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A Clear Spring

Megan Pershing

University of Central Florida, meganrpershing3636@knights.ucf.edu

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Diverse Families Children’s Literature Lesson Plan

Written by Megan Pershing

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<p>Lesson Title</p>	<p>Book Title: <i>A Clear Spring</i> by Barbara Wilson Book Author: Barbara Wilson</p> <p>FINAL Lesson of Literary Circles for <i>A Clear Spring</i>. Lesson begins in the science block but will be wrapped in the ELA block for the writing portion.</p>
<p>Content Area(s) and Grade Level(s)</p>	<p>Science and English Language Arts 4th Grade</p>
<p>Lesson Objective(s)</p>	<ul style="list-style-type: none"> ● The Student will use details and examples from the text to identify ways that humans can impact the environment by providing at least 3 examples. ● The Student will use details and examples from the text to support the idea that science does not always follow the scientific method but does require the use of observations and evidence. ● The Student will keep records that describe observations made in a scientific investigation, recognizing ways humans can impact the environment. ● The Student will conduct a short research project on a local pollution issue and produce clear and coherent writing that is appropriate to the task, purpose, and audience.
<p>Florida Standards:</p>	<ul style="list-style-type: none"> ● SC.4.L.17.4 Recognize ways plants and animals, including humans, can impact the environment. ● SC.4.N.1.3 Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence. ● SC.4.N.1.6 Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations. ● SC.25.CS-PC.3.1 Identify digital information resources used to answer research questions (e.g., online library catalog, online encyclopedias, databases, and websites). ● LAFS.4.RI.1.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. ● LAFS.4.W.2.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. ● LAFS.4.W.3.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic.
<p>Assessment:</p>	<p>Formative Assessments: The Teacher will:</p> <ul style="list-style-type: none"> ● observe students collaborating with their peers



	<ul style="list-style-type: none">● take note of student graphic organizers after full class virtual investigation● have students self-assess after full class virtual investigation to note any need for intervention prior to moving to the small group investigations● take note of student observations in their scientific notebooks after small group investigations (EL Strategy 48-Use group assignments, portfolios, learning journals and non-print options as alternative assessment) <p>Summative Assessment: Letter to Government representatives about a local pollution issue, including evidence from their short research project.</p>
<p>Motivating Activity & Anticipatory Set/Access Prior Knowledge:</p>	<p>At the beginning of this lesson, students will have read all of <i>A Clear Spring</i> and had their final meeting with their small group on the text.</p> <ul style="list-style-type: none">● The teacher will have students turn and talk with their shoulder partner on what they liked about the book and if they thought it was an accurate representation of a scientific investigation. Teacher will ask students to provide evidence from the text. (UDL 3.1- Activate or supply background knowledge)<ul style="list-style-type: none">○ <i>ex. Willa and Tabby made observations in their field journals, they collected samples of water to be tested (one above the construction site and one below so they can be compared), students may note that Tabby said in her letter that the water was “poisoned” but she did not have evidence to support the claim. But they had evidence in the Salmon Creek Watershed dumping (through eyewitness accounts and photos)</i>○ <i>Teacher: So even though the girls did not follow the exact “scientific method”, did they conduct a scientific investigation?</i>○ <i>Teacher: It is important to know that if you are making observations and finding evidence, you are doing science! Actual scientists don’t always follow strict steps in their processes.</i>● Students will then share with the whole class what they had discussed with their partner (this will give the teacher an opportunity to assess that students comprehend the text)● The teacher will inform students that they will be conducting their own scientific investigations today like Willa and Tabby from <i>A Clear Spring</i>.



Procedures:

- The teacher will have students get out their scientific journals for the lesson.
 - *What type of information did Willa put in her notebook? How did her notebook differ from Tabby's? Is it okay to make different types of observations?*

- The teacher will bring out an anchor chart of key vocabulary that has been discussed through the reading of *A Clear Spring*.
 - Vocabulary terms include:
 - Environment
 - Ecosystem
 - Pollution
 - Naturalist**(UDL 2.1-Clarify vocabulary and symbols) (EL Strategy 5-Teach technical vocabulary supporting key concepts)**

- The teacher will provide students with a graphic organizer for full class investigation **(EL Strategy 7-Show students how to use graphic organizers)**. This organizer will be added to their scientific journals
 - *We will watch a video of a creek that has multiple sources of pollution. I am going to play the video for you a few times and I want you to mark your observations on your organizer. What are some of the things you may want to look for?*
 - *Student responses: Trash, Oil dumping, possible sources of pollution, dead fish, etc.*
 - *These are all great observations that can be marked down in your journal. Make sure you list at least three (3) sources of pollution that you see, and you can either draw them or write them out.*

- The teacher will share this video with the class:
<https://safeshare.tv/x/sElz35Uq7i0>. Show the video a few times, stopping it at parts that show multiple pollution sources.
 - The teacher will model how to make observations in the video by pointing out the washing machine in the water. The teacher will think aloud about how a washing machine may negatively impact the water source. **(EL Strategy 8-Use direct instruction: Modeling, explaining, scaffolding, name the strategy and show how to use it)**
 - Think Pair Share **(EL Strategy 10- Teach think, pair and share strategies in cooperative groups)**- Students will work independently on this task, then discuss their findings with their elbow partner. After students have discussed with their partners, the discussion will be brought back to the full class.



- *We have observed different sources of pollution, but how exactly do these impact the environment? Share some possible ways these could cause problems and what we can do to fix it*
 - *Trash can stop water flow, machines in the water can put toxins in the water, runoff from the building can be bad for drinking or for fish. Fish can eat trash and die. Students may suggest cleaning up trash, removing machines from the area, and getting rid of the falling structure near the water.*
- *If we were in person, what else could we do to obtain evidence of pollution?*
 - *Water Sample, Pictures, Trash Sample*
- As students are sharing their observations, the teacher will list them on the board so students can add to their organizers if their peers found something different. **(EL Strategy 16-Integrate speaking, listening, reading and writing activities)**
 - Pollution can look different in other areas. Can you think of some other areas we can see pollution?
 - Trash on the road, trash/oil in canals, straws with turtles on the beach, soda rings with birds on the beach, etc.
- Students will now be put into four small groups to conduct investigations based on photos given to each group. The teacher will walk around the groups and observe their investigations. **(EL Strategy 2- Promote cooperation [small groups])**
 - image links:
 - https://assets.weforum.org/article/image/large_KZosruZfdtwH_CaYeVNeMOMwWM9e4OoLkDyCFFarh1io.jpg
 - <https://www.onlinebiologynotes.com/wp-content/uploads/2018/07/water-pollution-678x381.jpg>
 - <https://psmag.com/.image/ar 1:1%2Cc fill%2Ccs srgb%2Cfl progressive%2Cq auto:good%2Cw 1200/MTU0MTM4MTQxNDU4OTY1OTE1/gettyimages-819678200.jpg>
 - <https://www.chinafile.com/sites/default/files/assets/images/article/featured/waterpollution.jpg>
- Students will come back to the whole group to discuss their findings from the photos they investigated.
 - *Some of the photos have images of either animals or people interacting with the polluted water. What impact do you think the pollution can have?*



	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> ■ <i>The duck can choke on trash, the girl swimming can get sick from toxins, the fish the boys are catching may have eaten trash or been toxic due to pollution.</i> ○ <i>Thinking back to A Clear Spring, what did Willa do in response to her investigation? Use evidence from the text</i> <ul style="list-style-type: none"> ■ <i>Took a water sample, sent it in to be tested, confronted the man dumping oil.</i> ○ <i>Were all of her actions safe? [wait for response, most students will say no, that the dog came after her from getting the sample and the man tried running her off the road.] It is important to protect wildlife and our community, but it is just as important to keep ourselves safe. What are some ways we can advocate for our community while also keeping ourselves safe?</i> <ul style="list-style-type: none"> ■ <i>Clean up trash (with gloves and don't touch anything sharp). Share our concerns with adults.</i> ○ <i>Sharing our concerns is a great way to let people know we care about our environment and the pollution that occurs. We can reach out to our local representatives and share with them our findings and advocate for keeping our community pollutant-free. We will now be doing some research on pollution issues in our area and in our ELA block, we will be drafting letters to our local representatives about these issues. (UDL 7.2-Optimize relevance, value, and authenticity)</i> ● The teacher will provide students with computer access to research pollution issues in their area or provide article printouts for students to read through ● During ELA block, the teacher will remind students that they are trying to convince the representative that keeping the community clean is important, so it is necessary to provide evidence in their letter. <ul style="list-style-type: none"> ○ The teacher will provide students a rubric for the letter. ○ After drafting their letters, students will peer review in pairs, using the rubric as a guide. EL students will be paired with native English speakers to support in the editing process. (EL Strategy 32-Use student pairs for team learning, especially for reports, experiments and projects) ○ After peer review, students will revise and edit their letters for the final draft. Students can choose whether to type or handwrite their letters. (UDL 5.2-use multiple tools for construction and composition)
<p>Materials/Resources:</p>	<ul style="list-style-type: none"> ● <i>A Clear Spring</i> by Barbara Wilson ● Student Scientific Journals ● Pencils ● Colored Pencils ● Key Vocabulary Anchor Chart (see attached example)



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| | <ul style="list-style-type: none">● Graphic Organizer (see attached)● Photo Sets for Investigations (see links in lesson)● Computer access for students OR● Print out of articles regarding local pollution (based on location, not included in lesson)● Rubric for Letter (see attached)● Universal Design for Learning Guidelines List:
http://udlguidelines.cast.org/binaries/content/assets/udlguidelines/udlg-v2-2/udlg_graphicorganizer_v2-2_numbers-yes.pdf |
|--|--|



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WORDS TO KNOW:



ENVIRONMENT

All the physical surroundings
on Earth.

*A Clear Spring
Vocabulary*

ECOSYSTEM

The interactions between the environment
and the living organisms within it.



POLLUTION

When the environment is contaminated, or dirtied,
by waste, chemicals, and other harmful substances.

NATURALIST

A person who studies nature and especially plants
and animals as they live in nature.

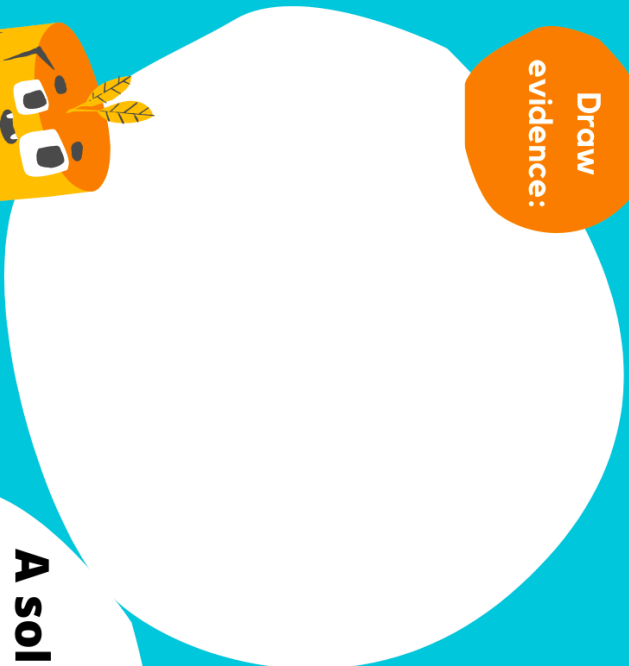




INVESTIGATION OBSERVATIONS

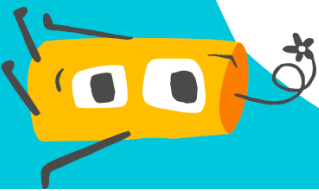
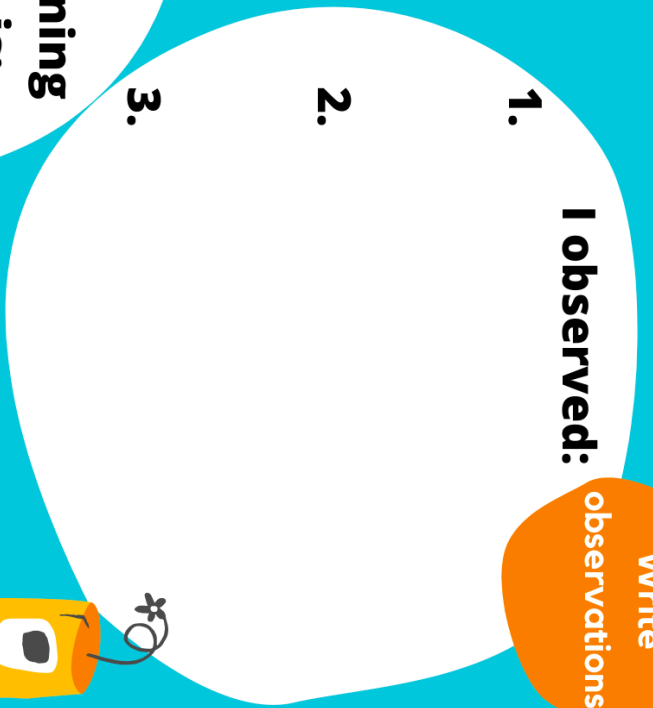
After watching the video, note your observations of the pollution

Draw
evidence:



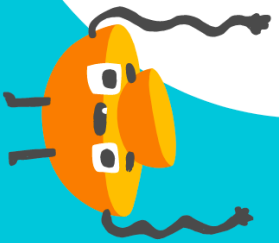
I observed:

Write
observations:



A solution to cleaning
up the pollution is:

Provide
Solutions:





Persuasive Letter Rubric	4 Exceeding Standard	3 Meeting Standard	2 Approaching Standard	1 Not Meeting Standard
<p>Introduction LAFS.4.W.2.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</p>	<p>The claim is clearly written.</p> <p>Letter used questions and/or a personal story to hook the reader.</p>	<p>The claim is clearly written.</p>	<p>The claim is not clearly written.</p>	<p>The claim is missing.</p>
<p>Reasons LAFS.4.W.2.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</p>	<p>Letter includes 3 or more clear reasons.</p>	<p>Letter includes 3 clear reasons.</p>	<p>Letter includes less than three reasons and/or reasons are unclear.</p>	<p>Letter includes no reasons or reasons are unconnected to the claim.</p>
<p>Conclusion LAFS.4.W.2.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</p>	<p>Conclusion summarizes all reasons given, restates the claim, and has a call to action.</p>	<p>Conclusion summarizes all reasons given, restates the claim.</p>	<p>Conclusion restates the claim.</p>	<p>Conclusion fails to restate the claim.</p>
<p>Structure LAFS.4.W.2.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</p>	<p>N/A</p>	<p>All paragraphs are at least 4 or more sentences long.</p>	<p>One or more of the paragraphs are less than 4 sentences long.</p>	<p>Letter is not written in paragraph form.</p>
<p>Transitions LAFS.4.W.2.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</p>	<p>Letter includes transitions for every reason, the conclusion, and shift in examples/thinking.</p>	<p>Letter includes transitions for every reason and the conclusion.</p>	<p>Letter is missing a transition.</p>	<p>Letter is missing more than one transition.</p>
<p>Spelling/Grammar LAFS.4.W.2.5 With guidance and support from peers and adults, develop and strengthen</p>	<p>The letter has correct spelling, grammar, and</p>	<p>There are few spelling, grammatical, or</p>	<p>There are several spelling, grammatical, or</p>	<p>Letter has many spelling, grammar, and punctuation</p>



<p>writing as needed by planning, revising, and editing.</p>	<p>punctuation. Less than 3 mistakes.</p>	<p>punctuation errors which slow the reader down and make it difficult to understand. 4-6 errors.</p>	<p>punctuation errors in the letter, which makes reading and understanding it challenging. 7-9 errors.</p>	<p>errors which makes reading impossible/very frustrating. 9 or more errors.</p>
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