or want to use."– "<i>Needs</i> are what people need to survive; they are requirements."	<ul style="list-style-type: none">• Provide sentence starters to support students who have difficulty expressing their ideas orally.• Locate and display pictorial representations of key terms from the guiding questions to support ELLs and visual learners.



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> – “<i>Wants</i> are things that people wish for and would like to have.” – “<i>Integrate</i> means to combine, put together.” – “<i>Media</i> refers to the different ways we get information, such as articles, videos, images, and maps.” – “<i>Build</i> in this context means to develop.” – “<i>Knowledge</i> means information, facts.” • If students are not able to define the meaning of these words, define for them. • Ask students to think about the meaning of key terms, review the Unit 2 guiding questions, and then discuss with nearby classmates: <ul style="list-style-type: none"> * “What do you think we will learn about in this unit?” • After 1 or 2 minutes, invite a few students to share out whole group. • Bring students' attention to the Natural Environment anchor chart from Unit 1. Then say something like: “In Unit 1, we learned about the animal, plant, and land resources the native Inuit used to meet their needs and adapt to life in the Arctic. In this unit, we are going to focus on the natural resources that are currently found in Canada and how they are used to meet the needs and wants of people in Canada as well as the United States today.” • Using a document camera, display the Oil and Gas map. Ask students to review the map and then share with a partner what they notice and wonder. • After 2 or 3 minutes, cold call students to share their thinking with the class. Listen for: <ul style="list-style-type: none"> – “I notice there are images that represent oil and gas found in Canada.” – “I wonder how oil and gas are used to meet people's needs.” • Ask students to consider and then share what they think the definitions of “oil” and “gas” are (see Glossary of Terms: Teacher Resource to reinforce students' definitions and/or clarify any misconceptions that students may have; i.e. students may think that “gas” is the same as gasoline). • Next, display the Minerals map and ask students to review and share with a nearby peer what they notice and wonder. 	



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 2 or 3 minutes, cold call students to share their thinking aloud. Listen for ideas such as:<ul style="list-style-type: none">– “I notice a lot of different kinds of minerals.”– “I notice minerals are found all over Canada.”– “I wonder what these minerals are used for, and how they meet people’s needs and wants.”• Invite students to share out a definition for the word “minerals” (again refer to Glossary of Terms: Teacher Resource).• Draw students’ attention back to the Natural Environment anchor chart and point to “land.” Tell students that during the next part of Work Time, they will read to learn about how minerals, gas, and oil found in areas of Canada are used to meet the needs and wants of people today.• Draw two arrows from “land” on the Natural Environment anchor chart. Write and circle “minerals” below one arrow and “oil and gas” below the other arrow.	



Work Time (continued)	Meeting Students' Needs
<p>A. Annotating the Gist: Products Made from Mineral, Oil, and Gas Resources (15 minutes)</p> <ul style="list-style-type: none"> • Display student groups and then ask students to join group members. Review and refer students to the Group Norms anchor chart as necessary to remind them of the criteria for successful collaborative work. • Distribute the article “Products of Mining in Canada: From Batteries to Vehicles.” • Ask students to skim the texts and notice the bolded words: <i>provide</i>, <i>essential</i>, <i>products</i>, <i>consumer goods</i>, <i>infrastructure</i>, and <i>central role</i>. • Tell students that as they read for the gist, they should try to determine the meaning of bolded words and phrases, from context, to help them determine what these passages are mostly about. Remind students to refer to the Vocabulary Strategies anchor chart as needed. • Instruct students to follow along silently as you read aloud the article, “Products of Mining in Canada: From Batteries to Vehicles.” Read the first paragraph, then pause and ask students to think about the gist, briefly discuss it in groups, and then write the gist of the first paragraph in the margin. • Continue with the chart in this text; read the name of each product and the minerals it is made from. Ask students to consider the text and key words, discuss the gist of the chart, and record the gist in the margin of the article. • Cold call a few students to share out the meaning of key words and the gist statements they wrote. Listen for suggestions such as: <ul style="list-style-type: none"> – “<i>Provide</i> means to supply, make available, or offer.” – “<i>Essential</i> means things people need—these things are necessary and important.” – “<i>Products</i> are things that are made, goods.” – “<i>Consumer goods</i> are things that people buy.” – “<i>Infrastructure</i> means highways, roads, communications, and housing.” – “The gist of the first paragraph is that minerals are used to make products that are essential to people, things that people need.” – “The gist of the chart is that it takes a lot of different minerals to make the things people want or need—for example, homes, batteries, circuits, fertilizer, and glasses.” • Next, either display or invite students to read the first page of the “Products” website on their internet technology. Ask them to follow along silently as you read the page aloud. 	<ul style="list-style-type: none"> • Allow students who struggle with writing to dictate their gist statements to an adult or peer who can scribe for them. • Allow students who struggle with language to create pictorial representations for the gist, in the margin of their articles. • Provide sentence starters to support students during group discussions: “The gist of this section of the text is _____,” and “Mineral, oil, and gas resources meet people’s needs because _____.” • Consider rereading challenging passages from the text to support students who have difficulty processing oral information.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Ask students to think about the gist and discuss it in groups.• Select students to share the gist. Listen for students to explain that the gist is that lots of products, including things we use around the house are made from oil and gas.• Go through and read each of the pages linked in the list of categories on the right side of the page. Invite students to discuss the gist of each one in their groups.• Ask students to discuss in groups:<ul style="list-style-type: none">* "How do mineral, oil, and gas resources found in Canada meet people's needs today?"• After 1 or 2 minutes, cold call a few groups to share out with the class (answers will vary, but listen for students to mention that land resources such as minerals, oil, and gas are used to make products that people depend on).• Explain to students that during the next part of Work Time, they will participate in group Chalk Talks to further build their understanding of how Canada's mineral, oil, and gas resources are used to make products that meet people's needs and wants.	



Work Time (continued)	Meeting Students' Needs
<p>B. Second Read: Creating Resource Webs to Explain How Canada's Natural Resources Meet People's Needs and Wants (20 minutes)</p> <ul style="list-style-type: none"> Ask students to read the first learning target aloud with you: <ul style="list-style-type: none"> * "I can explain how natural resources found in Canada meet the needs and wants of people today." Underline the key words from the target students are familiar with from the Opening and previous units: <i>explain, natural resources, needs, and wants</i>. Ask students to think about what each term means and then discuss with group members what they think they will be learning about during this part of Work Time. After 1 minute, cold call a few students to share their thinking with the class. Distribute a Chalk Talk chart and a Chalk Talk task card to each group. Review the chart prompts and task card directions with students and answer any clarifying questions. When students are ready, ask them to begin. Circulate to offer guidance. After 10–12 minutes, or when most students have completed their charts, pause students in their work and ask them to consider and discuss in groups: <ul style="list-style-type: none"> * "Based on the sketches and information you recorded in each square of your charts, in what ways do you think Canada's natural resources meet people's needs and wants?" After 2 minutes, cold call a few groups to share their thinking with the class. Listen for: <ul style="list-style-type: none"> – "Minerals, oil, and gas are used to make things that people use every day, such as clothing, housing, glasses, sports equipment, and other items." – "The minerals, oil, and gas found in Canada are used to make essential products such as medicine, shelter, and roads." Ask students to review their charts and consider ideas shared out by their peers. Then they should discuss with group members how they could write a statement at the bottom of their charts to explain how natural resources in Canada are used to meet the needs and wants of people today. Display the new Canada's Natural Resources anchor chart. Point out that this chart is very similar to the resource webs students created in Unit 1 about seals, caribou, walruses, wood, and stone. Review the Popcorn Read protocol with students and clarify as needed. Point out the circle "Minerals" and then focus students on the square "Products made from minerals." Explain to students that they will refer to the Chalk Talk charts they completed in groups to "popcorn" share information that could be added to this square. Cold call one student to begin the popcorn, and add students' ideas to the anchor chart (listen for students to share the names of items from the minerals article, such as batteries, musical instruments, etc.). 	<ul style="list-style-type: none"> Locate and display pictorial representations of key terms from the targets to support ELLs and visual learners. Consider working with a small group of struggling learners to offer additional support with completing the Chalk Talk chart. For students who have difficulty following multistep directions, consider asking them to highlight and complete one step of the task card at a time. Provide sentence frames to allow all students access to the conversation. Example: "Minerals are used to make _____, so they meet people's need for _____."



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> Ask students to refer to the products now listed on the Canada's Natural Resources anchor chart and discuss in groups: <ul style="list-style-type: none"> * "Based on the number and types of products made from minerals, what can you infer about how minerals meet people's needs and wants?" After 1 or 2 minutes, cold call a few groups to share out. Listen for suggestions such as: <ul style="list-style-type: none"> – "Minerals are used to make products that entertain people and provide things they need, such as shelter and roads." Record a strong example or synthesis of students' thinking in the box "How minerals meet people's needs and wants." Repeat the above steps for the oil and gas sections of the anchor chart. Listen for students to share specific examples of products made from oil and gas that are mentioned on the "Products" website (e.g., sports equipment, vehicle parts) and to make an inference such as: <ul style="list-style-type: none"> – "Oil and gas is used for many everyday needs and wants such as clothing, transportation, and entertainment." Explain to students that as they closely read and view a variety of media and texts about how Canada's natural resources meet the needs and wants of people today, they will continue to add to this resource chart to build their understanding of the relationship between people's needs and wants and the resources that are currently available in Canada. 	
<p>C. Independent Reading Selection (10 minutes)</p> <ul style="list-style-type: none"> Tell students that today they will choose a new independent reading book to read for homework throughout this second unit. Read the second learning target aloud: <ul style="list-style-type: none"> * "I can use established criteria to select a text for independent reading." Remind students that to become better readers and writers, they should read a variety of books—and that the more students read, the more they are able to learn about their world. Display the Criteria for Selecting Texts anchor chart. Remind students this is the same criteria they used in Module 2B to self-select appropriate texts for independent reading (review criteria as needed). Give students 7 or 8 minutes to choose a book. If any students are unable to choose a book in the time allotted, find other times during the day for them to review the independent reading choices and select a text. 	<ul style="list-style-type: none"> For struggling readers who may have trouble selecting appropriate texts based on multiple criteria, consider asking them to choose one criterion from the anchor chart to focus on as they make their selection. If some students are not able to choose a text in the time given, consider finding time later in the day for them to select a text.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief and Review of Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Focus students' attention whole group. Ask students to consider and discuss with a partner who is not a member of their regular group:<ul style="list-style-type: none">* "How did the various types of media, including maps, images, charts and text, help you understand how Canada's natural resources meet the needs and wants of people today?"• After 1 or 2 minutes, invite a few students to share out. Answers will vary, but listen for students to refer to specific features of the maps, images of minerals, bulleted lists, charts, highlighted, and/or small chunks of text and how these features supported their understanding of the ideas presented.• Ask students to read the learning targets aloud with you and pause after each to show their level of mastery using a Thumb-O-Meter.• Distribute Homework: Resource Web and read the directions with students. Answer any clarifying questions.	<ul style="list-style-type: none">• Provide sentence starters or frames to support student discussions.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread the article "Products of Mining in Canada: From Batteries to Vehicles."• Complete your Homework: Resource Web.	<ul style="list-style-type: none">• Consider providing struggling readers with a partially completed resource web.• Allow struggling writers to dictate their ideas to someone at home to scribe for them.• Consider providing an audio recording of the articles.



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Supporting Materials

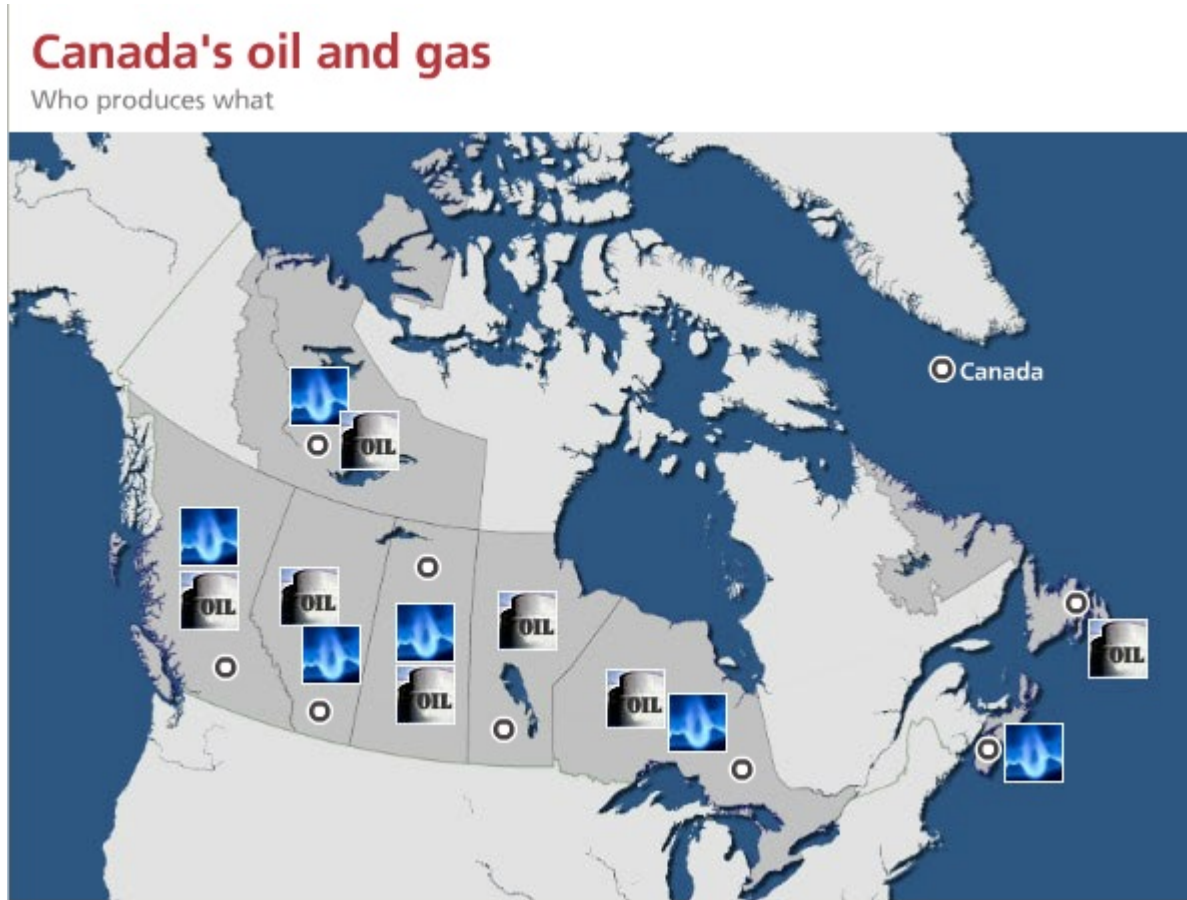


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Oil and Gas Map



Used with permission: Canadian Broadcasting Corporation(CBC)



Minerals Map











Products of Mining in Canada: From Batteries to Vehicles

Did you know? Mining products **provides** many of the **essential** items that we use every day. The **products** of mining provide not only many of the **consumer goods** we use, but also much of the **infrastructure** that we rely on daily—highways, electrical and communications networks, and housing, to name a few. It's difficult to imagine a world without them! Check out the following examples of mining products in action:

	Batteries – cadmium, lithium, nickel, and cobalt		Musical instruments – copper, silver, steel, nickel, brass, cobalt, copper, iron, and aluminum
	Circuitry – gold, copper, aluminum, steel, silver, lead, and zinc		Sports equipment – graphite, aluminum, and titanium
	Computer and television screens – silicon, boron, lead, phosphorus, and indium		Sun protection and medical ointments – zinc
	Cosmetics and jewelry – gold, diamonds, iron oxide, zinc, and titanium dioxide		Surgical instruments – stainless steel



Products of Mining in Canada: From Batteries to Vehicles

	Electricity – coal and uranium		Vehicles and tires – steel, copper, zinc, barium, graphite, sulphur, and iodine
	Eyeglasses – limestone, feldspar, and soda ash		Housing construction – gypsum, clay, limestone, sand, and gravel
	Fertilizer – phosphate, nitrogen, sulphur, and potash		Hybrid car components – rare earth elements such as dysprosium, lanthanum, neodymium, and samarium



Chalk Talk Chart

(Example, for Teacher Reference)

Guiding Question: How are Canada's available resources used to meet people's needs and wants today?

Sketch and list 5 examples of products made from minerals.	Sketch and list 5 examples of products made from oil and gas.
Synthesize: Write a statement to explain how products made from minerals meet people's needs and wants.	Synthesize: Write a statement to explain how products made from oil and gas/petroleum meet people's needs and wants.

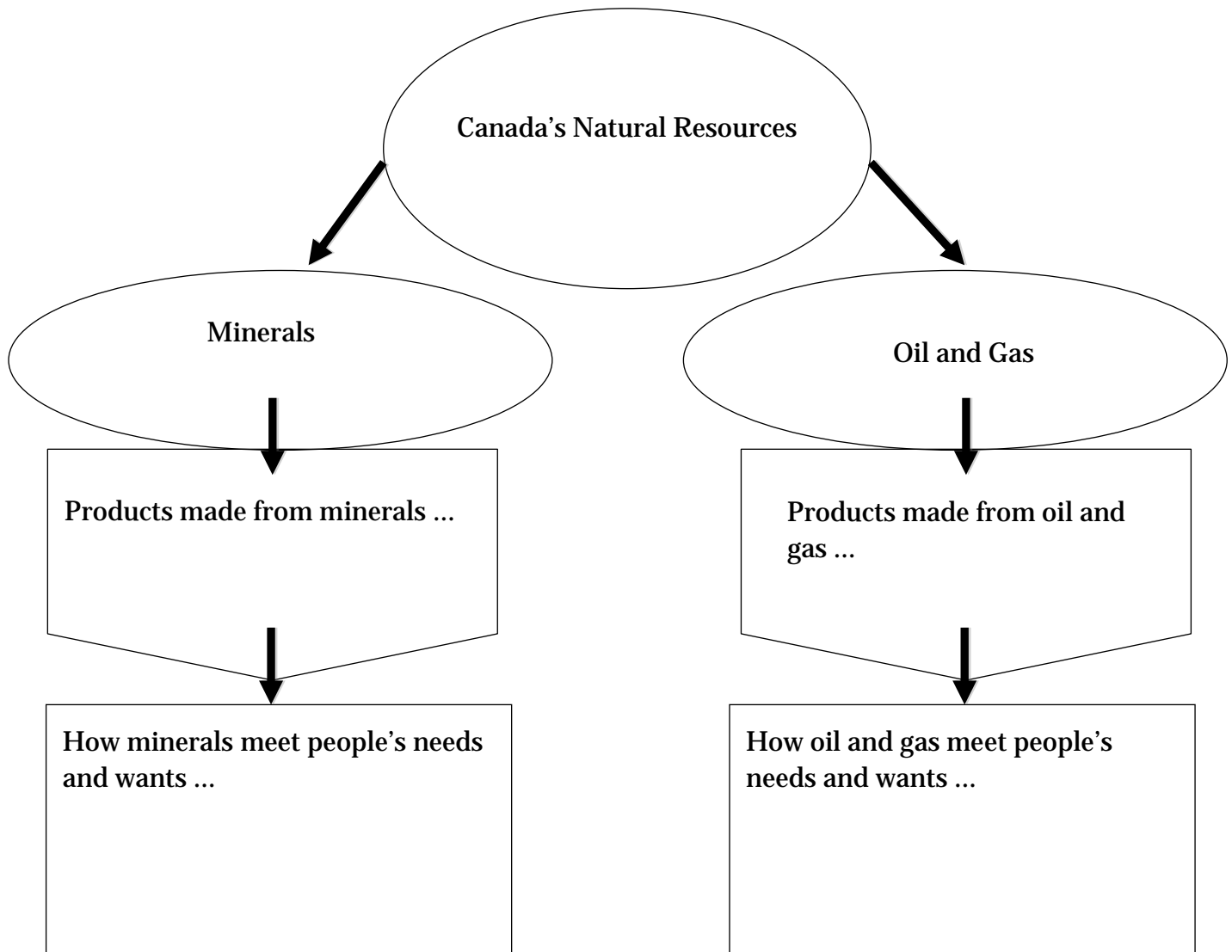


Chalk Talk Task Card

1. With group members, refer to the article “Products of Mining in Canada: From Batteries to Vehicles” to locate and circle 5–10 examples of products made from minerals.
2. Focus on the upper-left square, **“Sketch and list 5–10 examples of products made from minerals.”** Work with group members to draw a quick sketch of each product you located and circled, and then write the name of each product next to each sketch in this square.
3. Focus on the lower-left square, **“Synthesize: Write a statement to explain how products made from minerals meet people’s needs and wants.”** Review the product sketches and names you added to your chart, and then work collaboratively with group members to write one to two sentences that explain how products made from minerals meet people’s needs and wants.
4. With group members, refer to the article “Products” to locate and circle 5–10 examples of products made from oil and gas.
5. Focus on the upper-right square, **“Sketch and list 5-10 examples of products made from oil and gas.”** Work with group members to draw a quick sketch of each product you located and circled, and then write the name of each product next to each sketch in this square.
6. Focus on the lower-right square, **“Synthesize: Write a statement to explain how products made from oil and gas meet people’s needs and wants.”** Review the product sketches and names you added to the oil and gas square of your chart, and then work collaboratively with group members to write one to two sentences that explain how products made from oil and gas meet people’s needs and wants.
7. After completing each square, discuss in groups: How are Canada’s natural resources used to meet the needs and wants of people today? Be prepared to share your thinking with the class.



Canada's Natural Resources Anchor Chart
(Blank Example, for Teacher Reference)





Criteria for Selecting Texts Anchor Chart

- The book interests me.
- I can make connections between this book and other texts read, topics explored, or experiences I have had.
- I know many, but not all of the words in the book.
- The book contains some text or images I don't understand, but I am able to get a sense of what the book is mostly about.



Homework:
Resource Web

- Reread the text(s) to locate information that helps you complete the web.
- Record the names of at least two products made from minerals in the box “Products made from minerals.” Then write a short sentence to explain how minerals meet people’s needs and wants.
- Record the names of at least two products made from oil and gas in the box “Products made from oil and gas.” Then write a short sentence to explain how oil and gas meet people’s needs and wants.

