THE IMPACT OF ECONOMIC DEVELOPMENT ON RUSSIA'S ARCTIC REGIONS: OPPORTUNITIES AND CHALLENGES

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Grade Level: 7th

Purpose/Overview:
Russia has been building settlements in its far northern regions since the 1500s to mine Arctic resources. However, global climate change has ushered in an era unprecedented in modern history. The thawing of Arctic ice and permafrost has created both economic opportunities and serious challenges for Russia. The purpose of this lesson is to help students understand the impact of Russia's economic development on the Arctic region. Through exploration and analysis of primary and secondary sources of visual information, and printed and digital texts, students will discover and be able to summarize why the changing Arctic has become an important economic region for development, the opportunities and challenges that face Russia, as well as her neighboring countries in the Arctic, and how what happens in the Russian Arctic affects the rest of the global community.

National Geography Standards from *Geography for Life* Geographic Elements & Standards:
The World in Spatial Terms –
1. How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information. Human Systems –
13. How the forces of cooperation and conflict among people influence the division and control of Earth's surface.

Oklahoma Academic Standards for the Social Studies: Grade 7 World Geography: Eastern Hemisphere

OAS 2012	OAS 2019
Process and Literacy Skills Standard 2 The student will develop and demonstrate Common Core Social Studies writing literacy skills.	**Engage in Evidence-Based Writing** Students will apply effective communication skills by developing a variety of evidence-based written products designed for multiple purposes and tasks, in order to demonstrate their understandings of social studies concepts, ideas, and content.
B.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	**5.A.6-8.4** Write independently over extended periods of time and for shorter time frames, varying modes of expression to suit audience, purpose, and task and/or to analyze different perspectives.

B.9 Draw evidence from informational texts to support analysis, reflection, and research.	**5.A.6-8.2** Compose informative essays and other written products about social studies topics, incorporating evidence (e.g. facts, examples, details) from multiple sources, maintaining an organized, formal structure.
Content Standard 1 The student will analyze data from a geographic perspective using the skills and tools of geography.	**7.1** The student will analyze data from a geographic perspective using the skills and tools of geography.
1.1 Cite specific geographic information to support analysis from primary and secondary sources located in texts, documents, newspapers, magazines, journals, political cartoons, and online news sources.	**7.1.1** Integrate specific geographic information to support analysis from primary and secondary sources located in texts, documents, newspapers, magazines, journals, political cartoons, and online news sources.
1.2 Integrate visual information, draw conclusions, and make predictions from geographic data and analyze spatial distribution and patterns by interpreting that data as displayed on globes, graphs, charts, satellite and other forms of visual imagery including data from bar and line graphs, pie charts, thematic maps, population pyramids, climographs, cartograms, contour/relief maps, GIS systems, and diagrams.	**7.1.5** Integrate visual information, draw conclusions and make predictions from geographic data and analyze spatial distribution and patterns by interpreting that data as displayed on geographic tools.
1.3 Apply the concept of scale, distance, direction, relative location, absolute location, and latitude and longitude.	**7.1.2** Apply the concepts of scale, distance, direction, relative location, absolute location, and latitude and longitude.
1.4 Integrate visual information and apply the skill of mental mapping of the political and physical features of Earth's surface and to organize information about people, places, and environments.	**7.1.4** Integrate visual information and apply the skill of mental mapping of the political and physical features of Earth's surface in order to organize information about people, places and environments.
Content Standard 5 The student will analyze the interactions of humans and their environment in the Eastern Hemisphere.	**7.4** The student will analyze the interactions of humans and their environment in the Eastern Hemisphere.
5.3 Integrate visual information to analyze regional problems and policies having spatial dimensions in the Eastern Hemisphere.	**2.B.6-8.1** Draw upon gathered information to analyze how a specific problem can manifest itself in local, regional, and global levels over time, evaluating options for individual and collective solutions.

Geographic Themes:
Human-Environment Interaction, Region.

Objectives:

1. Students will analyze primary and secondary sources of visual information, as well as printed and digital texts, to discover the impact of Russia's economic development on the Arctic region, neighboring countries, and the global community.

2. Students will write short essays summarizing their findings.

Materials:
Computer, LCD projector (or equivalent), and Internet access
PowerPoint -- *The Impact of Economic Development on Russia's Arctic Regions: Opportunities & Challenges*

Copies for each student of the following (from **Teacher Resources**):
Russia's Arctic Development by Vlad M. Kaczynski
Arctic Region Political Map
Arctic Region Physical Map
(Note: **All maps are best viewed as color copies**.)

Copies for each student of the following Note-Taking Guides (**provided below**) for:
Russia's Arctic Development article
Russia's Arctic Ambitions video clip 1
Cold War on the Arctic video clip 2
North Pole Holiday Expedition on the Nuclear Icebreaker Yamal video clip 3

yellow highlighters and pencils for each student blank
notebook paper for note-taking (if needed)

Time Frame: Four to five 60-minute class periods (more for **Extension** activities)

Procedures:
Day 1 – Maps & Written Article
Pass out copies of Arctic Political Map, Arctic Physical Map, the article *Russia's Arctic Development*, Note-Taking Guide for *Russia's Arctic Development*, and yellow highlighters to each student. Make sure students also have pencils for recording answers.

Tell students that Russia has been building settlements in its far northern regions since the 1500s to mine Arctic resources. However, global climate change has ushered in an era unprecedented in modern history. The thawing of Arctic ice and permafrost has created both *economic* opportunities and serious challenges for Russia. Tell students that the purpose of this lesson is to help them understand the impact of Russia's economic development on the Arctic region, her neighboring Arctic countries, and how what happens in the Russian Arctic affects the rest of the global community.

Show the first part **(DAY 1)** of the PowerPoint *The Impact of Economic Development on Russia's Arctic Regions: Opportunities & Challenges* to students. (Save DAY 2 for the next day's activities with the video clips.)

Divide students into groups of 4-5. Tell them to look at both the physical map and the political map of the Arctic region for several minutes and discuss in their group what they observe (e.g., Russia has the longest coast line of any country in the area, the location of North Pole, Canada has lots of inlets, how close Alaska is to Russia). Guide them to gain a spatial understanding that they are "looking down" at

this region from the "top" of the world. Discuss briefly their observations, and answer any questions they may have. (This will help give the students a frame of reference when reading the article.)

Next, tell them that *we* are going to read aloud together an article entitled *Russia's Arctic Development* by Viad M. Kaczynski in The REECAS (Russian, Eastern European, and Central Asian Studies) Winter 2011 Newsletter from the Jackson School of International Studies at the University of Washington (Washington State). Tell them that, as we read the article aloud together, they will use their yellow highlighters to mark information that they feel is important to remember. Explain to students that, many times in doing research for information, they may encounter an article that may be somewhat difficult to read. Going through the article step-by-step, and marking appropriate information with a highlighter, can help them uncover and understand information better.

When the reading is complete, tell students to use their *RUSSIA'S ARCTIC DEVELOMENT* NOTETAKING GUIDE to determine what would be considered *opportunities* and what would be considered *challenges* to Russia in her economic development of the Arctic region. (Example: Development of the Northern Sea Route. This could be both opportunity and challenge, so this could be recorded under both columns.) Allow students to work together to discuss and fill in the sheet. Assist when needed. At end of class period, discuss together as a whole class. Tell students they will use their note-taking guides to assist in a later writing assignment.

Students will need to keep all materials they have received in a notebook or safe place to use the next day, and later with the written assignment. Tell them all Note-Taking Guides will be turned in at the end of study for a grade, together with the final written assignment.

Day 2 – Video Clips

Pass out copies of Note-Taking Guides for the three YouTube video clips:
video clip 1: *Russia's Arctic Ambitions* video clip 2: *Cold War on the Arctic* video clip 3: *North Pole Holiday Expedition on the Nuclear Icebreaker Yamal* Students will also need pencils to record their answers.

Divide students into groups of 4-5. Tell students that they will see three short video clips that will provide more information about the impact economic development is having (both opportunities and challenges) on Russia's Arctic region. They will use their Note-Taking Guides to help them observe the visual information, and think about what they discover. Remind them the Note-Taking Guides will be needed in writing a short essay assignment at the end, and that Guides will be turned in for grading at that time.

Present the second part **(Day 2)** of the PowerPoint to students. Stop after each short video clip to discuss and help students record information on their Note-Taking Guide. If needed, play video clip a second time. Assist and model where needed. The goal is to help students be observant, locate, and think about information.

Remind students to place their Note-Taking Guides in a safe place, and bring everything to class again the next day.

Day 3 - Synthesize, Review, and Revise Information/Note-Taking Guides

Divide students into their groups of 4-5. Tell them to get ALL their maps and Note-Taking Guides out. Tell them they have 20 minutes to share and discuss with each other what they learned and recorded the past two days. They can help each other if needed, and can add to, or revise, any information on their Guides.

Next, share and discuss as a whole class what they have learned about how and why the changing Arctic has become an important economic region for development, and the opportunities and challenges faced by Russia, as well as her neighboring countries in the Arctic, and how what happens there impacts the rest of the global community. Allow students to continue to take notes and revise or add information to their Note-Taking Guides as needed.

Tell them that the next day they will receive their written assignments. Remind students to place their maps, article, and Note-Taking Guides in a safe place and bring everything to class the next day.

Day 4 – Written Assignment
Give the written assignment below to students. Use this class period for students to begin organizing and drafting their Summary Essay. Encourage them to make use of their Note-Taking Guides and to address both opportunities and challenges in their essay clearly and adequately. (Note: This can be done in class on Day 4 & 5, or sent home as an out-of-class assignment as teacher desires.)

Day 5 – (use Day 5 to continue and complete work on Written Assignment if needed)

Written Assignment:
Write a Summary Essay: Using the primary and secondary sources of visual information, maps, printed digital text article, video clips, and all Note-Taking Guides, from which students identified information, analyzed, evaluated, drew conclusions, and generated discussions and notes, students will write a short essay summarizing what they have learned about (1) why the changing Arctic has become an important economic region for development, and (2) the opportunities and challenges that face Russia, as well as her neighboring countries in the Arctic, and (3) how what happens in this Arctic region affects the rest of the global community. Student should be sure their statements are supported with accurate information, examples, and evidence.

Assessment Options:

1. Informal Assessment: Teacher observation of student participation in group and whole-class discussions, individual and group note taking on Note-Taking Guides.

2. Formal Assessment: Written Summary Essay assignment. The essay should be evaluated on (1) whether or not student has followed directions, (2) how clearly and thoroughly the student demonstrated an understanding of why the changing Arctic has become an important region for economic development, the opportunities and challenges that face Russia and her neighbors in the Arctic, and how what happens in this Arctic region affects the rest of the global community, and (3) how well the student supported his/her statements with accurate information, examples, and evidence.

Teacher Resources:

PowerPoint-- *The Impact of Economic Development on Russia's Arctic Regions: Opportunities & Challenges*

Russia's Arctic Development by Viad M. Kaczynski, The REECAS (Russian, Eastern European, and Central Asian Studies) Newsletter, Winter 2011, Jackson School of International Studies, University of Washington:
http://depts.washington.edu/jsishelp/ellison/2011/winter/Kaczynski

Maps from CIA The World Factbook References Regional and World Maps:
https://www.cia.gov/library/publications/the-world-factbook/docs/refmaps.html

Political Arctic Region Map
Physical Arctic Region Map

Russia's Arctic Ambitions video clip 1 -- STRATFOR Video, published September 18, 2013, by Stratfor Global Intelligence, a geopolitical intelligence and advisory firm which helps clients "identify opportunities, make strategic decisions, and manage risk." http://youtu.be/Q1Ij2ISC_uU?t=10s (3:35)

Russia's Cold War on the Arctic video clip 2 -- Fora TV, uploaded December 7, 2009, excerpts from a panel discussion on Arctic Security, November 21, 2009, FORATV, Halifax International Security Forum, Halifax, Nova Scotia. Speaking will be: Espen Barth Eide, State Secretary, Ministry of Defense, Norway; Walter Natynczyk, Chief of Defense Staff, Canada; Victor E. Renuart, Jr., Commander, North America Aerospace Defense Command; and Stephen M. Carmel, Senior Vice President Maritime Services, Maersk Line, Ltd.
http://youtu.be/Rf1VIhcVFeM (3:41)

North Pole Holiday Expedition on the Nuclear Icebreaker Yamal video clip 3 -- ukpete 2006, uploaded February 10, 2008, a tourist expedition on a Russian icebreaker to the North Pole in 2001. Yamal was named after a peninsula in Siberia. Yamal means "end of the land".
http://youtu.be/x1XMZTzELaE (4:29)

Note-Taking Guides (**provided below**) for: *Russia's Arctic Development* article
Russia's Arctic Ambitions video clip 1
Cold War on the Arctic video clip 2
North Pole Holiday Expedition on the Nuclear Icebreaker Yamal video clip 3

Additional Resources:
Alexey Miller: Gazprom has pioneered the Russian Arctic shelf development (A December 20, 2013, release from Gazprom, a Russian/Global Energy Company who is the only producer and exporter of liquefied natural gas in Russia.)

http://www.gazprom.com/press/news/2013/december/article181251/

Maritime Industry Records Increasing Demand for Icebreakers (An April 5, 2013, post on the *World Maritime New* website.)
http://worldmaritimenews.com/archives/80857/maritime-industry-records-increasing-demandfor-icebreakers/

Russia's Arctic Icebreaker Splits Opinion (An April 13, 2011, post on the CNN website about the Yamal, one of Russia's biggest, most powerful icebreakers. Also contains an **EXCELLENT** video story of the Yamal in the Arctic.)
http://www.cnn.com/2011/BUSINESS/04/13/arctic.ice.breaker.nuclear/

Yamal Icebreaker **(Interesting facts about the Yamal)**
http://en.wikipedia.org/wiki/Yamal_(icebreaker)

A Strategy to Advance the Arctic Economy (Posted on the Council on Foreign Relations website, date unknown, by author Captain Melissa Bert, USCG, 2011-2012 Military Fellow, U.S. Coast Guard. The author addresses the need for the United States to develop a comprehensive strategy for the Arctic.)
http://www.cfr.org/arctic/strategy-advance-arctic-economy/p27258

Arctic Research Coordination Network: Building a Research Network for Promoting Arctic Urban Sustainability (Posted on The George Washington University Institute for European, Russian, and Eurasian Studies website, date unknown. Interesting article about the development of Russia's Arctic urban environment.)
http://www.gwu.edu/~ieresgwu/programs/development_russia_arctic.cfm

Extensions:
Note: The Links provided in **Additional Resources** can be used for extended background information, or to extend or enrich this unit of study with additional topics as needed.

Name:_____

RUSSIA'S ARCTIC DEVELOPMENT
NOTE-TAKING GUIDE

From your reading and highlighted information of the article *Russia's Arctic Development*, list what you would consider Russia's opportunities and challenges in her economic development of the Arctic region.

OPPORTUNITIES **CHALLENGES**

Name:_____

RUSSIA'S ARCTIC AMBITIONS **(Video Clip 1)**

NOTE-TAKING GUIDE

(Use the back of paper if needed)

1. Why is Russia interested in its Arctic Region? (Give as many specific examples/reasons as you can.)

2. What does Russia want to use the Arctic for? (Give specific examples.)

3. What barriers does Russia face regarding its economic development of the Arctic?

4. How does Russia's development of the Arctic region affect other countries (both her neighbors and other countries around the globe)? Give specific answers with examples.

Name:_____

***COLD WAR ON THE ARCTIC* (Video Clip 2)**
NOTE-TAKING GUIDE
(Use the back of paper if needed)

What information does each panel member provide concerning Russia's presence in the Arctic Region?

1. Espen Barth Eide, State Secretary, Ministry of Defense, Norway:

2. Walter Natynczyk, Chief of Defense Staff, Canada:

3. Victor E. Renuart, Jr., Commander, North American Aerospace Defense Command:

4. Stephen M. Carmel, Senior Vice President Maritime Services, Maersk Line, Ltd.:

5. Why do you think the speakers and their countries are interested in or concerned about what Russia does in the Arctic? Be clear and give specific examples in your response.

Name:_____

NORTH POLE HOLIDAY EXPEDITION ON THE NUCLEAR ICEBREAKER YAMAL
(Video Clip 3) NOTE-TAKING GUIDE

1. What did you see in the video clip that provided **evidence** this was a tourist expedition? Be specific with details.

2. (a.) Do you think Arctic tourism will have an economic impact on Russia and other countries in this region? Give specific examples or reasons for your answer. (b) What challenges do you see for Arctic tourism? Give specific examples.

3. (a) What types of technology did you see in this video clip? Be very specific. Include both simple and complex types of technology, large or small (use your powers of observation). (b) Which technologies do you think are **essential** to the success of this trip to the North Pole and why?