

8a.11 We All Live Downstream

Story Extension for This Lesson:

Now your students can pull it all together, it's time to synthesize all of their knowledge and new skills.

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

Specific Expectations:

- 1.1 evaluate personal water consumption, compare it with personal water consumption in other countries, and propose a plan of action to reduce personal water consumption to help address water sustainability issues
- 1.2 assess how various media sources address issues related to the impact of human activities on the long-term

sustainability of local, national, or international water systems

1.3 assess the impact on local and global water systems of a scientific discovery or technological innovation

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)

3.4 identify factors (e.g., annual precipitation, temperature, climate change) that affect the size of glaciers and polar ice-caps, and describe the effects of these changes on local and global water systems

3.5 explain changes in atmospheric conditions caused by the presence of bodies of water (e.g., differences in

temperature near large bodies of water;
microclimates; storms off coastal areas)

Inquiry Skills:

Evaluating Writing, Reflecting, Teaching

Other 21st Century Skills

Global Citizenship

Instructions:

After lengthy discussions, investigations and various videos, students have gathered information about the importance and scarcity of potable water on our planet. They are now asked to explain what they have learned in a 500-word essay that starts off with the following statement:

We all live downstream from someone else...

Subject Area:

Environmental, Science, Social Studies

Connects to:

Grade 8

Assessment Strategy:

The Learning Process

Handouts:

- We All Live Downstream

"We all live downstream..."

Name: _____

Your assignment: After lengthy discussions, investigations and the odd video you have gathered information about the importance and scarcity of potable water on our planet. You are now asked to explain what you have learned in a 500-word essay that starts off with the statement:

"We all live downstream from someone else..."

This is a culmination of your unit

Part 1: The Research

In order to produce a solid piece of writing, it is important to conduct thorough research on your topic. REMEMBER, your sources MUST be included in a bibliography and not be biased. (See below.)

Part 2: The Essay:

Use the essay graphic organizers used in class to help organize each paragraph. Think of it this way, you already know how to write a power paragraph. This entire essay is five of them put together! Your final essay will also include a bibliography listing all the sources that you visited.

Use the Learning Process to help organize your notes.

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