

Tracey Pawloski
 Pittsburgh Voyager Teacher Training Workshop
 Environmental Science Sessions: February 26 and March 5, 2005
 Lesson Plans

SUBJECTS: Language Arts, Science, Math, Geography, Music, Phys Ed, Technology

GRADE LEVEL: 7 (all 115 seventh graders at Springdale Jr/Sr High School)

LOCATION: Rachel Carson Classroom (with large screen television and 125 chairs)
 and cafeteria (with tables to use for work space)

NOTE: All activities in the cafeteria must be completed by the end of period 3 to allow time for the cafeteria workers to prepare for "A-Lunch" after period 4.

LENGTH: 188 minutes including homeroom and period 1 (60 minutes) and periods 2 and 3 (44 minutes each)

TOPIC: Introduction of a two-week multidisciplinary unit about the Allegheny, Monongahela, and Ohio Rivers culminating with a display of completed student projects and activities in the gymnasium during the school's annual Education Celebration Night and a one day field trip on the Pittsburgh Voyager and Discovery

OBJECTIVES:

- *To work co-operatively in groups
- *To gain background information about the Allegheny, Monongahela and Ohio Rivers
- *To identify possible research topics related to the three rivers
- *To create a group name and to design a river related logo to reflect the group's topic
- *To become familiar with the Voyager and Discovery program

STANDARDS: Refer to attached sheet for Pennsylvania Academic Standards Categories for Reading, Writing, Speaking and Listening for those standards which apply to the Language Arts section of this integrated lesson

MATERIALS:

- *"The Mon, The Al, and The O" videotape (WQED13)
- *Large screen television and VCR set up in the Rachel Carson Classroom
- *125 chairs set up in the Rachel Carson Classroom
- *Screen set up in the Rachel Carson Classroom
- *Overhead projector, transparencies, marking pens set up in the

Rachel Carson Classroom

- *Dry erase boards and markers in the Rachel Carson Classroom
- *Roster of the 7th grade class with names grouped into 4 students per group
- *Guided reading worksheet to use while watching the videotape
- *Student information packet including: project requirements, time line and calendar of classroom activities for the two week interdisciplinary project, rubrics for research paper, oral presentation and completed project/display, permission slip for the Voyager/Discovery field trip, outline of events for Education Celebration Night
- *Tables in the cafeteria
- *Handouts for group name and logo to be used in the cafeteria on the work tables
- *Extra pencils
- *Information sheet about the Voyager and Discovery
- *Teacher-made cassette of river songs and cassette player

PROCEDURE:

- *After attendance is taken during the first 5 minutes of homeroom, all seventh grade students will move to the Rachel Carson Classroom (10 minutes)
- *Teachers will take turns introducing the goals of the "River Unit" and distribute and discuss student information packet with project requirements, rubrics, time line, calendar of activities, permission slips, Voyager information sheets for parents, Education Celebration Night outline (20 minutes)
- *Teachers will group students into groups of four. Students will then move to sit with their group members (10 minutes)
- *Students will view the documentary "The Mon, The Al, and The O" to familiarize themselves with background information about the three rivers (60 minutes).
- *During the videotape of "The Mon, The Al, and The O", students will take notes using the attached teacher-generated guided reading worksheet.
- * After viewing the videotape and completing the guided reading notes, students will break into teacher assigned groups of 3-4 to check their answers, before being provided the correct answers on the overhead projector (10 minutes).
- *Using the guided reading notes from the videotape, along with notes previously taken during river-related lessons in science class, students will then brainstorm about possible topics for group research papers and projects related to the Monongahela, Allegheny and Ohio Rivers (15 minutes).

*One student from each group will come to the board and list the topics they brainstormed. Teachers will also list possible topics on the board, once the students are done. Students and teachers will work together to make the topics more specific, and then group them into categories. While topics are being refined and categorized on the board, one teacher will copy the different topics onto small slips of paper. When a minimum of 40 different topics are identified and copied onto slips of paper, the slips of paper will be placed into a basket. One representative from each group will select a slip of paper from the basket. The topic on the paper will be the group's topic for research and presentation (30 minutes).

*After all groups select a topic, they will create a group name and design a group logo based on their river topic. Names and logos will later be drawn onto t-shirts with colored permanent markers to be worn on the Voyager/Discovery field trip and during Education Celebration Night. Play cassette of river music while students are designing their logos (30 minutes).

EVALUATION:

- *Teacher observation of co-operation among group members
- *Number of correct answers on guided reading worksheet completed during viewing of videotape
- *Participation in brainstorming activity
- *Completion of group name and group logo based on requirements on rubric (originality, reflects topic...)

HOMEWORK:

Share information packets with parents and get permission slips for the Voyager/Discovery field trip signed by parents. Begin to research topic.



Name _____

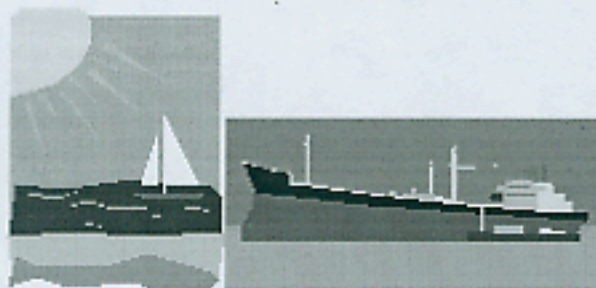
THE MON, THE AL, AND THE O

While viewing the documentary, complete the following questions:

1. The source of the Allegheny River is in the north central part of Pennsylvania in the small town of _____.
2. The _____ was built as flood control along the upper Allegheny.
3. Rogertown, in 1835, was the sight of an important _____.
4. The upper Allegheny, sometimes nicknamed the _____, is known for its enjoyable recreation and beautiful scenery.
5. What happens to the Allegheny River at Brady's Bend? _____
6. According to the Army Corp. of Engineers, how deep does a river have to be to be called a river? _____
7. The closer the Allegheny gets to Pittsburgh, the _____ it gets.
8. Early native Americans to the area named the "Allegheny" after the word that means "_____".
9. The Allegheny River is _____ miles from its source to its mouth.
10. Also named Allegheny is a _____ where Springdale High School is located.
11. In 1907, a city named "Allegheny", which lies along the north shore of the river, across from the "Golden Triangle" was forced to become part of the city. It is called the _____ today.
12. The Monongahela takes its source in the mountain in _____, West Virginia.
13. The Monongahela is _____ miles long, flowing north and meeting the Allegheny in Pittsburgh.

14. The Mon used to be one of the busiest rivers in the US, when the _____ was at its peak in Pittsburgh.
15. A filled barge usually sits _____ feet below the water.
16. The Monongahela River named by the _____ Indians, meant "high banks."
17. The Allegheny River carries _____ as much water as the Mon, and flows more swiftly.
18. The _____ were the first settlers in the Pittsburgh area.
19. The Ohio was called the "beautiful river" by the _____ Indians.
20. Dams were built in order to raise water level for _____. Locks have to be built to let _____ through
21. _____ is the water above the dam.
22. Pittsburgh became an industrial center because of what mineral resource? _____
23. The Gateway Clipper Fleet consists of a fleet of _____ ships.
24. On May 17, 1958, the first Gateway Clipper boat sailed the Allegheny financed by owner _____.
25. On January 31, 1956, an Air Force B-_____ went down in the Monongahela River.
26. What is the supposed river? _____
27. What is the biggest annual event celebrated on the Allegheny River?

28. What is the newest sport to take place on the banks of the Allegheny River near Herr's Island? _____
29. What is the source of the Ohio River? _____ and _____
30. Into what body of water does the Ohio River empty? _____



Name Key

THE MON, THE AL, AND THE O

While viewing the documentary, complete the following questions:

1. The source of the Allegheny River is in the north central part of Pennsylvania in the small town of Coudersport.
2. The Kinzua Dam was built as flood control along the upper Allegheny.
3. Rogertown, in 1835, was the sight of an important Sawmill.
4. The upper Allegheny, sometimes nicknamed the "lazy river", is known for its enjoyable recreation and beautiful scenery.
5. What happens to the Allegheny River at Brady's Bend? navigable
6. According to the Army Corp. of Engineers, how deep does a river have to be to be called a river? 9 feet
7. The closer the Allegheny gets to Pittsburgh, the busier it gets.
8. Early native Americans to the area named the "Allegheny" after the word that means "fair waters".
9. The Allegheny River is 325 miles from its source to its mouth.
10. Also named Allegheny is a county where Springdale High School is located.
11. In 1907, a city named "Allegheny", which lies along the north shore of the river, across from the "Golden Triangle" was forced to become part of the city. It is called the North Side today.
12. The Monongahela takes its source in the mountain in Fairmont, West Virginia.
13. The Monongahela is 128 miles long, flowing north and meeting the Allegheny in Pittsburgh.

14. The Mon used to be one of the busiest rivers in the US, when the Steel industry was at its peak in Pittsburgh.
15. A filled barge usually sits 9 feet below the water.
16. The Monongahela River named by the Delaware Indians, meant "high banks."
17. The Allegheny River carries twice as much water at the Mon, and flows more swiftly.
18. The French were the first settlers in the Pittsburgh area.
19. The Ohio was called the "beautiful river" by the Seneca Indians.
20. Dams were built in order to raise water level for boats. Locks have to be built to let boats through
21. Pool is the water above the dam.
22. Pittsburgh became an industrial center because of what mineral resource? coal
23. The Gateway Clipper Fleet consists of a fleet of 6 ships.
24. On May 17, 1958, the first Gateway Clipper boat sailed the Allegheny financed by owner John Connelly.
25. On January 31, 1956, an Air Force B-25 went down in the Monongahela River.
26. What is the supposed river? aquifer
27. What is the biggest annual event celebrated on the Allegheny River?
Three Rivers Regatta
28. What is the newest sport to take place on the banks of the Allegheny River near Herr's Island? rowing
29. What is the source of the Ohio River? Allegheny River and Monongahela River
30. Into what body of water does the Ohio River empty? Mississippi River

The Allegheny River Experience

During the fall of 1999, seventh graders at Springdale Junior High School were truly able to experience the Allegheny River. Receiving specialized training from STS design, a team of Allegheny Valley School District teachers, under the guidance of Assistant Superintendent, Dr. Catherine Craven developed and implemented an integrated unit focusing on the Allegheny River. It was known as "The Allegheny River Experience."

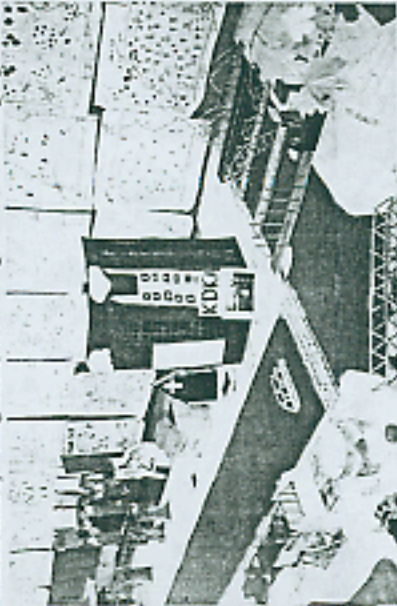
The model of the river that was displayed in the gym of Springdale Junior High School



The development of the unit

involved the entire seventh grade staff. The Allegheny was divided into parts with each team of students researching and creating a display for their portion of the river, as well as writing a report on their findings. The teachers were the facilitators who helped the students gather information and incorporate it into the presentation. The whole unit encompassed three weeks in which the students gained a better understanding of and appreciation for the Allegheny River.

The Language Arts rooms became the hub of the activity. Teachers Sue Canterbury and Tracie Pawlowski coordinated the reports and provided time and space for the displays to be designed. Students developed their communication skills by writing letters, interviewing sources, and



making phone calls. Their research skills were enhanced and they especially enjoyed using the Internet and the Watershed Atlas of the Allegheny River Website.

Science teacher, Susan Seth, combined the unit with lessons on Ecology. Students learned about freshwater ecosystems and the pollution problems associated with them. They were able to apply this information to the Allegheny River. Activities included: macro invertebrate and plankton collection and identification; water quality testing; designing watersheds; identifying freshwater fish, being tangled in a food web and racing through challenge games about pollution. The scientific highlights of this project was a field trip on the Pittsburgh Voyager and Discovery.

Maps and geology were the focus for Geography teacher, Kathy McQuade. She had each of the students develop a map of their region showing the cities and communities, tributaries, and bridges and dams. History came alive as guest speakers shared stories about their lives while growing up along the river featuring some of the places, people, and events they remembered.

One of the fun activities was "The Great River Obstacle Course," developed by Physical Education Teachers, Kathy Kolczar and Scott Friel. Students raced against the clock to help the Fish



and Boat Commission stock trout, go tubing down the white water rapids, clean up the shoreline, put on a life preserver, and a variety of other crazy stunts.

Technology was brought in with Tech Ed teachers, John McDermott and Gary Lemson. They helped the students plan their displays and construct some of the more complex projects like working locks and dams. In addition, Mr. McDermott and a team of students designed and laid out the floor plans for the river in the gym.

Inclusion was observed at its best during the project. The learning support students participated in all aspects of the program with the direction of their teacher, Debbie Engles. Three of the support students created a brochure, "The Allegheny River Experience", which was handed out to students and parents at the open house. The brochure depicted a summary of the river, its history, geographic features and development.

The Allegheny River Experience was an integrated unit that the students will not soon forget. The



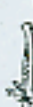
For more information on this project, contact Susan Seth at Springdale Junior High School (724) 274-8100.

Mayflies, Stoneflies, and Shutterbugs

Amateur photographers are encouraged to submit their work in the Year 2000 Pennsylvania Fish and Boat Commission Photography Contest. Winners will be determined by a panel of judges chosen by the PA Fish and Boat Commission and will be rated on a variety of qualities, including composition, originality, visual appeal, and adherence to contest rules. The Contest will run from January 1, 2000 to December 1, 2000. Categories include: seasonal fishing or boating, family fishing or

boating, reptiles and amphibians, invertebrates, and fishing and boating resources. Winners will be announced during an awards presentation at the January 2001 Commission meeting.

The contest is intended to foster a greater appreciation for the Commonwealth's fishing, boating, and aquatic resources. For more information, visit the Commission's web site: www.fish.state.pa.us



1.6.8. Speaking and Listening - Grade 8

- 1.6.8A **Listen to others.**
- Ask probing questions.
 - Analyze information, ideas and opinions to determine relevancy.
 - Take notes when needed.
- 1.6.8B **Listen to selections of literature (fiction and/or nonfiction.)**
- Relate them to previous knowledge.
 - Predict content/events.
 - Summarize events and identify the significant points.
 - Identify and define new words and concepts.
 - Analyze the selections.
- 1.6.8C **Speak using skills appropriate to formal speech situations.**
- Use complete sentences.
 - Pronounce words correctly.
 - Adjust volume to purpose and audience.
 - Adjust pace to convey meaning.
 - Add stress (emphasis) and inflection to enhance meaning.
- 1.6.8D **Contribute to discussions.**
- Ask relevant, probing questions.
 - Respond with relevant information, ideas or reasons in support of opinions expressed.
 - Listen to and acknowledge the contributions of others.
 - Adjust tone and involvement to encourage equitable participation.
 - Clarify, illustrate or expand on a response when asked.
 - Present support for opinions.
 - Paraphrase and summarize, when prompted.
- 1.6.8E **Participate in small and large group discussions and presentations.**
- Initiate everyday conversation.
 - Select a topic and present an oral reading.
 - Conduct interviews as part of the research process.
 - Organize and participate in informal debates.
- 1.6.8F **Use media for learning purposes.**
- Describe how the media provides information that is sometimes accurate, sometimes biased based on a point of view or by the opinion or beliefs of the presenter.
 - Analyze the role of advertising in the media.
 - Create a multimedia (e.g. film, music, computer-graphic) presentation for display or transmission.