This is the Story of a River

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Content Objectives

My students are third graders in the Kensington section of the city of Philadelphia. Everyday, my students arrive to school full of energy and ready to learn. They never fail to bring a smile to my face. Despite challenges they may face at home and in the neighborhood, they are never lacking in motivation to be better students and learn all that they can. Many of my students carry traumatic burdens with them each day, but they are always trying their best to be attentive in school. My students come from many different cultural backgrounds and may speak another language fluently as well as English. They possess incredible potential and it is my hope to teach them how to unlock all of it.

The neighborhood in which my students live does not provide for an easy life. Most of my students have heard gunshots while at home. Most of my students have been directly impacted by violence and addiction. All of my students have seen needles littered across their sidewalks. All of my students have had to walk through trash to come to school. Unfortunately, most of them have contributed to that trash being there in the first place. When these children are struggling to have their basic needs met, something as simple as littering is not at the forefront of their focus. Most of them are not able to tell my why littering is bad, they just know that it is. I hope through this unit to empower students to make environmentally friendly choices in their own neighborhood now so they develop healthy habits that last.

My students need opportunties for learning that are grounded in the real world in which they live. This is a difficult to acheive when many of my students read below grade level. Much of our time is spent bridging the acheivement gap, but that leaves little room for enrichment and real world engagement. I beleive the key to engagement comes through experiential learning. Through this unit, I hope to address this need for learning opportunties that connect students with their environment by exploring the Schuylkill River. The Schuylkill River is a major waterway that runs through Philadephia, and is the river that we have most easily available to us to use as a subject for learning. For the purpose of this unit, we will focus on the Schuylkill, but the lessons can be adapted to fit other urban waterways.

I chose the Schuylkill as the lens through which my students will be learning about caring for the environment because it the lens through which I learned about caring for the environment. Through our environmental humanities course

we have used the Schuylkill River as a springboard to discuss environmental policy, energy policy, philosophy, science, education, art, and social justice. While these topics seem beyond the scope of third grade, they need to be included in our conversations. By having these conversations about these topics with our students now, we are setting them up to be successful and engaged citizens in their community.

The goal of the first lesson is to introduce rivers to the students. It seems like such a simple idea, but through this course I learned it is much more complex than just flowing water. As a class we must create a shared concept of a river before we can begin to understand all the different components that go into our Schuylkill River. It is essential to build a common vocabulary and forge a basic connection between student and river before we can explore deeper content. We will answer the question “What is a river?” as a class.

The goal of the second lesson is to develop the river as a character in the students’ lives. Students needs to realize the river as more than just an image on a map, but as a part of a community where people swim, boat, fish, and work, and where plants and animals live. We will ask and answer the questions “What is the Schuylkill River? Who uses it and for what?”

The goal of the third lesson is to enageg students as caretakers of the rive by having them identify pollutants that affect a river’s health and ways to reduce the pollutants. After identifying factors that affect the river’s health, students will explore possible problems and solutions that may arise, with an emphasis on solutions they can begin to implement today. We will ask ourselves “How do rivers get dirty? How do rivers get clean? Who takes care of the river?”

Teaching Strategies

Teachers should use a variety of strategies when implementing this unit. My recommended strategies are listed here, but each teacher knows their own class and therefore what works best with their particular set of learners.

Turn and talks can be used whenever questioning is happening. This allows for all students to share and be heard.

Collaborative learning should be used to ensure that every student has access to the material.

Gallery walks can be used to share the product of learning from a lesson, in which each pair or group can create a culminating work to show what they have learned in each lesson.

Technology should be used when available and appropriate.

Jigsaw sharing can be used to cover more material in a shorter amount of time while offering students the opportunity to learn from each other.

Using *graphic organizers* is a great way to guide students through material while giving them opportunity to visualize the concepts.

Content Specific Notebooks are useful for students to record new information in one location as opposed to using a variety of handouts. A binder for each student may also be useful for keeping notes, handouts, and graphic organizers.

A *Unit Bulletin Board* is a great way to display the learning occuring in the unit and serve as a visual reminder about to the content to the students.

Classroom Activities

Lesson One

Essential Questions: What is a river?

Objectives: Students will identify characteristics of a river.

Procedure

1. Teachers will start the lesson by organizing students into collaborative groups. Each group will use chart paper and markers to name and write as many types and forms of water as they can. This list can include forms of water like ice, vapor, mist, rain, etc., and also bodies of water like lakes, oceans, rivers, puddles, and rivers. After the groups have had the appropriate amount of time to talk and write, each group will share our their findings. Take the time to discuss discrepancies as well as similarities among the lists. Add each of the student's water forms to its own index card, to be added to a unit word wall.
2. After each group has shared, explain to students what the objectives for today's lesson are. Ask the essential question "what is a river?" Allow students time to turn and talk to disuss the questions. Encourage discourse by asking follow up questions such as "What is the difference between a river and an ocean? What is the difference between a river and a stream?"
3. Distribute reading to students. Arrange students so that all can participate in a shared reading of the text. Explain unfamilar terms as necessary.

After reading, ask students to discuss what a river is again. Together, come up with a shared definition and post it on the unit word wall.

Evaluation

To demonstrate understanding, students will represent their interpretation of a river using writing and drawing. When students have finished, allow opportunities to share their work. Notice how students represent rivers in their images.

Lesson Two

Essential Questions: What is the Schuylkill River? Who uses it and for what?

Objectives: Students will identify geographic characteristics and civic features on and near the Schuylkill River. Students will describe how these factors and features may affect the river.

Procedure

1. Intoduce today's lesson by explaining to students that now that they know what a river is, they are going to learn about the very special Schuylkill River that flows through their very own city, first through a shared reading of a book chapter about the Schuylkill, and then through a hands on activity exploring the maps of the Schuylkill.
2. Distribute the reading to the students. Read through the story together in whichever reading strategy works best for your group.
3. Explain that every student will get a small peice of the river to investigate and in turn teach about to the class. Ensure that students have had some background on map reading prior to today's lesson.
4. Give each student or student pair a segment of the map, keeping segment A for yourself. Demonstrate to the students the important parts of the map. The green is public land, the brown is private land. Ask the students "Where are the roads?" "Where is the river?" Allow students time to discuss these ideas until you are confident they are comfortable with your map segment.
5. Distribute the map segments to the students, one per student or in pairs, so that all segments are assigned. Students will analyze their map segment and answer the following questions on lined paper: Is the land nearest the river mostly public or mostly private? Describe the river's path in your segment. Is it straight or loopy? How many turns does it take? Is it thin or wide? According to this map, do you think many people live in this

area, or not so many? What are things people in this area do near or on the river?

6. Once all students have had time to write down their thoughts, bring the students to a circle with space in the middle for the map segments. Explain that the students will work together to place the map segments like puzzle pieces in the center of the circle. Some pieces will overlap, but their goal is to try to line up the Schuylkill River.
7. Once the pieces have been accurately placed, we will take a trip down the river. The student(s) who worked on each segment will explain what they found for each segment as we travel down the river.
8. Tape the map segments together and hang in the room near the unit word wall so students can reference the map as needed.

Evaluation

Have students imagine they are a water droplet in the river. They land as rain or snow all the way at the beginning of the river. Ask them what they might encounter on their journey down the river toward the mouth. If students need prodding in the right direction, ask them what things live in the water and if there are things in the water that do not belong there. Students will record their ideas as a creative writing. Give students opportuntiest to share their stories when they are finished.

Lesson Three

Essential Questions: How do rivers get dirty? How do rivers get clean? Who takes care of the river?

Objectives: Students will identify sources of pollution along the Schuylkill River. Students will brainstorm possible solutions to pollution in the river.

Procedure

1. Introduce the day's objectives to the students. Explain that today you are going to explore what makes the Schuylkill River dirty and how people help keep it clean.
2. Show this video of an enviroscape to the students. Pause the video in the beginning to explain the color key of the enviroscape and ask students if they have any questions about what they see. Explain that the river could be the Schuylkill River, and instead of a lake, the river empties into the Delaware Bay.

3. Ask students “In addition to fertilizer and road salt, what are other things that may end up in the river?” Make a class list on chart paper of things that can pollute the river.
4. Split students into groups of 3 students. Each group will choose a previously listed pollutant to research and present to the class. They will answer these questions with their research. How does the pollutant get into the water? Why is the pollutant bad for the water or things living in the water? How can we get the pollutant out of the water or stop it from getting in the water in the first place? Whose job is it to keep the river clean? Why do we need to keep the river clean?
5. Students may make a slide show presentation or a poster to examine and answer these questions. They will share their findings with the class.

Evaluation

Students will be evaulated based on the content of their presentations and their ability to work cooperatively.

Resources

Bibliography for Teachers

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Reading List for Students

This is a list of grade appropriate books that can be used to extend students’ knowledge beyond the topics covered:

Buried Sunlight
10 Things I Can Do to Help My World
A Drop Around the Worlds
Water, Water Everywhere! Stop Pollution
A Drop Of Water: A Book of Science and Wonder
I Can Name 50 Trees Today

Materials For Classroom Use

Lesson 1: chart paper, markers, pencils, crayons, projector, index cards, paper, copy of reading for each student (What is a river? H2O000h!)

Lesson 2: chart paper, markers, pencils, crayons, projector, lined paper, reading for each child: A River Again: The Story of the Schuylkill River Project, pages 5-8, map segment(attached) for each child. There are 18 map segments. Segment A will be used by the teacher for modeling the procedure. If needed, some students may pair up, but all 18 segments need to be used.

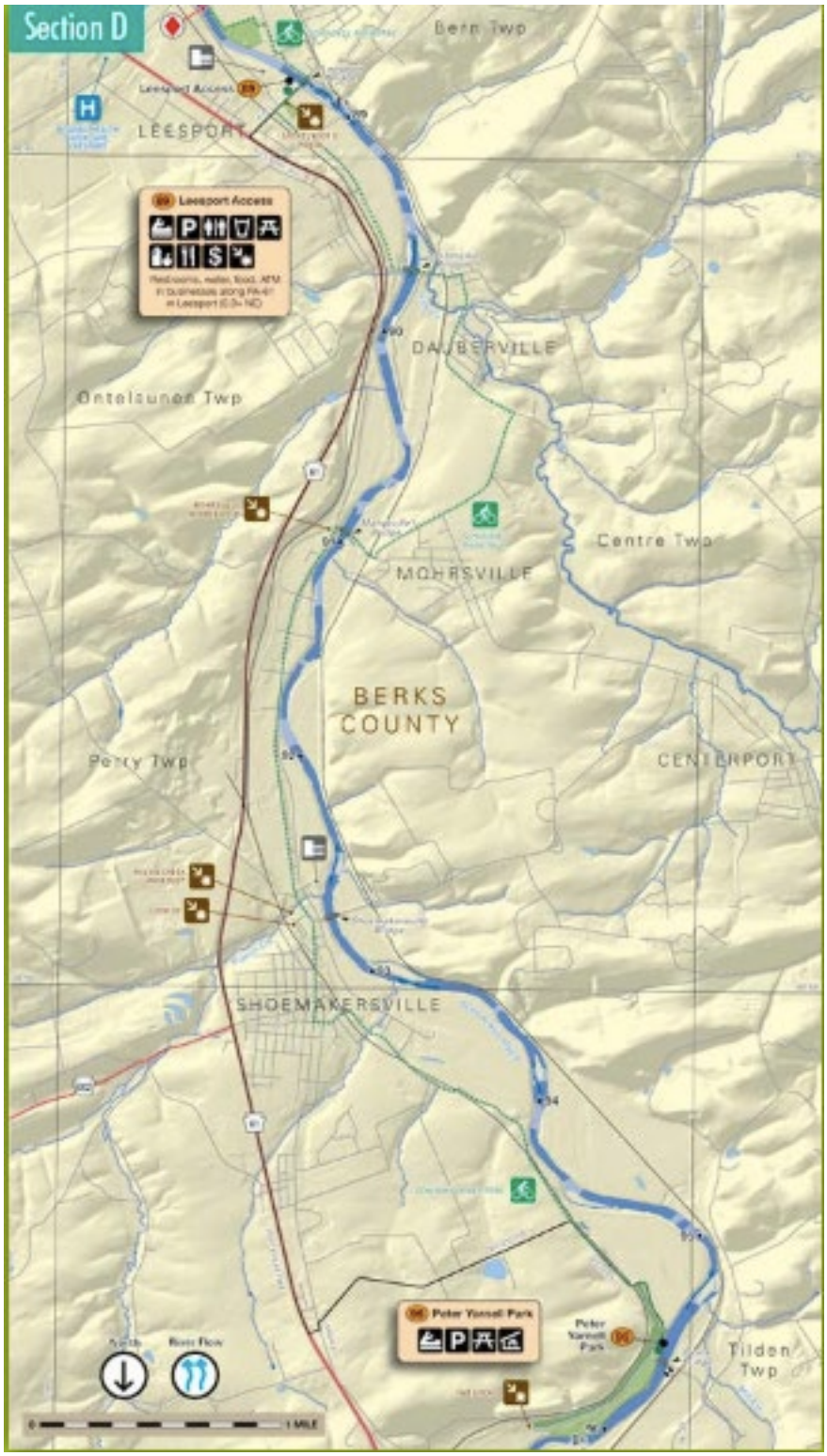
Lesson 3: computer for each group, chart paper, markers, pencils, crayons,

Map Segment Pictures:


Section A
West Brunswick Twp
SCHUYLKILL COUNTY
LANDINGVILLE
North Manheim Twp
South Manheim Twp
SCHUYLKILL HAVEN
CRESSONA
Auburn Dam Canoe Launch
Auburn Dam Boat Launch
Schuylkill Haven Island Park
1 MILE


Section B
PORT CLINTON
Tilden Twp
Port Clinton Park
BERKS COUNTY
West Brunswick Twp
SCHUYLKILL COUNTY
DEEP LAKE
AUBURN
South Mancheim Twp
LANDINGVILLE
Auburn Dam Access
Auburn Dam Canoe Launch
Auburn Dam Boat Launch
Auburn (PA-895) Landing
Port Clinton Park
Food and lodging along PA-61
Restrooms, water, food, and ATM at Auburn Food Mart
Launch permit required
North
River Flow
0
1 MILE


Section C
Centre Twp
Peter Yarnell Park
Perry Twp
Tilden Twp
HAMBURG
Hamburg Park
BERKS COUNTY
Windsor Twp
BERKS COUNTY
PORT CLINTON
Port Clinton Park
West Brunswick
SCHUYLKILL


Section D
Bern Twp
LEESPORT
Leesport Access
DAUBERVILLE
Ontelaunee Twp
Centre Twp
MOHRSVILLE
BERKS
COUNTY
Perry Twp
CENTERPORT
SHOEMAKERSVILLE
Peter Yocum Park
Tilden
Twp
North
River Flow
1 MILE


Section E
Upper Felix Dam Park
Lower Felix Dam Park
Muhlenberg Twp
TUCKERTON
Eplier's Access
Jim Dietrich Park
Bern Twp
BERKS COUNTY
Leesport Access
LEESPORT
Centre Twp
Ontelaunee Twp
DAUBERVILLE
1 MILE


Section F
READING
WEST READING
WYOMISSING
Keiper's Landing
Jackson's Landing -Heritage Park
Keiper's Landing -Riverbend Park
BERKS COUNTY
READING
Spring Twp
Bern Twp
Kelly's Lock Overlook Park
Muhlenberg Twp
Upper Falls Dam Park
Lower Falls Dam Park
Jim Dietrich Park
Upper Falls Dam Park
Eyler's Access
Jim Dietrich Park
NORTH
1 MILE


Section G
Robeson Twp
Gibraltar Bridge
Exeter Twp
BERKS COUNTY
Lower Alsace Twp
MT PENN
Cumru Twp
READING
Jackson's Landing
Heritage Park
KENHORST
Kerper's Landing
Everland Park
READING
SHILLINGTON
WEST READING
WYOMISSING


Section H
Amity Twp
Union Twp
Union Meadows Park
Launch permit required.
More services in Birdsboro (2.0 W)
BIRDSBORO
BERKS COUNTY
Exeter Twp
Robeson Twp
Gibraltar Bridge
Restrooms, water, food, and ATM across river in Boyertown along PA-724 (0.5 E)
More services available at US-422 Business (1.2 N)
Gibraltar Bridge
North
River Flow
0
1 MILE


Section I
CHESTER COUNTY
Douglass Twp
BERKS COUNTY
Amity Twp
Union Twp
Exeter Twp
BIRCSBORO
Union Meadows Park
North
River Flow
0
1 MILE
Reberson


Section J
Lower Pottsgrove Twp
Upper Pottsgrove Twp
POTTSTOWN
East Coventry Twp
North Coventry Twp
MONTGOMERY COUNTY
BERKS COUNTY
West Pottsgrove Twp
CHESTER COUNTY
BERKS COUNTY
Douglass Twp
Union Twp
Amity Twp
Towpath Park
Launch permit required.
Hanover Street Access
Launch permit required
Pottstown Riverfront Park
Ganshahawny Access
North
River Flow
0
1 MILE


Section K
East Vincent Twp
Parker Ford
Limerick Twp
East Coventry Twp
CHESTER COUNTY
Lower Pottsgrove Twp
North Coventry Twp
MONTGOMERY COUNTY
POTTSTOWN
Upper Pottsgrove Twp
1 MILE


Section L
MONT CLARE
Schuylkill Canal Park
PHOENIXVILLE
Upper Schuylkill Valley Park
Phoenixville Access
East Pikeland Twp
Spring City Landing
Upper Providence Twp
MONTGOMERY COUNTY
Royersford Landing
SPRING CITY
ROYERSFORD
CHESTER COUNTY
Limerick Twp
East Vincent Twp
Linfield River Park
East Coventry Twp


Section M
Upper Merion Twp
CHESTER CO
Tredyffrin Twp
Valley Forge National Historical Park
Lower Providence Twp
Schuylkill Twp
CHESTER COUNTY
MONTGOMERY COUNTY
Upper Providence Twp
MONT CLARE
PHOENIXVILLE
Schuylkill Canal Park


Section N
Plymouth Twp
Norristown Riverfront Park
Upper Merion Bathhouse
Bridgeport Access
BRIDGEPORT
MONTGOMERY COUNTY
Upper Merion Twp
Fort Indian
Detrwood Access
West Norriton Twp
CHESTER COUNTY
Lower Providence Twp
Tredyffrin Twp
1 MILE


Section 0
Manayunk
PHILADELPHIA
Springfield Twp
Flat Rock Park
Launch permit required.
Restaurants, groceries, ATM, etc. at PA-23/Conshohocken State Youngs Ford & Highlers Mill Roads in Gladwyne 2.3 SW
Whitemarsh Twp
MONTGOMERY COUNTY
Lower Merion Twp
MONTGOMERY COUNTY
CONSHOHOCKEN
WEST CONSHOHOCKEN
Plymouth Twp
North
River Flow
0
1 MILE


Section P
Strawberry Mansion
East Fairmount Park
East Falls
West Fairmount Park
Wissahickon Valley Park
PHILADELPHIA
MONTGOMERY COUNTY
Manayunk
PHILADELPHIA
Lower Merion Twp
Narberth Twp
Roxborough
Flat Rock Park
1 MILE


Section Q
Schuylkill Banks
Center City
Schuylkill Banks
Crew's Ferry
University City
Spring Garden
Lloyd Hall
Powelton Village
Brewerytown
West Park Access
PHILADELPHIA
East Fairmount Park
Strawberry Mansion
East Park Canoe House
West Fairmount Park
PHILADELPHIA
East Falls
Lower Merion Twp
Montgomery Co


Section R
NATIONAL PARK
Gloucester Co.
New Jersey
Tinicum Twp
Delaware County
The Navy Yard
Southwest
Philadelphia
FDR Park
South Philadelphia
Bartram's Garden
PHILADELPHIA
Gray's Ferry
Schuylkill Banks
Rittenhouse
Square
University City
Center
City
1 MILE

Appendix

7.1.3.B: Identify and locate places and regions as defined by physical and human features.

7.2.3.A: Identify the physical characteristics of places and regions.

CC.1.1.3.E: Read with accuracy and fluency to support comprehension: • Read on-level text with purpose and understanding. • Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. • Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

CC.1.2.3.L: Read and comprehend literary non-fiction and informational text on grade level, reading independently and proficiently.

CC.1.4.3.V: Conduct short research projects that build knowledge about a topic.

CC.1.4.3.S: Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and informational text