

8a.3 What is Your Watershed?

Story Extension for This Lesson:

Just like Sam and Alex, your class explores the water sources in their own locale. They also investigate how their activities might impact local water sources

Grade: 8

Strand: Water Systems

Big Ideas:

- Water is crucial to life on Earth. (Overall expectations 1 and 2)
- Water systems influence climate and weather patterns. (Overall expectation 3)
- Water is an important resource that needs to be managed sustainably. (Overall expectations 1 and 2)

Overall Expectations:

1. assess the impact of human activities and technologies on the sustainability of water resources
2. investigate factors that affect local water quality
3. demonstrate an understanding of the characteristics of the earth's water systems and the influence of water systems on a specific region

Inquiry Skills:

Modelling, Designing, Explaining

Specific Expectations:

2.4 use scientific inquiry/research skills (see page 15) to investigate local water issues

2.6 use appropriate science and technology vocabulary, including water table, aquifer, polar ice-cap, and salinity, in oral and written communication

3.1 identify the various states of water on the earth's surface, their distribution, relative amounts, and circulation, and the conditions under which they exist (e.g., water is a solid in glaciers, snow, and polar ice-caps; a liquid in oceans, lakes, rivers, and aquifers; and a gas in the atmosphere)

3.2 demonstrate an understanding of the watershed as a fundamental geographic unit, and explain how it relates to water management and planning

3.3 explain how human and natural factors cause changes in the water table (e.g., lawn watering, inefficient showers and toilets, drought, floods, overuse of wells, extraction by bottled water industry)

Instructions:

During this lesson relate the importance of local water sources by researching and identifying the local watershed. When students are aware of their own water sources it helps foster a greater sense of water stewardship.

Have students define a watershed after watching **Crash Course Kids, episode 33.1**. The class should then identify their local watershed by mapping the area or going on an outdoor excursion. They should be able to answer the following questions (include the expert in this discussion where possible):

- Where does it come from?
- Where does it go?
- Is there any type of protection around your local watershed?

From this exploration, the students will be able to understand and discuss the issues of their regions.

Urban Watershed:

What does 'urban watershed' mean? Have the students investigate this term, and create a brochure explaining what it is and how people can find solutions problems with urban watersheds. Schedule time to have the students conference with an expert about their understanding of an urban watershed.

Materials List:

- pens or pencils
- computer

Subject Area:

Environmental, Science, Social Studies

Connects to:

Grade 7, Grade 8, Grade 9

Assessment Strategy:

The Learning Process

Handouts/Assessments:

- - Water Systems 3-1

Your Watershed

Name: _____

Through an exploration in your community, find your local watershed.

When you have had the chance to observe your watershed, answer the following questions to improve your appreciation for how the water system works.

Where does it come from?

Where does it go?

Is there any type of protection around your local watershed?

What other questions do you have?

Urban Watershed 1.3.2

Name: _____

Now that you have seen the difference between a natural watershed and an Urban Watershed, create a Public service campaign brochure, teaching people about the concerns with an Urban Watershed. How they can help reduce hard surface runoff and, how more water can be reclaimed back into the water table. Make sure to identify factors that protect or damage watersheds, and what these streams contain.

Use the Learning Process to begin your research.

The Learning Process

Inquiry Process: Immersion - *Define Topics, Build Background and Invite Curiosity*

Traits

- Create self-reliance when interacting with a variety of media to explore and develop background knowledge
- Responds to text by jotting or drawing questions, connections, and reactions
- Works productively with groups to create a plan
- Identifying the Main ("Big") Ideas
- Completed a conference to confirm Main ("Big") Ideas

Step 1: *The BIG Question (What is the big idea being investigated?)*

Step 3: *Conference Notes*

Level:

Distinction = 4, Proficiency = 3, Emerging = 2, Beginning = 1

Inquiry Process: Investigation – *Developing Questions, Searching for Information and Answers*

Traits

- Listens, talks, views, and reads to gain information
- Uses the Q-chart to develop questions for investigation
- Works productively with teams to monitor schedules and task completion
- Completed a conference to develop questions

Guiding Questions *(One (1) guiding questions from each column and each row.)*

	Is/Is not	Do\Did(not)	Can (not)	Would/Should	Will	Might/Could
Who						
What						
Where						
When						
How						
Why						

Write out the completed questions in full. (You may change these or add to them during the process.)

Who	
What	
Where	
When	
How	
Why	

Step 3: *Conference Notes*

Check off:

Distinction = 4, Proficiency = 3, Emerging = 2, Beginning = 1

Inquiry Process: Integration – *Intensify research, Synthesize Information, Connect Knowledge*

Traits

- Engages in deeper reading and researching: Books, articles, and websites.
- Checks sources, determines reliability
- **Synthesizes information**
- Works productively with teams to monitor task completion and sharing
- Use appropriate technology as a tool to help gather and analyse information, solve problems, and communicate.
- Completed a conference concerning

Step 3: Conference Notes

Level:

Distinction = 4, Proficiency = 3, Emerging = 2, Beginning = 1

Inquiry Process: **Instruction** – *Sharing Learning and Demonstrate their Understanding*

Traits

- Completed a conference
- Demonstrates learning and understanding in a variety of ways
- **Teaching others**
- Reflects upon and articulates **the learning process**
- Defends and reflects upon the cooperative procedure

Step 3: Conference Notes

Level:

Distinction = 4, Proficiency = 3, Emerging = 2, Beginning = 1