Reading, Writing, Rivers: An Interdisciplinary Environmental Humanities Unit for Middle School Students with Learning Disabilities

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Abstract

Students with learning disabilities in reading and math receive special supports and services so that they can access the general education curriculum. In the School District of Philadelphia, middle school students are often taken out of the general education environment for a period of the day to participate in a research-based, scripted curriculum in a small group setting. While students need research-based interventions, these scripted curricula may lack personalization and can inhibit student motivation and engagement. This~~e~~ curriculum unit ~~included~~ utilizes research-based literacy and math instructional practices and incorporates the environmental humanities ~~as the subject matter for~~to create an~~n~~ interdisciplinary literacy and math unit. The unit ~~seeks to~~ uses local Philadelphia rivers and environmental issues more generally as an engaging, relevant topic that can be used to bolster students' literacy and math skills, included grade-level skills and skills that are included in their Individualized Education Plans.

Content Objectives

Problem Statement

Every School District of Philadelphia school serves students with learning disabilities who require supplemental supports and services in order to fully access the curriculum and make academic growth. I currently work as a Learning Support teacher at D. Newlin Fell Elementary School, a K-8 neighborhood school in South Philadelphia. In ~~my~~ our school, there are currently 44 students identified as requiring these Learning Support services, which is about 8% of the total student population.

Since these students have been identified as needing research-based intervention services, they are usually "pulled out" from the general education environment for approximately half of their literacy and math block every day. For most students, this means that they are exposed to the whole-group lesson for 45 minutes and then leave to

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work with a special education teacher for 45 minutes. During their time with the special education teacher, they usually get direct, explicit instruction from a scripted intervention program.

While these programs often incorporate research-based practices that are vital to allowing students to make meaningful progress in literacy and math, they are one-size-fits-all programs ~~that do~~and fail to~~ not~~ address students' individual culture, interests, or location. As a result, elementary and middle school students with high-incidence learning disabilities who receive Learning Support services in the School District of Philadelphia rarely have opportunities to engage with culturally relevant place-based learning that involves student choice and voice.

The reliance on scripted curricula and lack of opportunity to deliver research-based instruction that involves student voice and choice may negatively impact student motivation and learning. As Toshalis and Nakkula (2012) write, "Time and again, research has shown that the more educators give students choice, control, challenge, and collaborative opportunities, the more motivation and engagement are likely to rise," (p. 27). The scripted reading and math programs that special education teachers are provided do not give students opportunities to make choices about their learning or work collaboratively. Thus, special education teachers face the challenge of finding opportunities to weave student choice, collaboration, and students' lived experiences into their instruction.

In addition, special education teachers must find ways to allow students to make meaningful connections between literacy and math to further foster engagement and

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motivation. This unit seeks to use environmental humanities as a content basis for engaging literacy and math lessons for middle school students in the learning support environment.

It is an engaging, place-based interdisciplinary unit appropriate for middle school students who receive learning support services. The unit will incorporate both vital research-based intervention practices that are necessary for students with learning disabilities and opportunities for students to engage with local resources and a culminating project of their choice.

Interdisciplinary Unit: Content Objectives

The overarching objective for this unit is that students will be able to describe (using words, images, and statistics) an environmental challenge and possible solutions. In addition, students will be able to understand connections between literacy and math and how both disciplines are useful for learning about and describing the world around them. Through linking these subjects in an interdisciplinary unit, students will ideally exhibit higher engagement and motivation as they see the subject matter's relationship to their lives.

Literacy Instruction: Content Objectives

Through the literacy component of the unit, students will read about, discuss and write about questions concerning human activities' impact on the climate and environment, using the Schuylkill River as a case study to launch their own

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investigations. At the end of the unit, students will be able to identify environmental challenges on the local and broader levels and potential solutions to those challenges.

~~Through~~ By engaging with this topic, students will develop vital literacy skills. By reading a variety of narrative, informational, and argumentative texts, they will improve their ability to determine the central idea of a text and cite text evidence to support their ideas. They will also improve their ability to analyze the interactions between individuals, events, and ideas in a text and determine the author's point of view in a text.

As we move toward the end of the unit, the literacy focus will shift towards gathering information and then sharing their ideas. Students will conduct research about an environmental challenge of their choice and then complete writing assignments about that topic. Students will choose to complete either an explanatory essay about the environmental challenge or an argumentative essay about why people should be part of the solution. Students will also complete a narrative assignment. They will either write a story from the perspective of a natural feature or write a story using the natural feature as their setting. Through completing these assignments, students will be able to improve their mastery of three writing standards for seventh grade.

In addition to addressing grade-level standards, the curriculum unit also utilizes research-based practices for improving basic reading skills. This is vital as these skills are usually included in students with disabilities' Individualized Education Plans. Middle school students who receive learning support services for literacy often struggle with oral reading fluency and reading comprehension.

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Oral reading fluency is the ability to read connected text quickly, accurately, and with expression. There are a variety of research-based practices that can be utilized to improve oral reading fluency, including modeling, choral reading, repeated reading, and goal setting. While these practices are included in the scripted programs provided by the School District of Philadelphia, they can be used with any text that is appropriately complex for the students. Throughout the curriculum unit, students have opportunities to engage with texts and practices that can build their oral reading fluency.

Students with learning disabilities in reading also struggle with comprehension. One research-based way to improve comprehension is graphic organizer instruction. The unit also includes opportunities for students to learn about informational text structures and how to use different graphic organizers to aid their understanding of informational and literary text about the river.

Mathematics Instruction: Content Objectives

For the math portion of the unit, students will also engage in discussions around humans' interactions with their environment, using the Schuylkill River as a case study. While the literacy lessons will focus on qualitative descriptions of these interactions, the math portion will focus on quantitative investigations into human impact on the Schuylkill and the Earth. During the unit, students will receive direct instruction on adding, subtracting, multiplying, and dividing rational numbers and how and when to apply those operations in word problems and real-world situations. The real-world situations that we use to reinforce these concepts will be focused on the tidal Schuylkill.

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At the end of the unit, students will be tasked with using numbers, operations, and graphs to describe an environmental challenge of their choice.

Middle school students who receive learning support services for math often struggle with math computation, math problem-solving, or both. Learning support teachers provide direct, explicit instruction on new math concepts and to review previously learned concepts. This includes~~d~~ modeling, guided practice, and independent practice with feedback. When these practices are conducted in a small group environment, students are better able to master foundational math concepts and grade-level math concepts.

Since these objectives focus heavily on word problems, the unit will utilize research-based strategies for helping students with learning disabilities to master word problems. The main strategy used in this unit is to use extensive visual models to aid understanding. Using additive and multiplicative diagrams, students are able to create their own visual tool to help understand the abstract relationship between values in a problem.

Teaching Strategies

Literacy Instruction: Teaching Strategies

For the literacy component of the unit, students will have many opportunities to engage and create texts while furthering their knowledge of local and global environmental challenges.

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Students will complete a pre-assessment in order to assess their baseline knowledge of the standards. They will read a short article and then answer open-ended questions about the central idea, interactions between individuals and events, and the author's point of view and purpose. They will also be asked to answer short explanatory and argumentative prompts using text evidence.

In addition, students will complete a more informal pre-assessment in the form a gallery walk/anticipatory discussion about environmental issues. Students will walk around the room to different statements on chart paper and jot down their response to open-ended questions about humans' interactions with their environment. This will serve as a tool for gauging students' levels of knowledge of and engagement with ideas about the environment, climate change, and humans' role.

Next, students will read informational texts about the Schuylkill and Delaware Rivers. They will read an explanatory text from WHYY about how the Clean Water Act helped to reduce pollution in the Delaware River. For this article, students will focus on analyzing how ideas (the desire to have a cleaner river) interact with individuals (legislators who eventually passed the Clean Water Act) and events (the clean~~ing~~ up of the Delaware River). Students will also have the opportunity to read through the Schuylkill River National Heritage Area's webpage about challenges to the river's health. Once again, we will discuss the author's point of view and how individuals interact with events/the environment. For each text, students will work on the skills of identifying the central idea or theme and using text evidence to support their ideas.

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For a narrative text, students will also read three excerpts ~~pages of excepts~~ from Beth Kephart's *Flow: The Life and Times of Philadelphia's Schuylkill River.* For this text, students will analyze the narrator's different points of view and why the author chose to write from ~~that~~ each of the two points of view from which the "autobiography" of the river is told.

While reading these various texts, students will utilize research-based practices for improving their reading comprehension and fluency. Students will use an annotation strategy called "marking the text" that assists students with learning disabilities to identify key ideas and details. In addition, students will have the opportunity to use graphic organizers in order to represent the key ideas from the text. To read through each text, students will use a combination of assisted reading, choral reading, partner reading, and repeated reading. These are all research-based strategies for improving oral reading fluency.

After this stage, students will have the opportunity to visit the river. During the entire visit, students will be able to record observations and questions for further research With parent permission, our students will take the SEPTA Broad Street Lines and trolley lines to the Market Street Bridge. Students will walk along the Schuylkill River trail up to the Art Museum area, where they will eat lunch. After lunch, students will walk along the trail down to Markward Playground, where they will be able to sit and share their observations and discuss several questions about the river and the surrounding area. Students will also be given time to begin formulating a research question to explore in the classroom. After the discussion, students will walk back to the trolley stop near the

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Market Street Bridge to return to school. ~~During the visit, students will be able to record observations and questions for further research.~~

The latter part of the unit will focus on students' research and writing skills. During this part of the unit, students will have a high degree of choice, ~~which will~~ ideally leading to high engagement and motivation ~~that will enable~~and the momentum ~~them~~ to complete rigorous assignments.

First, students will identify an environmental challenge that they are interested in and compile research about the problem and possible solutions. Then, students will create one non-fiction and one fiction text of their own. For the non-fiction text, students will be able to write an explanatory essay about their environmental challenge or a persuasive essay about why people should participate in a possible solution. For the fiction text, students will write a short narrative from the perspective of a natural feature (using Beth Kephart's *Flow* as a mentor text) or write a narrative using their natural feature as the setting. These assignments will serve as a post-assessment for evaluating students' growth in writing fiction and non-fiction texts.

Math Instruction: Teaching Strategies

Students will complete a short pre-assessment to evaluate prior knowledge. Students will be asked to solve a variety of word problems involving positive and negative integers without a calculator. They will also be asked to solve a variety of word problems involving positive and negative rational numbers (including fractions and decimals) with a calculator.

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During the unit, students will solve several in-depth problems relating to the Schuylkill River. One resource that we will use is the river's tidal chart. Students will be asked to use their knowledge of adding and subtracting integers in order to calculate how much the tide of the Schuylkill changes between certain time intervals. Students will also use the Surging Seas project's climate change map as a foundation for learning how to multiply and divide integers. Finally, students will solve one in-depth problem related to cleaning up industrial pollution and sewage ~~pollution~~ in the Delaware R~~r~~iver in order to learn how to complete multi-step problems using multiple operations.

After visiting the river, students will shift their focus toward using statistics to describe environmental problems. They will use the research from their literacy project on the environmental challenge of their choice in order to create a mathematical representation of the problem. Students will choose between making a graph that represents the problem and drafting a word problem that relates to the environmental challenge.

Classroom Activities

Literacy Instruction: Classroom Activities

Each of the following lessons addresses one or two key objectives. Each lesson may take multiple days, depending on teachers' amount of time with students and student ability levels.

Teachers may need to begin preparing Lesson 5, the visit to the Schuylkill River, several weeks in advance in order to obtain administrator approval, parent permission slips, and money for transportation.

Lesson 1: Pre-Assessment and Gallery Walk

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Essential Question: What do we already know about interactions between individuals, events, and ideas in informational texts? What do we already know about determining the author's purpose and point of view? What do we already know about writing informational and narrative texts? What do we already know about the environment and humans' interactions with it?

Objective: Students will be able demonstrate baseline knowledge of the topics of the unit.

Standard: See Common Core standards for the subsequent lessons in the unit.

Instructional Activities: Have students read a short informational text independently and answer open-ended questions about interactions between ideas, individuals, and events in the text as well as the author's point of view and purpose. Have students answer short explanatory, argumentative, or narrative prompts or use previous student writing as a pre-assessment for the unit.

For the gallery walk, write the following statements on large pieces of paper and post them around the room:

1. Humans are a part of nature.
2. Cities (like Philadelphia) are part of nature/the environment.
3. ~~Climate change~~Global warming is a problem that affects my everyday life.
4. There are many ~~things~~ actions all ~~that~~ people can ~~do~~ take to help protect the environment and to slow and then stop (maybe even reverse) global warming.

Have students jot down their thoughts about the statement on the paper, responding to other students' comments as well. Keep the papers posted in the room during the unit to track how students' discussions are progressing through the unit.

Assessment: Pre-assessment responses, gallery walk responses.

Lesson 2: Informational Text 1

Essential Question: How do ideas influence individuals and events?

Objective: Students will be able to analyze a text in order to understand how ideas influence individuals and events. Students will be able to mark the text in order to improve reading comprehension.

Standard: CCSS.ELA-LITERACY.RI.7.3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

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Instructional Activities: Before reading, have students number the paragraphs and circle any names, places, dates, italicized words, bold words, or underlined words to "mark the text." As a group, read the WHYY article, "How the Clean Water Act fixed the Delaware River's pollution problem." Teachers may utilize partner reading, choral reading, or repeated reading in order to foster reading fluency. After each paragraph, discuss which sentence is the author's main claim in the paragraph and underline it in order to mark the text. After reading, discuss how the ideas in the article (the desire to have a cleaner river) interacted with individuals (legislators who eventually passed the Clean Water Act) and events (the cleaning up of the Delaware River).

Assessment: Verbal responses during reading and after reading.

Lesson 3: Informational Text 2

Essential Question: How do ideas influence individuals and events?

Objective: Students will be able to analyze a text in order to understand how ideas influence individuals and events. Students will be able to use a graphic organizer in order to improve reading comprehension.

Standard: CCSS.ELA-LITERACY.RI.7.3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

Instructional Activities: Before reading, remind students about the previous lesson and how they learned how individuals and ideas can influence events and the environment. Give directions for how students will work independently today to explore the Schuylkill River National Heritage Area's webpage in order to fill out a graphic organizer about environmental problems on the Schuylkill and possible solutions. Specifically, students should explore the "Challenges to River Health" page, which succinctly describes the harmful effects of agricultural runoff, storm water runoff, and abandoned mine drainage and possible solutions for these phenomena. This page clearly shows the interactions between human events (such as mining) and objects (such as the river). After reading, discuss what students learned about how individuals interact with the Schuylkill to create both challenges and possible solutions.

Assessment: Graphic organizers, verbal responses after reading.

Lesson 4: Narrative Text

Essential Question: How can we determine the narrator's point of view? How does the narrator's point of view impact the story?

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Objective: Students will be able to analyze a text in order to determine an author's point of view or purpose in a text.

Standard: CCSS.ELA-LITERACY.RI.7.6. Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.

Instructional Activities: Before reading, play Flocabulary video on point of view in order to activate prior knowledge. As a group, read three chapters of *Flow* by Beth Kephart. Teachers may utilize partner reading, choral reading, or repeated reading in order to foster reading fluency. During reading, ask guiding questions in order to determine the point of view, the narrator, and how the narrator's point of view impacts the story (Is this written in first person, second person, or third person? Who do you think the narrator is? How do you know? Why do you think the author chose to write this story from this point of view?).

Assessment: Verbal responses during guided reading.

Lesson 5: Visit to Schuylkill River

Essential Question: How can we generate a research question?

Objective: Students will be able to use their observations in order to begin crafting a research question.

Standard: CCSS.ELA-LITERACY.W.7.7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

Instructional Activities: Before the lesson, obtain administrator approval, EH-80 permission slips from parents, and five dollars from each student for transportation costs. Teachers may choose to buy two Quick Trip tickets for each student before the trip or with the students at the station. Students, teachers, and chaperones will take SEPTA to the 22nd Street Trolley stop near the Market Street Bridge. The group will walk north to the Art Museum steps, eat lunch, and walk south to Markward Playground. While walking along the river, have students write down things they notice and things they wonder about the river or the environment more generally. Once the group reaches Markward Playground, have students discuss the following questions;

1. How do you think the river has been affected by human activity? What signs of human impact have you seen along the river?

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2. What do you think the river and the surrounding area looked like 100 years ago? 1,000 years ago?
3. How do you think the river and the surrounding area will look in 100 years? 1,000 years?
4. What did you see, hear, feel, and smell as you walked along the river? Did you feel like you were "in nature?"
5. ~~At the end of the visit, discuss possible questions for further research.~~What questions do we have about this river, other rivers, or the environment that we want to continue researching at school?

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Assessment: Student responses.

Lesson 6: Research an Environmental Problem

Essential Question: How can we use reliable sources and focused questions to research a topic?

Objective: Students will be able to use reliable sources and focused questions in order to conduct a short research project that answers a question.

Standard: CCSS.ELA-LITERACY.W.7.7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

Instructional Activities: Introduce the research project by providing the students with the research question, "What causes (blank) and what can humans do to change this trend?" Students will determine a topic of their choice, using the Welcome to the Anthropocene website as a jumping off point. Once students have determined a research topic and question, students will find three webpages that help to answer their question.

Assessment: Submission of research question and three sources.

Lesson 8: Informational Writing

Essential Question: How can we use information from research to craft an explanatory or argumentative text?

Objective: Students will be able to use their research in order to write an argument with clear reasons and evidence or write an informative/explanatory text to examine a topic.

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Standard: CCSS.ELA-LITERACY.W.7.1. Write arguments to support claims with clear reasons and relevant evidence. CCSS.ELA-LITERACY.W.7.2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

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Instructional Activities: Students will read a mentor explanatory text and a mentor argumentative text. For a mentor explanatory text, teachers may choose to use the "Center of Life" essay from the Vermont Writing Collaborative student work samples. For a mentor argumentative text, teachers may choose to use one of the "Shut Down Your Screen Week" essays from Achieve the Core's website. Students will discuss the different organization and techniques used in the different text. Students will determine if they will use their research to write an explanatory or argumentative text. Students will be provided with a pre-writing graphic organizer for their writing that requires them to plan an introduction, body, and conclusion. Students will then use the pre-writing graphic organizer to write and revise an explanatory or argumentative essay.

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Assessment: Graphic organizer and essay.

Lesson 9: Narrative Writing

Essential Question: How can we use information from research to craft a narrative with relevant descriptive details, and well-structured event sequences?

Objective: Students will be able to use information from research in order to craft a narrative with relevant descriptive details, and well-structured event sequences.

Standard: CCSS.ELA-LITERACY.W.7.3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

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Instructional Activities: Students will revisit Flow by Beth Kephart, noting how the author uses descriptive details and clearly sequences events. Students will then use their environmental topic as a setting for a narrative or they will write a narrative from the point of view of a natural feature.

Assessment: Narrative assignment.

Mathematics Instruction: Classroom Activities

Lesson 1: Pre-Assessment

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Essential Questions: What do we already know about adding, subtracting, multiplying, and dividing rational numbers? What do we already know about how numbers can be used to describe the world around us?

Objective: Students will be able demonstrate baseline knowledge of the topics of the unit.

Standard: See Common Core standards for the subsequent lessons in the unit.

Instructional Activities: Have students complete a short pre-assessment with word problems that require them to add, subtract, multiply, and divide integers and rational numbers.

Assessment: Pre-assessment.

Lesson 2: Using the Schuylkill's Tidal Chart to Add and Subtract Rational Numbers

Essential Question: How can we add and subtract rational numbers in order to solve real-world problems?

Objectives: Students will be able to add and subtract rational numbers in order to solve problems about the tidal chart.

Standard: CCSS.MATH.CONTENT.7.NS.A.3. Solve real-world and mathematical problems involving the four operations with rational numbers. CCSS.MATH.CONTENT.7.NS.A.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

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Instructional Activities: Conduct a "Novel Ideas Only" about the word "tide" in order to activate prior knowledge. In this activity, students have one minute to write down as many things as they can that they associate with the word "tide." Students then go around and share their words and concepts, making sure not to repeat any ideas that have been stated previously. Show students the Market Street bridge tidal chart and explain how it shows where the tide is at different points in time. Ask guiding questions that prompt students to add and subtract rational numbers ("How much did the tide change between this time and this time? How many hours did it take for the tide to return to the same point?). Use visual models (number lines, integer chips) in order to assist students with solving problems.

Assessment: Student responses during discussion of tidal chart.

Lesson 3: Using Sea Level Rise Analysis to Multiply and Divide Rational Numbers

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Essential Question: How can we multiply and divide rational numbers in order to solve real-world problems?

Objective: Students will be able to add and subtract rational numbers in order to solve problems about future sea level rise due to climate change.

Standard: CCSS.MATH.CONTENT.7.NS.A.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
CCSS.MATH.CONTENT.7.NS.A.3. Solve real-world and mathematical problems involving the four operations with rational numbers.

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Instructional Activities: Show students the Surging Seas risk level map for their area or have students explore the map on their own devices. Ask guiding questions that prompt students to multiply and divide rational numbers (If the sea level rises 3.5 millimeters per year, how many years will it take to rise 5 meters? If the sea level rises 2.5 millimeters per year for 50 years, how much will the sea level rise?). Use visual models (number lines, integer chips) in order to assist students with solving problems.

Assessment: Student responses during discussion of Surging Seas map.

Lesson 4: Solving a Multi-Step Environmental Problem

Essential Question: How can we use the four operations to solve a multi-step, real-world environmental problem?

Objective: Students will be able to apply and extend previous understandings of adding, subtracting, multiplying, and dividing rational numbers in order to solve a real-world environmental problem.

Standards: CCSS.MATH.CONTENT.7.NS.A.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
CCSS.MATH.CONTENT.7.NS.A.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
CCSS.MATH.CONTENT.7.NS.A.3. Solve real-world and mathematical problems involving the four operations with rational numbers.

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Instructional Activities: Have students work in partners or groups to solve the following problem:

According to the article about the Clean Water Act and the cleanup of the Delaware River, cold water fish such as trout and salmon need 6.5 milligrams of oxygen per liter of

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water to survive in a river. Before 1972, there were about 0 milligrams of oxygen per liter of water in the Delaware River, making it a "dead zone." In the first five years after the Clean Water Act of 1972 was passed and Philadelphia began treating wastewater, the amount of oxygen in the river went up to 2.5 milligrams per liter. If the oxygen continued to increase at this rate, in what year could the cold water fish return to the Delaware River?

If time allows, the class may look up what the oxygen levels are like today in the Delaware and Schuylkill Rivers.

Assessment: Students' use of previously learned strategies to solve the multi-step world problem.

Lesson 5: Representing an Environmental Problem Mathematically

Essential Question: How can we use the four operations to solve a multi-step, real-world environmental problem?

Objective: Students will be able to apply and extend previous understandings of adding, subtracting, multiplying, and dividing rational numbers in order to create a word problem based on a real-world environmental problem.

Standards: CCSS.MATH.CONTENT.7.NS.A.3. Solve real-world and mathematical problems involving the four operations with rational numbers.

Instructional Activities: Use the word problem from the previous lesson as a model. Assist students with creating word problems that involved addition, subtraction, multiplication, and division of rational numbers that involve their research topic from the literacy portion of the unit.
Assessment: Word problems.

Resources

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Vermont Writing Collaborative. (n.d.). In Common: Effective Writing for all Students. Collection of All Informative/Explanatory Samples, K-12. Retrieved from https://achievethecore.org/content/upload/InformativeExplanatory_K-12WS.pdf

Appendix

Literacy Instruction: Common Core Standards

CCSS.ELA-LITERACY.RI.7.1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
CCSS.ELA-LITERACY.RI.7.2. Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.
CCSS.ELA-LITERACY.RI.7.3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).
CCSS.ELA-LITERACY.RI.7.6. Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.
CCSS.ELA-LITERACY.W.7.7 Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
CCSS.ELA-LITERACY.W.7.1 Write arguments to support claims with clear reasons and relevant evidence.
CCSS.ELA-LITERACY.W.7.2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
CCSS.ELA-LITERACY.W.7.3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

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Mathematics Instruction: Common Core Standards

CCSS.MATH.CONTENT.7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
CCSS.MATH.CONTENT.7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
CCSS.MATH.CONTENT.7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.

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