Are You Thirsty?

Designed by: Diana Brogan - Special Education Teacher
Danielle Conaway - ELA Teacher
Lydia Elsea - Social Studies Teacher
Greta Etherton - ELL Teacher
Lorraine Jordin - Science Teacher

Content Area: ELA/Social Studies/Science

Grade Level: 7

Table of Contents
Are You Thirsty?

Unit Overview 4
Unit Scope and Sequence 5
Performance Template Task 9
Planning Chart 1 12
Planning Chart 2 14
Grade 7 Argument Rubric 15
Lesson 1 Water Scarcity 16
- Attachment 1 Vocabulary Chart 21
- Attachment 2 Site Image 22
- Attachment 3 Farmer Brown Activity 23
- Attachment 4 GN Project Map 24
- Attachment 5 Quick Facts 25

GN Project Negatives & Positives 31
- Attachment 6 Court Case 32
- Attachment 7 Argumentative Graphic Organizer 33
- Attachment 8 Water Scarcity Around the World 34
  - Article 1 Middle East 34
  - Article 2 India 35
  - Article 3 United States 36
  - Article 4 South Africa 37
  - Article 5 Latin America 38
  - Article 6 Middle East 39
  - Attachment 9 40

Lesson 2 Water Quality 41
- Attachment 1 Pre-Assessment 47
- Attachment 2 Vocabulary Chart 48
- Attachment 3 Water Graph 49
- Attachment 4 Article 50
- Attachment 5 Article 53
- Attachment 6 Article 58
- Attachment 7 Graphic Organizer 61
- Attachment 8 Rubric 62
- Attachment 9 Cornell Notes 63
- Attachment 10 Article 64

Lesson 3 Claims & Counterclaims 69
- Attachment 1 Vocabulary Chart 73
- Attachment 2 Article 74

Lesson 4 Supporting A Claim 75
- Attachment 1 Vocabulary Chart 78
- Attachment 2 Claim 79
- Attachment 3 Graphic 80
- Attachment 4 Counter 81

Lesson 5 Paraphrase/Cite 82
- Attachment 1 Vocabulary Chart 85
- Attachment 2 Article 86
- Attachment 3 Graphic Organizer 90

Lesson 6 Intro/Conclusion Argumentative Writing 91
Attachment 1 Vocabulary Chart 94
Attachment 2 Intro Graphic Organizer 95
Attachment 3 Introductions 96
Attachment 4 Conclusions Graphic Organizer 97
Attachment 5 Conclusions 98
Text Complexity Long Walk & Water 99

Are You Thirsty?

Unit Overview: This unit focuses on one of our Earth's most precious resources WATER. We look at the global issue of water quality and distribution, as well as the efforts to improve this current crisis. The students become experts at using resources to cite, paraphrase, recognize claims, state and justify claims, as well as create an argumentative piece.

This unit is designed to integrate Social Studies, Science, and English/Language Arts content so that students are able to make cross-curricular connections.

Scope and Sequence		
Lesson/Description	**Duration/ # of Days**	**Standards/Learning Progressions**
Lesson 1: Students will analyze how possible environmental challenges affect humans and what modifications people need to make in order to survive a challenging habitat. To conclude, students will gain an understanding by reading multiple texts about water scarcity and how it is affecting humans worldwide.	1-2	**Geography Standard Three:** Students will develop an understanding of the diversity of human culture and the unique nature of places [PLACES]. **Geography Standard Four:** Students will develop an understanding of the character and use of regions and the connections between and among them [REGIONS]. **CCSS.SL.7.1:** Engage effectively in a range of collaborative discussion with diverse partners on grade 7 topics, texts and issues building on others ideas and expressing their own clearly. **CCSS.SL.7.4:** Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. **CCSS.RI.7.1:** Cite several pieces of textual evidence to support analysis of what text says explicitly as well as inferences from the text. • Use the combination of explicitly stated information, background knowledge, and connections from the text to answer questions they have as they read. • Make inferences about content, abstract ideas and author's decisions in a text. • Identify/cite appropriate text support for inferences about content, abstract ideas and author's decisions in a text.
Lesson 2: Students will identify the amount of fresh water available for a variety of uses in the world. Students work collaboratively to diagram water processes. Additionally, students will investigate designs for water purification. Students will construct an argument from evidence that supports or refutes solutions to the issues regarding the world's water.	2-3	**MS-ESS2-4** (Earth's Systems): Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. **MS-LS2-5** (Ecosystems, Interactions, Energy and Dynamics): Evaluate competing design solutions for maintaining biodiversity and ecosystem services. **MS-ESS3-4** (Human Impact): Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. **CCSS.RI.7.1:** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences from the text.

		• Make inferences about content, abstract ideas and author's decisions in a text • Identify/cite appropriate text support for inferences about content, abstract ideas and author's decisions in a text • Analyze what text says explicitly as well as inferentially and cite textual evidence to support that analysis **CCSS.RI.7.9:** Analyze how two or more authors writing about the same topic shape their presentation of key information by emphasizing different evidence or advancing different interpretations of facts. • Identify the author's position in a text. • Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts. **CCSS.SL.7.1:** Engage effectively in a range of collaborative discussion with diverse partners on grade 7 topics, texts and issues building on others ideas and expressing their own clearly.
Lesson 3: Students will use informational text to analyze and discuss different points of view on the same subject. Using these same informational texts as well as an informational video, students will practice identifying claims and counterclaims.	1	**CCSS.RI 7.9:** Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts. • Identify the author's position in a text. • Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts. **CCSS.RI 7.8:** Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims. • Trace and explain arguments and claims **CCSS.SL.7.1:** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
Lesson 4: Students will analyze the logic in the development of different points of view on the subject; the focus being on sound reasoning and relevant evidence to support a claim. Additionally, students will evaluate the evidence used to support a claim.	1	**CCSS.SL.7.1a:** Come to discussions prepared by having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion **CCSS.RI 7.8:** Trace and evaluate the argument and

		specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims. • Trace and explain arguments and claims • Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reason and evidence from claims that are not. **CCSS.RI.7. 9:** Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts. • Identify the most important information and events from texts used for a given purpose. • Describe how the author's choices reflect his/her viewpoint, focus, attitude, position or bias. • Identify the author's position in a text. • Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.
Lesson 5: Students will gather relevant information from multiple digital and print sources to practice quoting and paraphrasing to avoid plagiarism. Students will also be given instruction on how to correctly use a direct quote to support a claim.	2	**CCSS.RI.7.1:** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. • Make inferences about content, abstract ideas and author's decisions in a text • Identify/cite appropriate text support for inferences about content, abstract ideas and author's decisions in a text • Analyze what text says explicitly as well as inferentially and cite textual evidence to support that analysis **CCSS.7.W.7.8:** Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or while avoiding plagiarism and following a standard format for citation. **CCSS.SL.7.1a:** Come to discussions prepared by having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion

Lesson 6: Students will be able to analyze and identify the components of an introductory and concluding paragraph in an argumentative essay. Additionally, students will learn how to properly structure an introduction and conclusion.	1-2	**CCSS.RI.7.5:** Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas. • Understand and analyze how parts (sentences, paragraphs, chapters, or sections) contribute to the whole (development of ideas) **CCSS.W7.1e:** Provide a concluding statement or section that follows from and supports the argument presented.

School: Millsboro Middle School **Grade Level: Grade7**

School/District: Millsboro Middle School/Indian River School District

Team Members: Diana Brogan, Danielle Conaway, Lydia Elsea, Greta Etherton, Lorraine Jordin

Title:	**GMO: Friend or Foe?**
Grade:	Grade 7 ELA/social studies/ science
Standards (ELA, Literacy, Content)	**ELA:** **CCSS. 7.W.9b:** Draw evidence from literary or informational texts to support analysis, reflection, and research. **CCSS.7.RI. 1:** Cite several pieces of textual evidence to support analysis of what text says explicitly **CCSS.7.W.1a-b:** Write arguments to support claims with clear reasons and relevant evidence. **Social Studies:** **Civics Standard Four 6-8a:** Students will follow the actions of elected officials, and understand and employ the mechanisms for communicating with them while in office. **Geography Standard Three:** Students will develop an understanding of the diversity of human culture and the unique nature of places [PLACES]. **Geography Standard Four:** Students will develop an understanding of the character and use of regions and the connections between and among them [REGIONS]. **Science:** **NGSS MS-LS2-5:** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
DOK:	Level 3 and 4
UDL:	Provide diverse learners with a scaffolding strategies, sentence starters, cloze reads, detailed graphic organizers, and collaboration with higher achieving students.
Stimuli (Primary Text):	1. Article – "To GMO or not to GMO?" by George Erdosh and Marcia Amidon Lusted http://ic.galegroup.com/ic/scic/MagazinesDetailsPage/MagazinesDetailsWindow?displayGroupName=Magazines&zid=01ad9b6bb02ce1ffc171f3d9e4e2da09&p=SCIC&action=2&catId=&documentId=GALE%7CA357862654&source=Bookmark&u=k12_science&jsid=3f7d719e714e92b24005042b7d90bc68 2. Video – Bill Nye – Eyes of Nye – https://www.youtube.com/watch?v=8z_CqyB1dQo

	3. Article -- PRO/CON: Is it time to label GMO foods? By Tribune News Service, adapted by Newsela staff https://newsela.com/articles/foodlabel-procon/id/12799/ 4. Political Cartoon - http://www.inspirationgreen.com/monsanto-cartoons-and-posters.html
Text Complexity:	[You can fill this in after our Feb. meeting – we will do PD on text complexity and model how to complete a text complexity placemat for the text in this task as well as your lesson plans.]

Task Overview:

Part 1: Before writing an argumentative essay in the form of a letter to an elected official in either support or against the use of genetically modified organisms (GMOs), students will introduced to the topic through a variety of sources. These sources include one short video, two informative texts, and a political cartoon related to the topic. Using the sources, the students will complete provided graphic organizer to gather evidence to support their position on the topic. Additionally, guiding questions will be employed to assist the student's in their thought process. Students should have access to all of the sources as they complete the task.

Part 2: Students will work individually to write an argumentative essay in the form of a letter in support or against the labeling of GMOs. Students may refer to their gathered notes as well as the provided sources.

Task Directions:

Part 1:

Your Assignment:
You will watch one video, analyze a political cartoon, and read two articles. You will take notes on all of these sources and answer guiding questions about each source. You will then write an argumentative essay in the form of a letter to an elected official either in support or against the labeling of GMOs.

Are GMOs the solution to world hunger or does the world need to be warned of their dangers?

Steps you will be following:

In order to plan and write your essay, you will need to do the following:

- Complete the provided graphic organizer to collect notes from the video, articles, and political cartoon
- Answer the guiding questions
- Brainstorm and write your letter

Directions for beginning:
You will watch one video, analyze a political cartoon, and read two articles on the advantages and disadvantages of GMOs. Use the sources and the provided graphic organizer to gather notes. The sources and notes may be referred to as often as you like as you write the argumentative essay in the form of a letter.

Questions: [Questions must be text dependent and at least one that requires students to synthesize between texts. Resources: 1) DOE Comparison Documents - http://dedoe.schoolwires.net/Page/509 includes sample items and student work for both constructed response and full writes. 2) Guide for Creating Text Dependent Questions - http://achievethecore.org/page/710/text-dependent-question-resources]

Answer the following guiding questions to aid in your writing:

1. According to research, why are GMOs a global issue?
2. What evidence from the sources supports the labeling of GMOs?
3. What evidence from the sources is against the labeling of GMOs?

Part 2: [Writing]

Your Assignment: Are GMOs the solution to world hunger or does the world need to be warned of their dangers? Write an argumentative essay in the form of a letter to an elected official either in support or against the labeling of GMOs.

How your essay will be scored: [We are using the DOE Writing Rubrics: http://www.doe.k12.de.us//site/Default.aspx?PageID=2645]

PLANNING CHART #1
School: _Millsboro Middle School____

	Standard	DoK	Know [Which concepts/skills will students need to know in order to complete the questions/full write?]	Do [What is the question/full write asking students to do?]
Question 1: According to research, why are GMOs a global issue?	CCSS. W.7.8: Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	3	- Assess credibility - Recognize relevant evidence - Identify elements of informational text	- Gather evidence from multiple sources - Evaluate the credibility of sources - Paraphrase the data and conclusions while avoiding plagiarism - Cite evidence to support a claim
Question 2: What evidence from the sources supports the labeling of GMOs?	CCSS.RI.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. CCSS.RI.7.8: Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.	3	- Recognize relevant evidence - Identify appropriate text support from inferences about the topic	- Cite several pieces of textual evidence - Trace and evaluate the argument and specific claims in a text

Question 3: What evidence from the sources is against the labeling of GMOs?	CCSS.RI.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. CCSS.RI.7.8: Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.	3	- Recognize relevant evidence - Identify appropriate text support from inferences about the topic	- Cite several pieces of textual evidence - Trace and evaluate the argument and specific claims in a text
Full Write: Are GMOs the solution to world hunger or does the world need to be warned of their dangers?	CCSS.7.W.1a-b: Write arguments to support claims with clear reasons and relevant evidence.	4	- Identify the elements of an argument's structure - Recognize relevant evidence	- Write an argument to support a claim - Cite relevant evidence to support a claim

PLANNING CHART #2
School: Millsboro Middle School

Standard:CCSS.7.RI.5: Analyze the structure the author uses to organize a text including how the major sections contribute to the whole and the development of an idea.		
Targets	Learning Progressions	Formative Assessment Strategies
Analyze the structure the author uses to organize a text including how the major sections contribute to the whole and the development of ideas.	Identify and explain how major sections contribute to the whole and the development of ideas	Use of graphic organizer with arrows to closely identify components of an argumentative introduction and conclusion

*Create as many charts and rows as needed. List only targets/progressions taught in the module.

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Argumentation/Opinion Text-Based Writing Rubric
Grade 7

	Score of 4	Score of 3	Score of 2	Score of 1
Reading/Research 2 x ___ = ___	The writing – ▪ makes effective use of available resources ▪ skillfully/effectively supports an opinion with relevant and sufficient facts and details from resources with accuracy ▪ uses credible sources*	The writing – ▪ makes adequate use of available resources ▪ supports an opinion with relevant and sufficient facts and details from resources with accuracy ▪ uses credible sources*	The writing – ▪ makes limited use of available resources ▪ inconsistently supports an opinion with relevant and sufficient facts and details from resources with accuracy ▪ inconsistently uses credible sources*	The writing – ▪ makes inadequate use of available resources ▪ fails to support an opinion with relevant and sufficient facts and details from resources with accuracy ▪ attempts to use credible sources*
Development 3 x ___ = ___	The writing – ▪ addresses all aspects of the writing task with a tightly focused response ▪ establishes the significance of a claim or proposal ▪ distinguishes the claim from alternate or opposing claims ▪ skillfully supports claim(s) with logical reasoning and effective and relevant evidence	The writing – ▪ addresses the writing task with a focused response ▪ establishes a plausible claim or proposal ▪ acknowledges alternate or opposing claims ▪ supports claim(s) with logical reasoning and sufficient and relevant evidence	The writing – ▪ addresses the writing task with an inconsistent focus ▪ attempts to establish a plausible claim or proposal ▪ inconsistently supports claim(s) with logical reasoning and sufficient and relevant evidence	The writing – ▪ attempts to address the writing task but lacks focus ▪ attempts to establish a claim or proposal ▪ supports claim(s) using evidence that is insufficient and/or irrelevant
Organization 2 x ___ = ___	The writing – ▪ effectively introduces the claim(s) ▪ organizes the reasons and evidence logically in a manner that supports the writing task ▪ effectively uses words, phrases, and/or clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence ▪ provides an effective concluding statement or section that follows from and skillfully supports the argument presented	The writing – ▪ introduces the claim(s) ▪ organizes the reasons and evidence logically ▪ uses words, phrases, and/or clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence ▪ provides a concluding statement or section that follows from and supports the argument presented	The writing – ▪ introduces the claim(s) ▪ organizes reasons and evidence in a manner that may lack cohesion (ideas may be rambling and/or repetitive) ▪ inconsistently uses words, phrases, and/or clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence ▪ provides a sense of closure	The writing – ▪ identifies the claim(s) ▪ has little or no evidence of purposeful organization

Delaware Department of Education

	Score of 4	Score of 3	Score of 2	Score of 1
Language/Conventions 1 x ___ = ___	The writing – ▪ demonstrates an exemplary command of standard English conventions ▪ skillfully employs language and tone appropriate to audience and purpose ▪ has sentences that are skillfully constructed with appropriate variety in length and structure ▪ follows standard format for citation with few errors*	The writing – ▪ demonstrates a command of standard English conventions; errors do not interfere with understanding ▪ employs language and tone appropriate to audience and purpose ▪ has sentences that are generally complete with sufficient variety in length and structure ▪ follows standard format for citation with few errors*	The writing – ▪ demonstrates a limited and/or inconsistent command of standard English conventions; errors may interfere with understanding ▪ inconsistently employs language and tone appropriate to audience and purpose ▪ has some sentence formation errors and/or a lack of sentence variety ▪ follows standard format for citation with several errors*	The writing – ▪ demonstrates a weak command of standard English conventions; errors interfere with understanding ▪ employs language and tone that are inappropriate to audience and purpose ▪ has frequent and severe sentence formation errors and/or a lack of sentence variety ▪ follows standard format for citation with significant errors*

* If applicable

Lesson 1: Water Scarcity

Grade: **7th grade** **Unit/Module: Are You Thirsty?**
Name: Millsboro Middle School **Topic: Water Scarcity**

Learning Goals for this Lesson: The learning goals of this lesson are for students to gain an understanding of why humans modify the natural environment. Students should recognize how modifications while sometimes necessary can also damage the natural environment.	**Standards:** **Geography Standard Three:** Students will develop an understanding of the diversity of human culture and the unique nature of places [PLACES]. 6-8a: Students will identify and explain the major cultural patterns of human activity in the world's sub-regions. **Geography Standard Four:** Students will develop an understanding of the character and use of regions and the connections between and among them [REGIONS]. 6-8b: Students will explain how conflict and cooperation among people contributes to the division of the Earth's surface into distinctive cultural regions and political territories. **CCSS.RI.7.1:** Cite several pieces of textual evidence to support analysis of what text says explicitly as well as inferences from the text. **CCSS.SL.7.1:** Engage effectively in a range of collaborative discussion with diverse partners on grade 7 topics, texts and issues building on others ideas and expressing their own clearly. **CCSS.SL.7.4:** Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. **Prerequisite Standard**: **Geography Standard Two:** Students will develop a knowledge of the ways humans modify and respond to the natural environment [ENVIRONMENT]. **CCSS.L.7.4:** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7reading and content*, choosing flexibly from a range of strategies
Students Will Know: • Concepts of site and situation can explain the uniqueness of places. As site or situation change, so also does the character of a place. • The human response to the characteristics of a physical environment comes with consequences for both the human culture and the physical environment.	**Students Will Be Able To:** • Identify and explain the major cultural patterns of human activity. (Learning Activity 1) • Analyze the relationship between humans and the environment. (Learning Activity 2) • Analyze the differences and similarities in points of view between countries which lead to distinctive political and cultural territories. (Learning Activity 3)

Lesson Essential Question:

Under what conditions, should human cultures attempt to change the processes that shape the natural environment and how do human cultures differ in this attempt?

Activating Strategy:

Based on the following quote," Promise only what you can deliver. Then deliver more than you promise," make a prediction of today's topic.

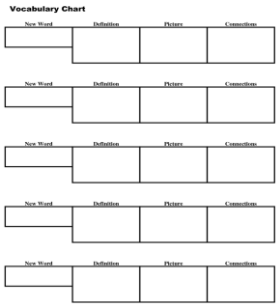
Key Vocabulary to preview and vocabulary strategy

ELA Prerequisite Tier 2 Vocabulary:

- claim
- compare
- contrast
- point of view

Social Studies Tier 3 Vocabulary:

- site
- situation
- sustainability
- conflict
- cooperation



Students will create a chart with the definition, picture and example. Students will be given sentences with the vocabulary words to use context clues to fill in their chart. (See attachment 1)

LESSON INSTRUCTION

Lesson Activity 1a: The lesson will begin with the question, Why might different cultures need to change their natural environments (site) to fit their needs (or improve their situation)? Each student will generate a list of reasons why different cultures need to change their natural environment. After generating their lists, they will trade lists with two other classmates who will add to their original list. From these individual lists, a class list can be created.

Reasons may include: farming, religious, transportation, economics, symbolism, protection, power, sustainability.

Assessment Prompt for LA1a: Think-Pair-Share - Students will be shown an image and asked to choose 1 site. (see attachment 2) Applying the reasons we learned above, how would the site need to be changed to improve its situation? How would the changes improve the situation?

Evidence of learning: Answers may include building a bridge, creating farm land, building roads, etc.

Learning Activity 1b: How humans affect the environment? The lead in activity will be Farmer Brown, Mrs. Jones, and Fisherman Wilson. Mrs. Jones wishes to build a dam on her property to power her lumber mill. The river starts in the rolling hills of Farmer Brown's property and ends in the lake on Fisherman Wilson's property. The question is asked, what happens to all 3 neighbors if the dam is built? (see attachment 3)

Assessment Prompt 1b: Stop and Jot – So under what conditions should humans attempt to change the natural environment?

Supporting Student Needs:

- Consider partnering ELL student who speak the same home language when discussion of complex content is required. This can allow students to have more meaning discussions and clarify points in their native language.
- Protocols such as a Gallery Walks are an engaging opportunity for students to reflect on their own learning. Developing reflection supports all students, but research shows it supports struggling learners most.

Evidence of learning: Answers may vary. Answers may include humans attempt to change the natural environment in order to improve their quality of life. For example, farm land is necessary for food and cutting down trees is necessary for fuel and building materials.	
Learning Activity 1c: The activity begins with an introduction of the real-life example of the GN Project on the Danube River. First, students working in groups of 4 will need to locate the GN Project, Danube River, and surrounding countries on a map. The students will highlight the way the river is flowing and defend their answer. Furthermore, students with their group of 4 will generate ideas of how the river would impact the culture and lifestyle of the people living in the countries surrounding the river. How would the people living along the river need to change the river to meet their needs? How does the river influence human activity? How does the site (location) affect the situation (human activity)? (see attachment 4) **AP for LA1c:** Think-Pair-Share - Students will determine patterns, based on an earlier example of Farmer Brown, why might the countries upstream/downstream care about the project? The GN Project is a dam built between Slovakia and Hungary. **Evidence of learning:** Students should say how the countries downstream will experience a decrease in water supply which will affect the fishing industry while the countries upstream will experience flooding. **Learning Activity 2:** Students will rotate around the classroom (gallery walk) to gather evidence about the GN Project. The students will be conducting an investigation in order to begin finding conflicting ideas about the purpose of the GN Project. Furthermore, the students will be analyzing the relationship between the humans and the environment. The students are using the provided images and text to draw conclusions about how humans affect the environment. They will record the negatives and positives in a chart to use for their argumentative claim. (see attachment 5) **Assessment Prompt for LA2: Weigh the positives and negatives.** Students will work with a partner to generate a list of ideas to answer the following question, Under what conditions should human cultures attempt to change the processes that shape the natural environment and how do humans differ in this attempt? Support answer with evidence from the positives and negatives chart. The partners will then share with their group of 4 and choose one idea to share with the class in support of their claim. **Evidence for learning:** Students may say how the GN Project offered a sustainable energy source by producing hydroelectricity and generated revenue. Other students may argue how this change to the environment had more a negative impact by destroying farm land and significantly decreasing the fish	• Learning Activity 1c: Be sure that ELL students understand the premise of the GN project so that they can participate in the whole of the lesson. Teacher may ask another student to explain the project in the students' native language, or the teacher may explain the GN project to the student using simple, concise English along with maps and pictures

population. **Learning Activity 3:** Students will use marking the text to read a case study about the most recent International Court of Justice decision regarding the GN Project. The text will demonstrate the conflict between Slovakia and Hungary. This article will show that both countries were in the wrong and prepare the students to begin to form an argument. Students will highlight claims in support of Slovakia in yellow and claims for Hungary in blue. Students will need to analyze the differences in point of view and summarize each point of view in 10 words or less in their student journals. (see attachment 6) **Assessment Prompt for LA3:** Using the negatives and positives chart from learning activity 2 and summarized point of views from learning activity 3, students will construct an argument in support of either Hungary or Slovakia. Students will use their constructed argument to participate in a class debate. Students will move to the side of the classroom that they agree with and should be prepared to support their claim. (See attachment 7) **Evidence for learning:** Answers will vary but could be similar to answers given above. Students may say how the GN Project offered a sustainable energy source by producing hydroelectricity and generated revenue. Other students may argue how this change to the environment had more a negative impact by destroying farm land and significantly decreasing the fish population. **Learning Activity 4: Extending & Refining** After learning about conflict over water in Europe, students will then focus their attention to water scarcity issues around the world. This activity helps the students understand that water scarcity is a global issue. Students will be divided into six groups. Each group will receive a different article about water scarcity around the world and become an expert on their topic. In their groups the students will read provided articles on the water scarcity issue and use marking the text strategy for the 5Ws – who, what, where, when, why. Students will return to their original groups and share their notes and knowledge about the topic (jigsaw type activity). As each student shares the other students in the group will be recording notes into their journals on the 5Ws. When the activity is complete each students should have knowledge on the six topics (see attachment 8). **Assessment Prompt for LA4:** ACE strategy: A =answer the question C = cite evidence to support answer E = expand the answer with other sources	

Which one has the bigger impact? Should the environment be sacrificed to improve the economy? OR Should the environment be protected at all cost? Be prepared to justify your answer with evidence from the information gathered. (see attachment 9) **Evidence of learning:** Answers may vary. Use the provided rubric to evaluate answers.	

Summarizing Strategy:

Have students write a concept poem for either water scarcity or the GN Project in their student journals. Below is an example of a concept poem.

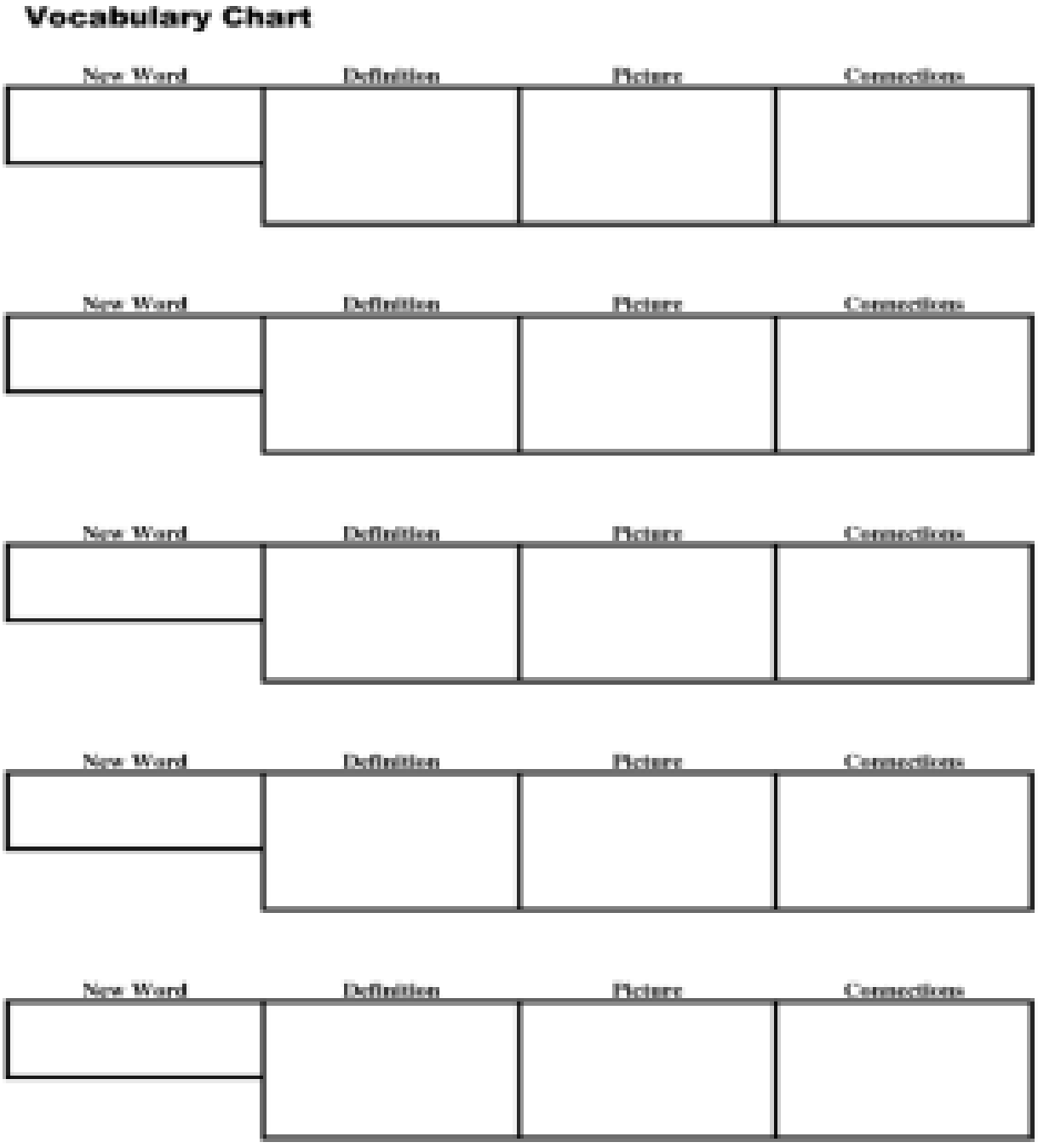
Concept Poem for Physical Features
Believes in: decorating the landscape
Needs: natural materials
Gives: landforms
Takes: time
Would like to see: people enjoying them
Is similar to: cultural features

Module Assignment:

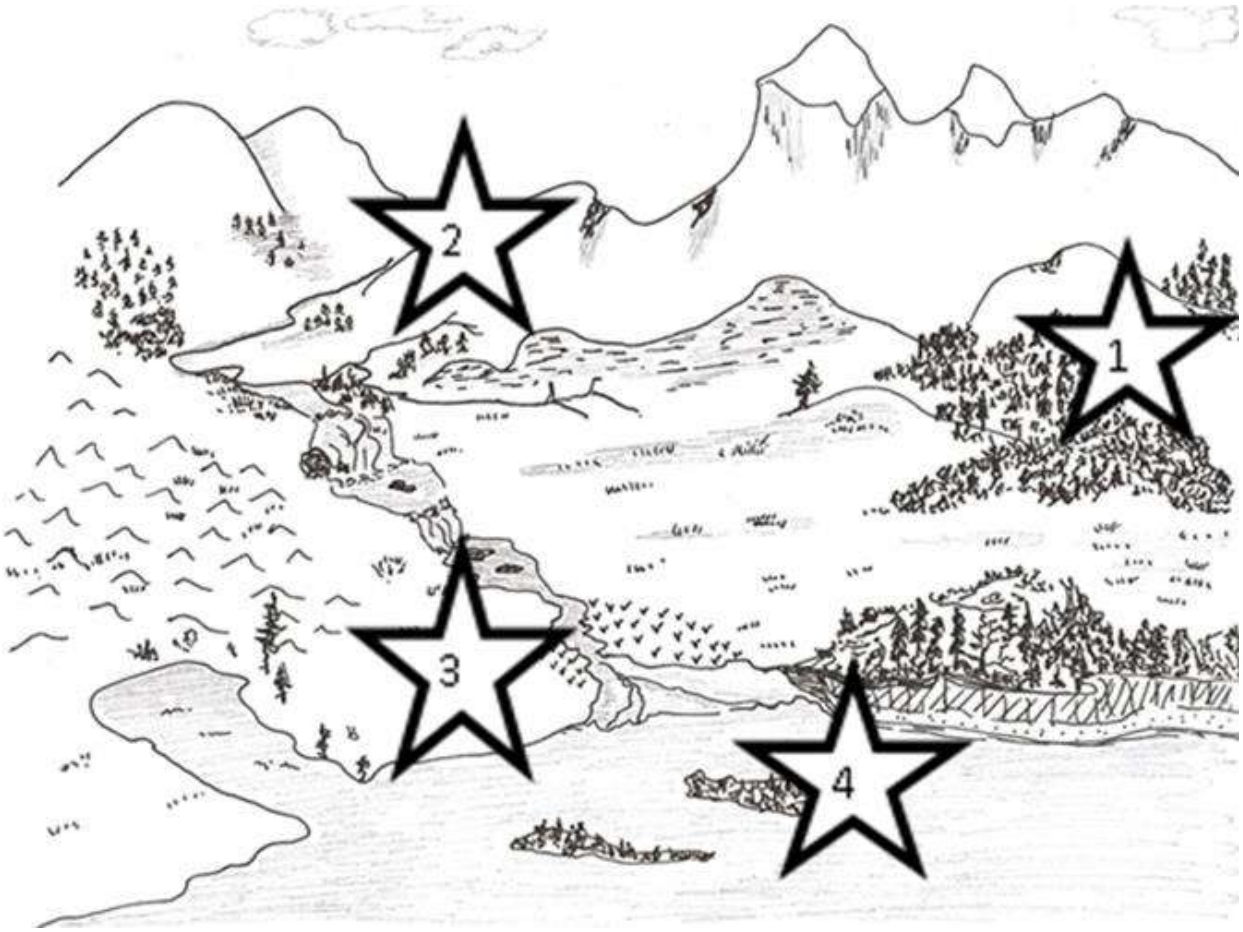
Pretend you are a judge presented with the case between Slovakia and Hungary. Propose a treaty which would resolve the conflict and achieve cooperation and include a map of the revisions you will make to the area. Make sure you address the most pressing negatives of the GN Project. Explain why you consider these the most pressing and how you plan to turn these negatives into positives. Upon completion, trade treaties with your partner. Evaluate their treaty and provide feedback. Would your partner's treaty resolve the conflict? Why or why not?

Supporting student needs: Provide struggling students with sentence frames/a cloze paragraph as they write and defend their final opinion

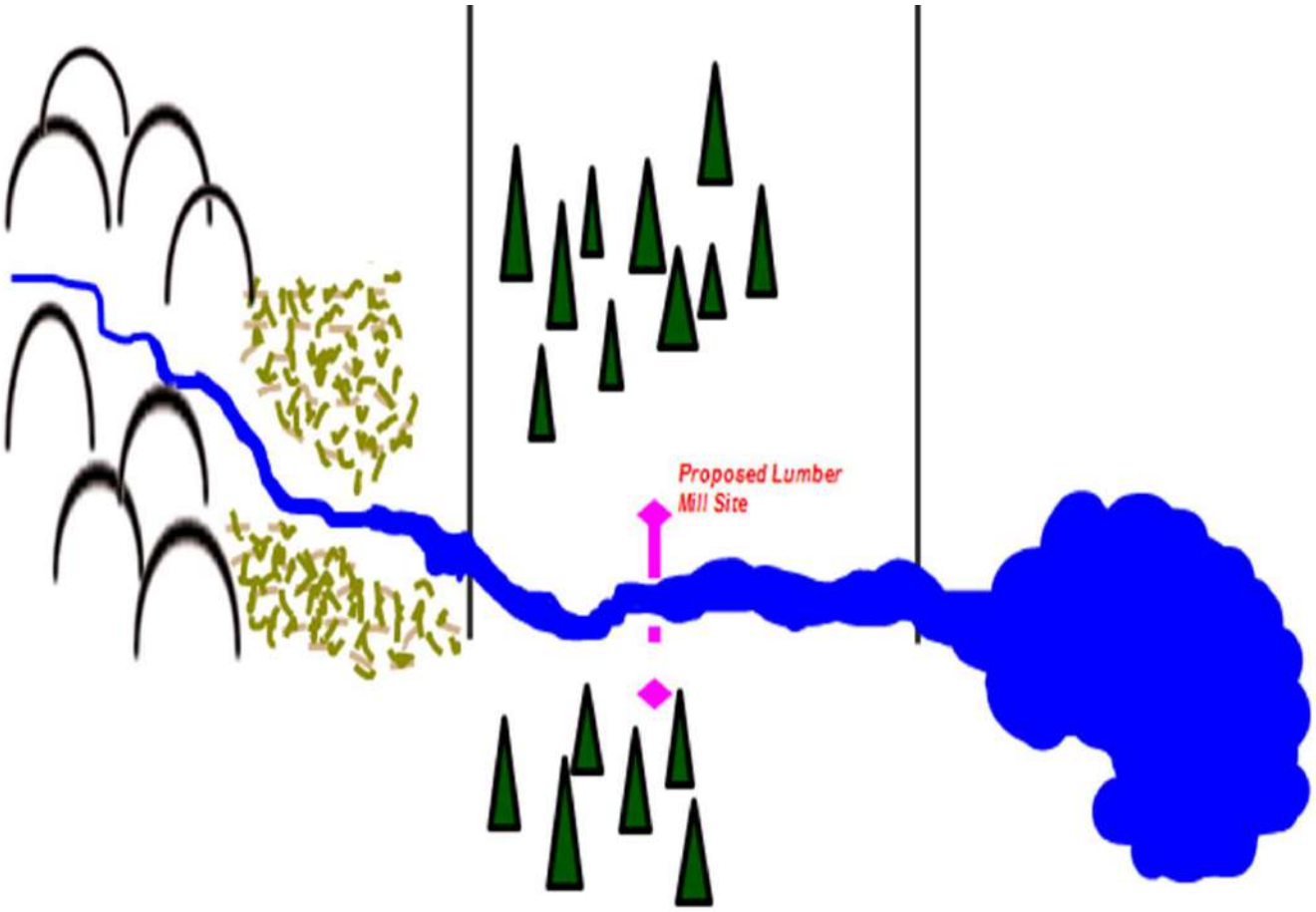
Attachment 1: Vocabulary Chart



Attachment 2: Site image



Attachment 3: Farmer Brown Activity



Attachment 4: GN Project Map

Attachment 5: Quick Facts

GN Project Quick Facts

- In 1977, Hungary and then Czechoslovakia agreed to build a system of dams and canals in this floodplain region – this is known as the GN Project.
- Hungary abandoned the project for fear of negative environmental impact and financial problems
- Czechoslovakia finished their half of the project
- When Czechoslovakia split Slovakia took control of the dam
- Forty years later this idea for cooperation is still causing conflict

Floodplain Quick Facts

- Part of the floodplains is used for small farms and forests
- The dams were to help prevent flooding in this area
- About 5,000 species of plants and animals live in the floodplain
- Underneath the floodplain is a large fresh water reservoir which is naturally filtered by the wetlands above

Quick Facts about the Dam

- Dams are used by many countries to become more green, modern and improve the standard of living
- Dams produces hydroelectricity, provides jobs, and helps stop damaging floods
- Can cause a lot of environmental problems by decreasing the water flow after the dam and causing the water to become backed up before the dam

Environmental Impact Quick Facts

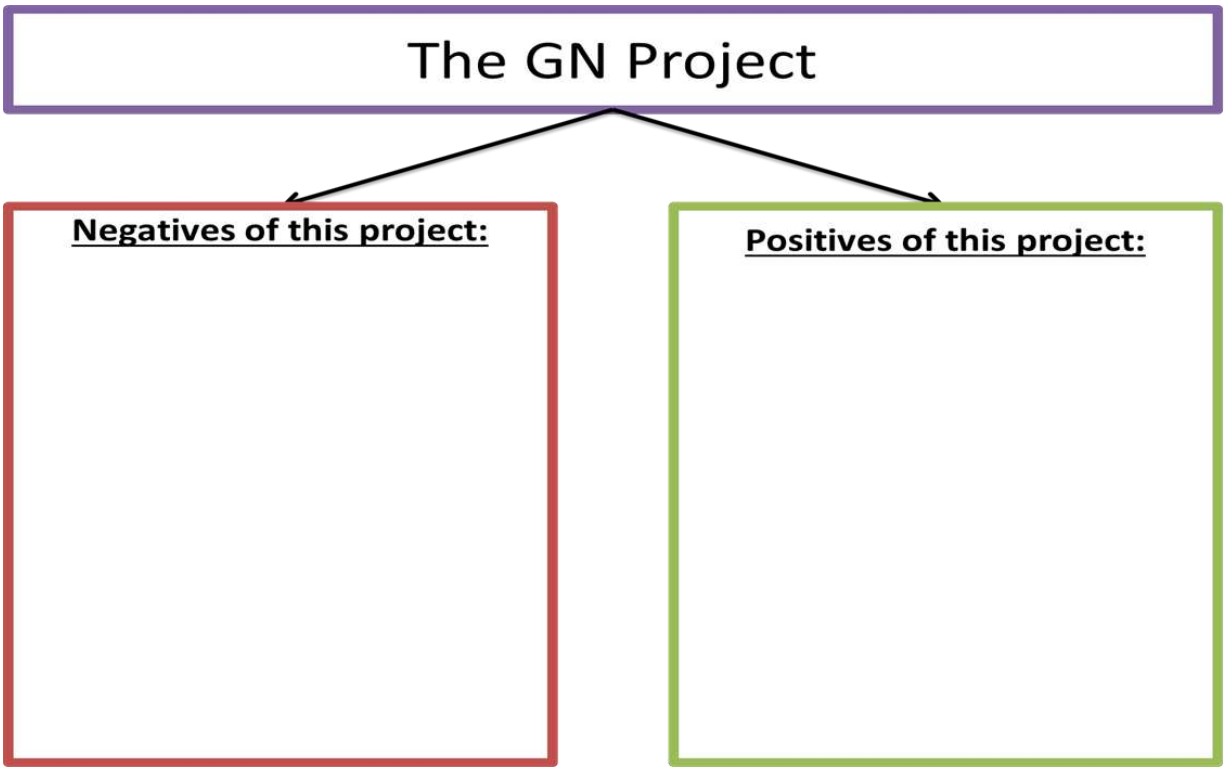
- Fish populations decreased by 80% because of lower water levels
- Natural habitat has been destroyed from many species of animals
- Pesticides, fertilizers, and industrial pollution is trapped behind the dam which is dangerous to people living upstream
- Water levels in the freshwater reservoir has decreased and is polluted
- Farmers in Hungary have lost access to water for crops

Financial Impact Quick Facts

- Slovakia receives all the money from ships that use the canal connected to the dam and the sale of electricity produced by the dam
- Slovakia is a poor country so the money generated from this project helps their economy
- Hungary's government has complained that Slovakia has created a new border which gives them more control over the river and resources
- Slovakia believes Hungary did not keep their end of the deal so Hungary should not have any of the benefits

Danube River Quick Facts

- 2nd largest river basin in Europe
- Link parts of 19 countries
- It's size makes it a vital part of ecosystems and economies of central Europe
- The area along the border between Slovakia and Hungary is a large floodplain which is essential with its rich soil, forest, and croplands.
- Fish and birds are abundant in this floodplain region
- The wetlands of the floodplain are important in acting as a natural filter to clean pollution from upstream


The GN Project
Negatives of this project:
Positives of this project:

Attachment 6: Court Case

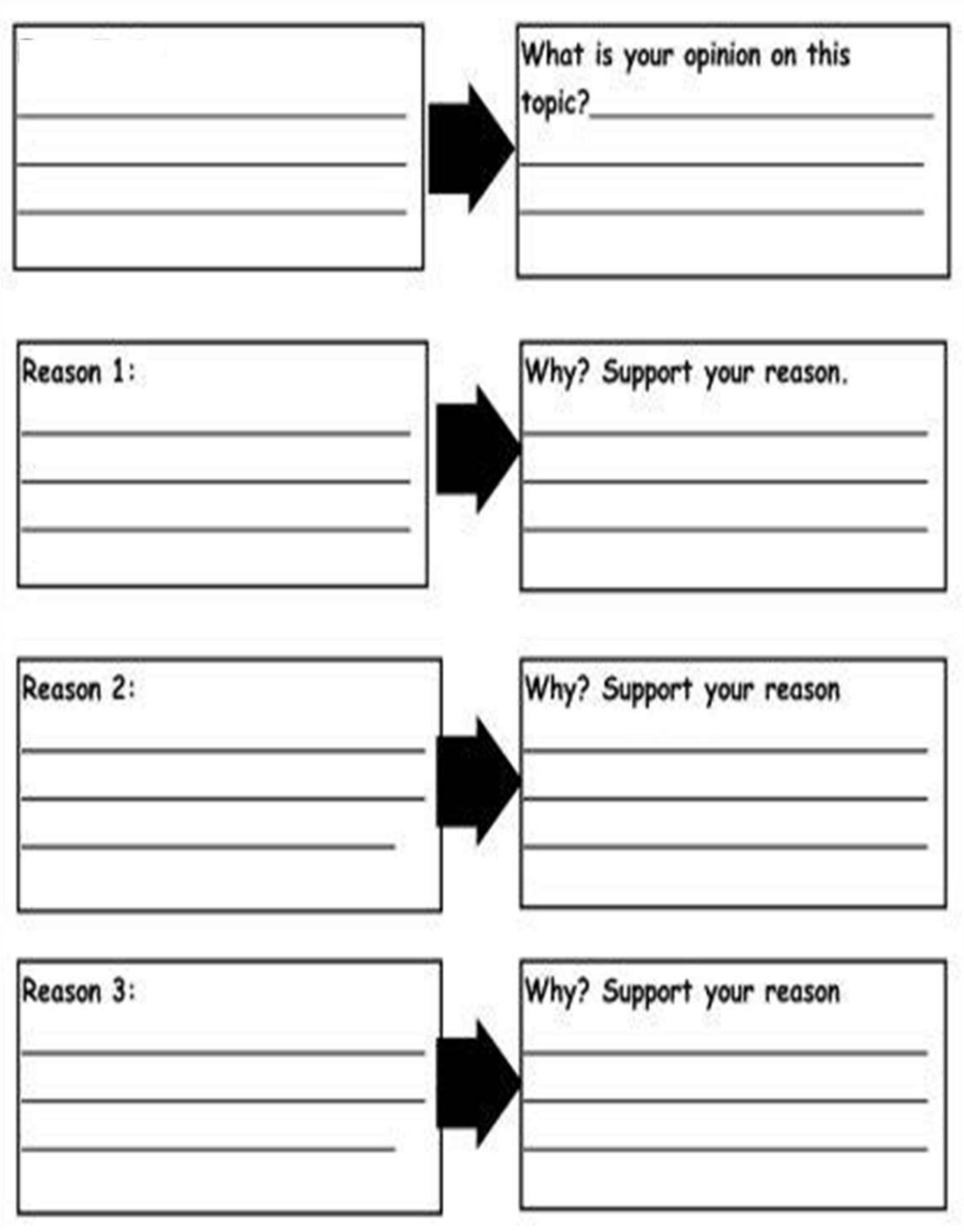
UPDATE: HUNGARY-SLOVAKIA AND THE GABCÍKOVO-NAGYMAROS PROJECT

On September 3, 1998, Slovakia filed a request for an additional Judgment with the International Court of Justice (ICJ or Court) in the case concerning the Gabcíkovo-Nagymaros Project (G-N Project) between Hungary and Slovakia.[1] In its request, Slovakia argued that additional Judgment was necessary because Hungary was unwilling to implement the Court's 1997 Judgment on the G-N Project, in which the Court found that both Hungary and Slovakia had breached their international legal obligations.[2]

The dispute stems from a 1977 treaty between Hungary and then-Czechoslovakia concerning the construction and operation of a system of locks and dams on the Danube River, the G-N Project.[3] In 1989, Hungary abandoned completion of its part of the G-N Project, alleging that it entailed "grave risks to the Hungarian environment and the water supply of Budapest."[4] In 1992, Slovakia unilaterally re-routed the Danube into the already-completed Gabcíkovo dam.

In 1993, the two states agreed to submit the dispute to the ICJ and agreed to accept the Court's Judgment as final and binding.[5] The Court rendered its Judgment in September 1997, holding that Hungary violated its obligations by abandoning its part of the G-N Project, but that Slovakia also violated international law by re-routing the Danube.[6] Although the ICJ did not, as many environmentalists had hoped, order the closing of the dam at Gabcíkovo, some conservation groups were pleased by the Court's Judgment

Attachment 7: Argumentative Graphic Organizer



Attachment 8: Water Scarcity Around the World

Article One: Middle East

In the Middle East, water is scarce and oil is plentiful. We hear often about the value of the crude oil deposited under desert sands in many countries of the region. We know that oil often leads to conflicts and war, but can also be the basis of trade partnerships and agreements. But as populations in the region expand and climate warms, attention turns to water. Will this scarce resource bring the region more bitter conflict and division? Or might people of the region cooperate to conserve and develop water resources for the good of all?

Water Sources- In most of the Middle East, rainfall is a welcome event. In arid climates, winter is the time when some scant precipitation can be expected. Homes are built with cisterns on the roof to capture and store water for the dry months to come. More rain falls in mountain and highland areas. Most of the rivers of the region begin in the mountain areas of Turkey and Iraq. As they flow to the seas, each of these streams is tapped for drinking water, irrigation, and industry. Each of the rivers also is used to carry away waste. Improved technology allows governments and industries to drill deep into aquifers beneath the dry lands and draw up stored water. New desalination plants along the Mediterranean Sea use expensive new equipment to remove the salt from sea water. Yet all these sources of water cannot supply the expanding population.

Conflict or Cooperation- a Regional Choice- Competition for water produces winners and losers. Some settlements and businesses with access to water prosper, while others struggle to survive. Palestinians complain that Israeli policies unfairly favor Jewish farmers and housing complexes. They point out that giant Israeli wells are pumping water from the aquifer under Palestinian lands. As resentment builds, other people in the region are suggesting ways people can work together to make the most of the available water resources. They suggest that everyone should work together to conserve, recycle and reuse water. They suggest sharing the expense- and the benefits- of large, expensive projects for the benefit of all. This thirsty region can't wait for a political solution, they insist. The water problem must be solved now!

Article 2: India

Water touches every aspect of life, and in India uncertainty over access to and the availability of this basic resource may be reaching crisis levels. As India continues to undergo dramatic shifts caused by a growing economy and population, competing demands for this limited resource coming from households, industry, and agriculture have wide-ranging implications for the country's future.

Should no action be taken, there could be dire consequences. The World Health Organization estimates that 97 million Indians lack access to safe water today, second only to China. As a result, the World Bank estimates that 21% of communicable diseases in India are related to unsafe water. Without change, the problem may get worse as India is projected to grow significantly in the coming decades and overtake China by 2028 to become the world's most populous country.

India's water crisis is rooted in three causes. The first is insufficient water per person as a result of population growth. The total amount of usable water has been estimated to be between 700 to 1,200 billion cubic meters (bcm). With a population of 1.2 billion according to the 2011 census, India has only 1,000 cubic meters of water per person, even using the higher estimate. A country is considered water-stressed if it has less than 1,700 cubic meters per person per year. For comparison, India had between 3,000 and 4,000 cubic meters per person in 1951, whereas the United States has nearly 8,000 cubic meters per person today.

The second cause is poor water quality resulting from insufficient and delayed investment in urban water-treatment facilities. Water in most rivers in India is largely not fit for drinking, and in many stretches not even fit for bathing.

The third problem is dwindling groundwater supplies due to over-extraction by farmers. This is because groundwater is an open-access resource and anyone can pump water from under his or her own land.

Article 3: United States

Drought, and the resulting shortage of melting snow, is driving the historic water shortages across much of the American West. As a result of this water shortage, California Governor Jerry Brown announced his state's first-ever mandatory water restrictions, in an effort to cope with four years of the worst drought in the state's history.

Five causes have led to this water crisis in the United States.

1. The state (and much of the West) relies heavily on snowpack each winter to resupply surface water streams and lakes. Because of a lack of winter storms and record high temperatures this past winter, snowpack in California is at an all-time low. This is the fourth consecutive year that the snowpack has been below normal.
2. When surface water supplies are low, hidden water supplies beneath the surface in aquifers, or groundwater, are drilled to make up the shortfall. A large aquifer under the Central Valley is being rapidly depleted to make up for shortfalls in surface water supply.
3. Most of water in California is used for farming. California's farms produce and export fruits and vegetables, hay for livestock, meat and dairy products. Farmers have been drilling groundwater to compensate for surface supply shortages.
4. California is not the only state in the West facing water supply issues. Winter snowpack in Oregon and parts of Washington was far below normal. The Colorado River Basin, which supplies water to Phoenix, Las Vegas, Los Angeles, and San Diego, has also been in a drought for more than a decade, and the river basin's aquifers have been declining too.
5. When California faced a major drought in the late 1970s, fewer than 20 million people lived in the state. Now nearly 40 million live there. While Californians have drastically improved the efficiency of their water use in recent years, if rain and snow do not arrive later this year, the supply of groundwater—much of which is non-renewable—will continue to decline as it is used to make up for surface shortages.

Article 4: South Africa

South Africa is a country located at the Southern Tip of Africa. About twice the size of Texas it is home to 49 million people. This country has been stricken by affects from the long standing damage that diseases such as HIV/AIDS and TB have caused. Now another crisis looms in the distance: Water. As more and more people migrate into cities from rural villages the pressure for the city to meet the water demands is ever increasing.

There are many reasons that led to this growing water crisis in South Africa. Climate change has affected water supplies within the region. Rains that usually come and supply the country's water has come rarely. For example in Durban the Dams are 20 percent lower than at the start of 2010. Due to this fact cities are looking to impose water restrictions on communities.

Another problem that Durban in particular faces is stolen water. According to one report 35 percent of the cities water is stolen or given out through illegal connections.

Those in rural areas still lack access to water. One report stated that in 2008 about 5 million people lack access to water. Not one person should ever lack access to the most basic necessity of life, which is water.

Interestingly enough South Africa boast one of the most clean water systems in the world, however due to the lack of sanitation and access in the country's rural communities, the threat of water borne disease is steadily increasing. The Vaal River, the largest river in South Africa and popular tourist destination is becoming increasingly polluted with fecal material due to the lack of sanitation supplies. It is so bad that the local water agency Rand Water issued a statement that contact with the river may lead to serious infection. Wildlife is also being affected from the raw sewage run off. They blamed the reason for dumping sewage in the river on old pipes.

By taking care of the rural population the government will be helping the cities. It is these rural communities where the damage to the water supply is beginning due to lack of access to sanitation supplies and clean water education.

Article 5: Latin America

The percentage of people living in Latin America and the Caribbean with direct access to water has increased from 33% in 1960 to 85% in 2000. However there are still 77 million people with connection to water in their homes – 51 million rural residents and 26 million urban.

To add to this water problem, many underground water systems are threatened by overuse and pollution. In South America, 40-60% of water comes from these polluted underground water systems. In Mexico, 102 of the 653 underground water systems are overused which is the main water sources for 65% of the population. This lack of water does not only affect the everyday lives of the people but also the farmers who rely on the underground water systems to water their crops.

Droughts in Mexico, Honduras, and Venezuela have also contributed to the water crisis in Latin America. Some areas are currently experiencing the worst droughts in 80 years. These droughts seem to be the result of climate change.

However, the greatest issue affecting water scarcity in Latin America is rooted in power, poverty and inequality, not in physical availability.

Poor people bear the brunt of problems associated with water contamination and "scarcity." Additional studies have found the poor pay more for clean water, spend more time and effort collecting water, and are much more likely to suffer health problems from contaminated water.

The UNDP report adds, "People suffering the most from the water and sanitation crisis -- poor people in general and poor women in particular -- often lack the political voice needed to assert their claims to water." Yet the water movements brewing in Latin America are beginning to make their collective political voice heard.

Fierce protests in Latin America -- and even wars around the world -- show water can be a frequent source of conflict. But many of those in Latin America's water movements actually see it as a source of hope.

Article 6: Middle East

The Middle East has experienced many environmental concerns lately. Water resources are becoming increasingly scarce, especially for the millions there who already lack access to clean water. Some of these countries, including Yemen, the United Arab Emirates, Saudi Arabia, and Iraq, are facing unique problems that require global, immediate attention. Beside their neighboring location, one shared factor of all these countries is their lack of water resources and poor water management.

The Middle East has some of the largest oil reserves in the world, which produces most of the area's wealth. Even so, the region's climate and environment make living harsh. The Middle East requires water resources and suitable land for agriculture. Much of the land that is available for producing food is destroyed by increasing desertification, the process where fertile land becomes desert. Agriculture uses 85 percent of water in this region. The overuse of water in agriculture is affecting the countries' already undersized water resources.

Desalination (process of removing salt from saltwater) plants are a misuse of water resources in the Middle East. Seventy percent of desalination plants in the world are located in this area, found mostly in Saudi Arabia, the United Arab Emirates, Kuwait, and Bahrain. While the plants produce water needed for the arid region, they can manufacture problems for health and the environment. The concentrated salt is often dumped back into oceans where the increased salinity affects the ocean's environment. The plants harm local wildlife and add pollutants to the region's climate.

In addition, desalination is the most energy-costing water resource. The Pacific Institute explains that the high use of energy results in raised energy prices and higher prices on water produced, hurting the consumer.

The Middle East has numerous struggles with its current water resources, and the region needs more than one solution to generate an positive environmental position for the future.

Attachment 9: ACE Writing Strategy

Answer (5pts.)	
Cite (5 pts.) (evidence from the text to support your answer)	
Expand (5 pts.) (an explanation of why your evidence backs up your point)	

	Excellent	Good	Needs Work	Incomplete
ANSWER the question	The ANSWER is clearly stated and is very logical given what we know about the text.	The ANSWER is mostly clear and logical given what we know about the text.	The ANSWER is unclear or not logically related to the text.	The ANSWER is not included in the response.
CITE evidence from the text	The EVIDENCE clearly relates and supports the writer's answer.	The EVIDENCE partially relates to and supports the writer's answer but a better choice could be made.	The EVIDENCE does not relate to or support the writer's answer very well.	The EVIDENCE is not included in the response.
EXPAND by explaining	The writer specifically EXPLAINS why the evidence proves the answer without simply repeating the evidence. The writer may also give two reasons that the evidence proves the answer.	The writer EXPLAINS why the evidence proves the answer but may be a bit repetitive or unclear.	The EXPLANATION is unrelated to the answer or evidence.	The EXPLANATION is not included in the response.

Lesson 2: Water Quality

Grade: 7th **Name: Millsboro Middle School**	**Unit/Module: Are You Thirsty?** **Topic: Water Quality**
Learning Goals for this Lesson: • Provide students with the opportunity to experience working on a team using the systems engineering approach. • Determine the need to sustain the quality of the world's water. • To analyze the effectiveness of the water purification systems in providing safe drinking water. • Students actively seek answers to water related questions while learning meaningful content for future activities.	**Science Standards: NGSS** **MS-ESS2-4 (Earth's Systems):** Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. **MS-LS2-5 (Ecosystems, Interactions, Energy and Dynamics):** Evaluate competing design solutions for maintaining biodiversity and ecosystem services. **MS-ESS3-4. (Human Impact):** Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. **Standards: ELA** **CCSS.RI.7.1:** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences from the text. **CCSS.RI.7.9:** Analyze how two or more authors writing about the same topic shape their presentation of key information by emphasizing different evidence or advancing different interpretations of facts. **CCSS.SL.7.1A**: Engage effectively in a range of collaborative discussion with diverse partners on grade 7 topics, texts and issues building on others ideas and expressing their own clearly. **Prerequisite Standard:** **CCSS.L.7.4**: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies **CCSS.W.7.3e** Provide a conclusion that follows from and reflects the narrated experiences or events.
Students will Know: • The Earth has approximately 75% water, but only .00003% is available as drinking water • Water is purified and treated to be able to drink. • Wastewater is made of things that go down the drains and toilets, it is purified and utilized for human use (potable) consumption. These processes can be mimicked using science, technology, engineering	**Students Will Be Able To:** • Develop a model to describe how humans use water. • Analyze and interpret data to provide evidence for the effects of resources availability on organisms and populations of organisms in an ecosystem. • Evaluate competing design solutions for maintaining biodiversity and ecosystem services, specifically water purification. • Construct a scientific explanation based on

	evidence of how environmental factors influence the growth of organisms, concentration on water. • Construct an evidence based claim and counterclaim that supports or refutes explanations or solutions about the natural world's water.

Lesson Essential Question:

- How do changes in one part of the Earth system affect the entire system? How do humans positively and negatively impact watersheds? How can water be filtered so it becomes potable?

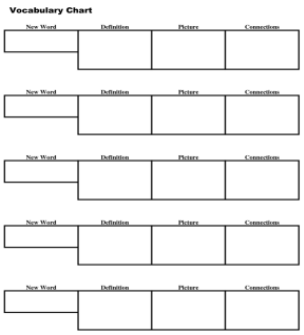
Give Pre-Assessment: (See Attachment 1)

Activating Strategy: Give students 4 or 5 saltines to eat in order to get really thirsty. Ask them to write in their science journals what it feels like to be thirsty or make a poll on the board. How does their mouth feel when there is no water or liquid to wash down the salty cracker? Ask them what they would do if they were someplace where there was no drinking water available. **Have students brainstorm and begin a narrative where someone might be very thirsty. They need to include characters, setting, and the main character's feelings of thirst. This will be referred to again at the end of the lesson.**

Key Vocabulary to preview and vocabulary strategy (See Attachment 2)

Prior Knowledge of these terms: **Tier 3 Vocabulary**

- Evaporation
- gas
- condensation
- precipitation
- transpiration
- infiltration
- Aquifer
- permeability
- Ground water
- Porosity
- run- off
- percolation sun (solar energy, clouds, surface water, water table)



Students will create a chart with the definition, picture and example. Students will be given sentences with the vocabulary words to use context clues to fill in their chart. (See attachment 2)

New vocabulary includes**: Tier 3 Vocabulary**

- Watershed
- Non-point source
- Pollution
- Riparian buffers Point source
- Land use
- Wastewater treatment
- Potable
- Turbidity
- Acids
- Bases
- Filtration
- Flocculate

- pH
- EPA

LESSON INSTRUCTION

Learning Activity 1a: How much fresh water is available for human consumption?

Have students predict by coloring a graphic organizer bar graph that represents their model and prediction of water distribution on the Earth in their journal. Tell them to include salt water, fresh water, frozen water and water available for human consumption. (See attachment 3)

1. Teacher will demonstrate the availability of water using a 5 gallon bucket which represents all the water in the world. First, the teacher will remove 2 cups of water from the bucket; this will represent all fresh water in world. Second, the teacher will pour out 1.5 cups of water; this will represent all of the frozen fresh water. Third, the teacher will pour all but .5 cups of water out; this will represent all of the fresh water in the water cycle. Finally, the teacher will pour out all but 1 drop; this will represent all of the fresh water available to humans. An alternative method would be to use graduated cylinders (1000ml, 100ml, 10ml and dropper).

Assessment Prompt for LA 1a: Students will complete the second bar graph (graphic organizer) next to the prediction in their journals. (see attachment 3) Students will respond to the following question in their journal, "How did you use measurements (quantitative) in this investigation?"

Learning Activity 1b: Half of the students will receive the article, "Digging Deeper, Using Water as a Resource", (see attachment 4) while the other half will receive the article "Earth's vast underground water supply saturated with valuable lessons" (see attachment 5). As the students read their article, students will be marking text and using Cornell notes in their journals. After reading their article, students will collaborate and discuss main ideas with a student who read the other article. **Conclusions** 1. Describe how much water is available to humans as drinking water, compared with the rest of the water on Earth. 2. Describe the two different methods of presenting information about the distribution of water on Earth that was used in this investigation. List an advantage and disadvantage of each of the two methods. **Assessment Prompt for LA 1b:** Think-Pair-Share **-** students will give two examples of water distribution already listed. Students will write a disadvantage and an advantage under each. **Evidence of Learning:** Students should respond with these types of answers. Water Distribution Advantages: The amount of fresh water available to humans can be conserved. New designs of toilets and washing machines can be used, shorter showers and other engineered faucets can help conserve water. Water Distribution Disadvantages: Water that is useable may be polluted, as population continues to grow, water shortages will become more abundant.	**Supporting Student Needs (LA 1b):** For struggling readers or low-proficiency ELL students, teacher may assign only one important paragraph from the text. **Supporting Student Needs (Conclusions Question 1):** For struggling students or low-proficiency ELL students, teacher may write percentages on one side and water types on the other and have the students match **Supporting Student Needs (Conclusions Question 2):** For struggling students, teacher may write the two methods of water distribution with a "pro and con" column for students to complete **Supporting Student Needs (Assessment Prompt LA 1b):** Sentence frames can be used as necessary in completing the advantages and disadvantages

Learning Activity 2: How is water contaminated? Working in collaborative groups, students will generate a list of contaminates that make water unsafe. This prior knowledge will prepare the students to partner read the provided article, "For many of the world's poor, drinking water can kill" By Addie Moorfoot (**Attachment 6**) and the CDC handouts about waterborne contaminants and diseases. Available at the following website: http://www.cdc.gov/healthywater/drinking/public/water_diseases.html After reading the article and considering the CDC handouts, student pairs are to complete a graphic organizer of how water can be polluted and the solutions possible. (**Attachment 7**) **Assessment Prompt for LA 2**: Students will add to their narrative started in Lesson 1, bringing their thirsty character(s) to water that may or may not be safe to drink. Have students include the signs of bad or good water. **Evidence of Learning**: Narratives may vary. Students should include some of the contaminates and possible solutions referred to above. **Learning Activity #3: How can we filter out contaminates in our drinking water?** **Processes for drinking water purification systems.** **http://www3.epa.gov/safewater/kids/flash/flash_filtration.html** **Lab activity – making water pure.** http://www.epa.gov/safewater/kids/pdfs/activity_grades_4-8_waterfiltration.pdf Students will develop ways to filter out contaminants using funnels, pebbles, sand, cotton balls and charcoal. Students will develop a hypothesis, construct their own filter using soda bottles, collect data, graph and report out. **Assessment Prompt for LA 3**: Stop and Jot: How can we filter polluted water? This will lead to the students developing a conclusion. Students will write a conclusion to their inquiry activity on how to filter out polluted water. **Evidence of Learning**: Use the attached conclusion rubric. **(Attachment 8)** **Homework:** Develop a project plan on how to test the water in your neighborhood. Include areas of research as well.	**Supporting Student Needs (Learning Activity 2):** Struggling students or English Language Learners may need to have the word "contaminates" clarified or previewed

Learning Activity #4: Can wastewater ever be potable? Students will watch a video, related to wastewater and its ability to be used as drinking water, as well as complete Cornell Notes. **(Attachment 9)** (http://www.wastewatereducation.org/resourceinformation.html (video of poop and paddle) Following the video, students will partner read the article, "Digging Deeper Treatment of Drinking Water and Wastewater" (pp 51-55) **(Attachment 10)** **Assessment Prompt for LA 4**: Students will construct an argument whether or not wastewater should be used as potable water. **Evidence of Learning**: Students successfully supported their claims with evidence.	
Summarizing Strategy: Students will create an infographic to warn people about the consequences of drinking contaminated water, where clean water is available, how to filter contaminated water and/or where to go for help when contaminated water is found.	
Module Assignment: Summative Assessment and completion of narrative "So Much Water and I'm Still Thirsty".	

Resources:

Investigating WATER As A Resource, Michael J. Smith, PhD, John B. Southard, PhD, Colin Mably, It's About time, Inc., Armonk, N.Y. 2001

Stem to Story, by 826 National, Edited by Jennifer Traig, Jossey-Bass, A wiley Brand, San Francisco, CA, 2015.

www.hrsd.com/.../**Clean**%20**Water**%20**Curriculum**%20-%20Waste**water**.

ATTACHMENT 1: Pre-Assessment

Name: _____ Date: _____ Period: _____

Watershed Pre-Assessment

1. How is water used?

2. Where is water found?

3. How is water a part of Earth's systems?

4. How is a supply of safe useable water ensured or guaranteed?

Discussion of answers with groups of four, speak/share out:

1. Living, transportation, erosion drinking, cooking, washing, recreation, fishing, boating, heating, cooling.

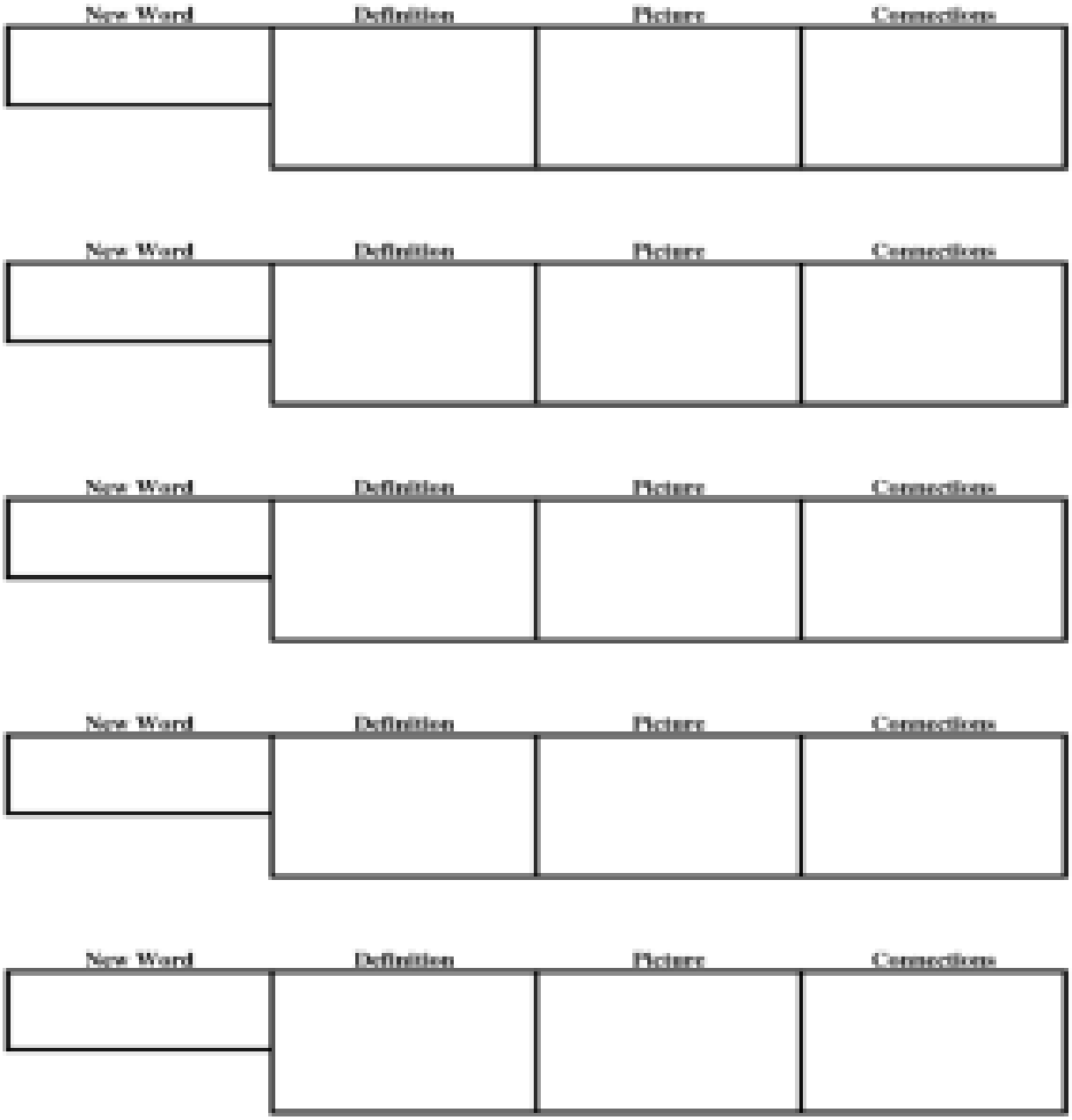
2. Lakes, oceans, rivers, ponds, streams, pipes, wells, atmosphere, plants and animals.

3. A closed system on Earth called the hydrologic cycle, constantly being recycled.

4. Filters, purifiers, laws, waste water management, regulations for water testing and treatment.

Attachment 2: Vocabulary Chart

Vocabulary Chart



Attachment 3: Water Graph

Place this prediction on page _____ of your science journal.

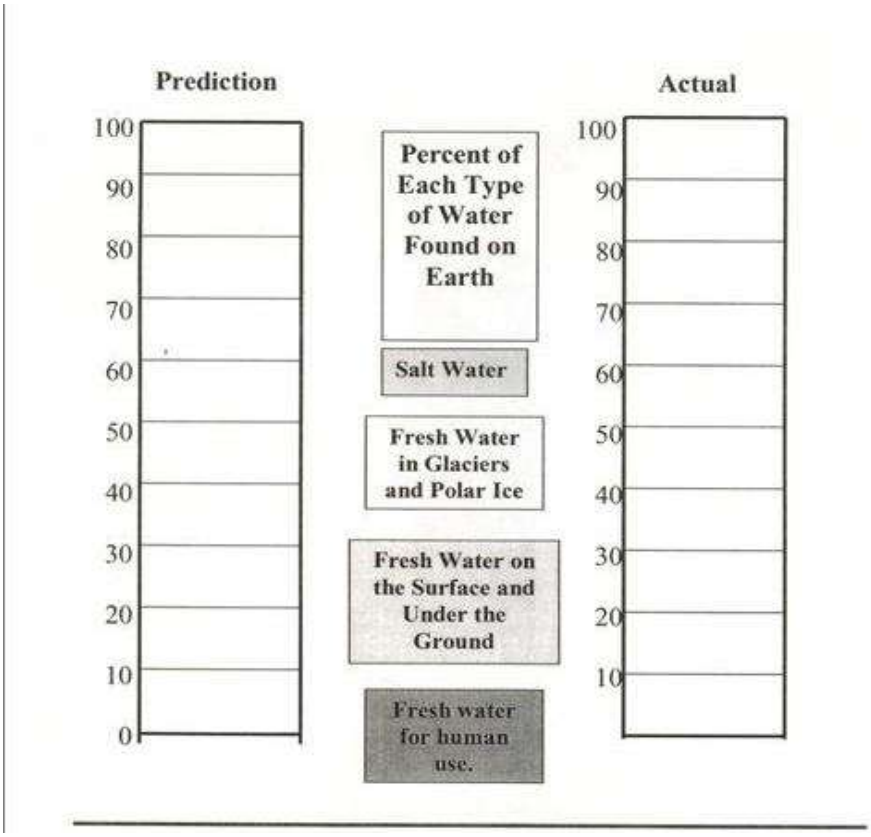
Fill out the 'Prediction Column' by coloring the percent you believe each type of Earth's water to have. Use the following colors for each type of water:

Salt Water – green

Fresh Water in Glaciers – black

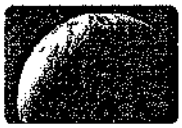
Fresh Water on the Surface – blue

Fresh Water for Human Use – red



Attachment 4: Article

(Attachment 4)



Digging Deeper

USING WATER AS A RESOURCE

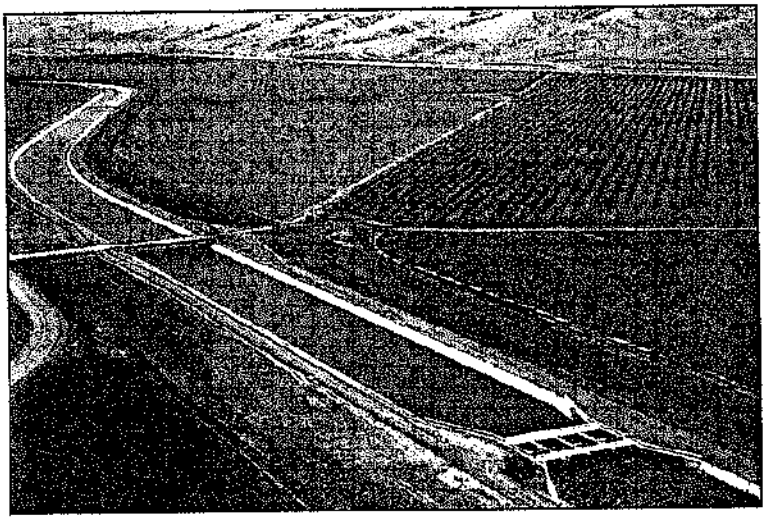
In most parts of the world, water is a scarce resource. That might seem strange to you because there is so much water on Earth. Almost all of the water on Earth, more than 97% of it, is seawater in the oceans. The rest is called fresh water, because it does not have a high salt content. Most of the world's fresh water is frozen solid in large glaciers in Antarctica and Greenland. Almost all of the fresh water that is available for human use is either contained in soil and rock below the surface, called groundwater, or in rivers and lakes.

In most areas of the United States there is enough fresh water for human use. Yet usable fresh water is not as abundant as you might think. In some areas, like the arid Southwest, there is not enough water. In those areas,

As You Read...
Think about:

1. ***Why is water a scarce resource for humans if more than half the Earth is covered by water?***
2. ***Where on or near the Earth's surface is fresh water located?***
3. ***Where are water shortages most likely to occur? Explain.***
4. ***Why can some groundwater not be used as a supply of water for human consumption?***

water has to be transported long distances from other places in human-made channels called aqueducts. Even in areas with plenty of fresh water there are sometimes



An aqueduct in California.

shortages. Rainfall is the only way that water supplies are replenished. During times of drought, when rainfall is below average for several weeks, months, and even a number of years, water supplies can become dangerously low. Even when rainfall is adequate, water from rivers and lakes might be unusable because of pollution. In some areas, groundwater cannot be used because when it is removed from the ground, nearby wetlands would be damaged by drying up. As the population of the United States continues to grow in the future, water shortages will become more common, because the supply of available water remains the same. Water conservation will become more and more important as time goes on.

Your investigation of the amounts of water used and possibly wasted in your home for these purposes might have surprised you. Most people do not think much

about how much water they use. Perhaps this is partly because you don't pay for it each time you use it, except when you buy bottled water.

There are many ways to conserve water in your home. Some are easier than others. Leaky faucets and leaky toilets waste very large amounts of water, because even though the flow rates are small, they leak all the time. New designs of toilets and washing machines use much less water than older designs, but replacement is expensive. Water-saving shower heads save a lot of water, and they are relatively easy and inexpensive to replace. The most effective ways to reduce water use, however, might be the most difficult. Taking "navy showers" (turning off the water while you're soaping yourself), not planting lavish lawns in areas that are normally arid, and driving an unwashed car are examples of effective and simple ways to conserve water.

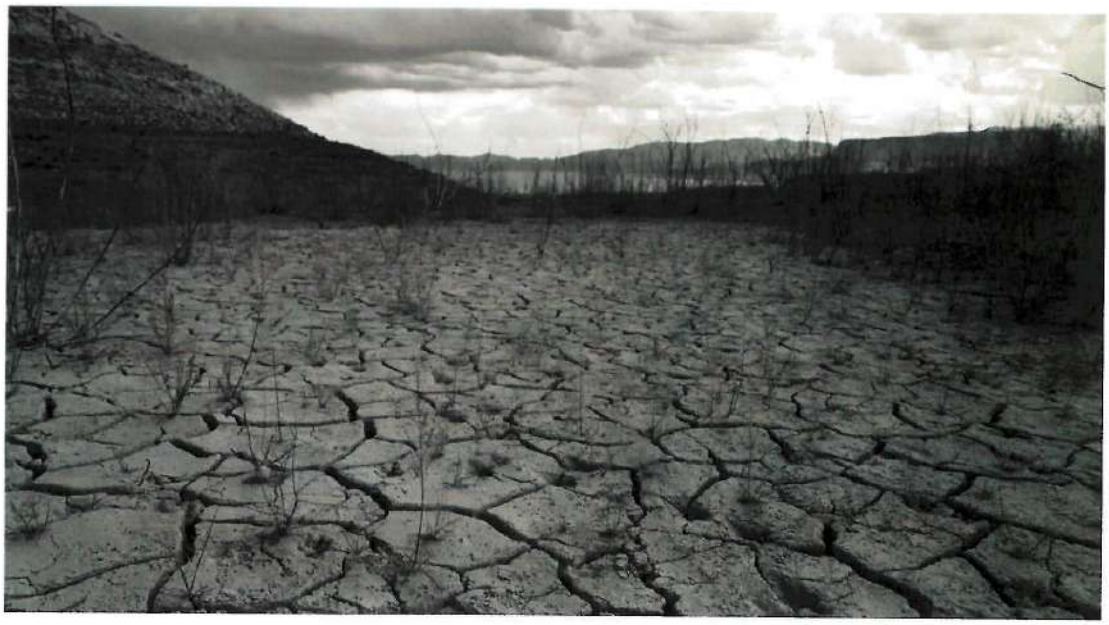
Landscaping with plants that require little water can conserve water.

Attachment 5: Article

(Attachment 5)

Earth's vast underground water supply saturated with valuable lessons

By Los Angeles Times, adapted by Newsela staff on 12.03.15
Word Count **793**



Plants grow out of dry, cracked ground that was once under water near Boulder Beach in the Lake Mead National Recreation Area near Boulder City, Nevada, May 18, 2015. Photo: AP/John Locher

Most of us think of the water cycle as something that occurs above ground. Water falls from the sky, evaporates back into the atmosphere and then condenses into rain once again.

But the water that we see above ground is just a fraction of the story.

Invisible, But Drinkable

Hidden in the Earth's crust is a huge amount of groundwater. This water fell from the sky and then trickled into the cracks and crevices in the sand, gravel and rocks beneath our feet.

We cannot see this groundwater, but more than 2 billion people across the globe rely on it for drinking water every day. In dry areas it is pumped out of the ground to grow crops. It also plays an important environmental role, keeping streams and rivers running in times of drought.

Back in the 1970s a team of scientists estimated how much of the planet's water lies buried beneath the ground. That calculation had not been updated for 40 years — until now.

In a new study that appears in the magazine Nature Geoscience, researchers tried to estimate once again how much water is stored in our planet's crust. This time, they studied tens of thousands of additional locations. They also looked at the age of that water, or how long it had been underground. That information could help them understand how quickly it can be replaced as humans keep pulling it out of the ground.

That's A Lot Of Water!

"Our maps and estimates show where the groundwater is quickly being renewed and where it is old and stagnant and nonrenewable," said Tom Gleeson, who led the study. Gleeson is a hydrogeologist, someone who studies groundwater. He works at the University of Victoria in Canada.

Gleeson and his team report that there are 6 quintillion gallons of groundwater in the upper 1.2 miles of the Earth's crust. If you could magically pump it all out of the ground and spread it across the continents, it would form a layer of water 600 feet high. That's twice the height of the Statue of Liberty.

To determine that number, the scientists used computer models. They estimated how much water can be stored in various types of rocks across the planet. They used 40,000 separate measurements to come up with their results.

The researchers were also interested in the age of the groundwater and how it was distributed. Previous studies have shown that water that has made its way into the ground could have fallen from the sky as little as a day ago, or as long as millions — even billions — of years ago.

Just How Old Is The Groundwater?

In particular, the scientists wanted to know how much of the Earth's groundwater was "modern." This younger water entered the ground system less than 50 years ago.

Researchers say there are a variety of reasons why it is important to know how much modern groundwater there is. First, it is a more renewable resource than older ground water. In many parts of the world, humans are using groundwater faster than it can be replenished. Second, it is more likely to be contaminated by chemicals used in factories or agriculture. This would make it unhealthy for human consumption.

To see how much of groundwater is "modern," they decided to look at how much tritium had been found in groundwater across the globe. Tritium is a radioactive isotope, or chemical element, of hydrogen. It increased in rain water approximately 50 years ago because of above-ground nuclear weapons testing.

The team reviewed many scientific studies. It eventually found 3,700 tritium measurements

Scientists Are Surprised

From this information they determined that just 5.6 percent of groundwater is less than 50 years old.

Gleeson said the finding that modern groundwater was such a small percentage of overall groundwater was the biggest surprise of the study.

Ying Fan of Rutgers University, who was not involved in the work, wrote an article about the research. She said that the team's findings have several implications.

First, it suggests that researchers could look at stored ancient water to learn about our planet's past.

The Flow Of History

She said that the study "hints at the sluggishness and the vastness of the world's older groundwater stores." She believes they may record the history of climate and the crust over centuries, thousands, or even millions of years.

She also thinks the results of this study could help influence how we treat the supplies of modern, renewable water in the immediate future.

Gleeson said the next step for his team is to find out how much young groundwater is being used, and where.

"We want to find out how long before we run out of this critical resource," he said.

Attachment 5: Quiz for Article

Quiz

1 Which paragraph in the section "Invisible, But Drinkable" explains the various ways that groundwater is used?

2 Which selection from the article BEST supports the following statement?

The recent groundwater study was more extensive than those in the 1970s.

(A) This time, they studied tens of thousands of additional locations. They also looked at the age of that water, or how long it had been underground.

(B) Gleeson and his team report that there are 6 quintillion gallons of groundwater in the upper 1.2 miles of the Earth's crust.

(C) To determine that number, the scientists used computer models. They estimated how much water can be stored in various types of rocks across the planet.

(D) Gleeson said the finding that modern groundwater was such a small percentage of overall groundwater was the biggest surprise of the study.

3 Why does the author include the paragraphs in the section "Scientists Are Surprised"?

(A) to introduce another scientist who was involved in the groundwater study

(B) to explain how modern groundwater can be used efficiently

(C) to compare the difference between modern and old groundwater

(D) to provide the results of the groundwater study and explain their importance

4 How do the final two sentences of the section "The Flow Of History" contribute to the article?

(A) They explain why studying groundwater is important.

(B) They make a prediction about the outcome of future experiments.

(C) They explain what scientists will continue to study about groundwater.

(D) They make an argument about why studying groundwater should be the top priority for scientists.

Attachment 5: Answer Key

Answer Key

1 Which paragraph in the section "Invisible, But Drinkable" explains the various ways that groundwater is used?

Paragraph 3:
We cannot see this groundwater, but more than 2 billion people across the globe rely on it for drinking water every day. In dry areas it is pumped out of the ground to grow crops. It also plays an important environmental role, keeping streams and rivers running in times of drought.

2 Which selection from the article BEST supports the following statement?

The recent groundwater study was more extensive than those in the 1970s.

(A) **This time, they studied tens of thousands of additional locations. They also looked at the age of that water, or how long it had been underground.**

(B) Gleeson and his team report that there are 6 quintillion gallons of groundwater in the upper 1.2 miles of the Earth's crust.

(C) To determine that number, the scientists used computer models. They estimated how much water can be stored in various types of rocks across the planet.

(D) Gleeson said the finding that modern groundwater was such a small percentage of overall groundwater was the biggest surprise of the study.

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(C) **They explain what scientists will continue to study about groundwater.**

(D) They make an argument about why studying groundwater should be the top priority for scientists.

Attachment 6: Article

For many of the world's poor, drinking water can kill

By Addie Moorfoot

05.15.13

Grade Level **7**Word Count **747**

Sipping water, brushing your teeth and taking a shower are all harmless, healthy habits, right? But what if doing any of those things could make you sick – sick enough to die?

For nearly 800 million people on this planet, that fear is a reality. That is because they do not have access to safe, uncontaminated water.

Petronella Muelula is one of the 354 million people living in Africa without access to clean drinking water. Petronella is a mother to eight children and lives in rural Zambia.

Petronella and her children risk getting sick every time they drink water from their village lake because the lake is contaminated. The polluted water causes illness. It also leads to an inability to grow food, build houses and function in everyday life, which often lead to poverty.

All Water is Not the Same

Even though about 70 percent of the surface of the Earth is covered by water, nearly all of it is salt water. Only 2.5 percent is fresh water and of that small amount, 70 percent is frozen in the polar ice caps. The remaining fresh water can mostly be found deep underground. Without a well system it is very hard to acquire fresh water.

About 3.4 million people die each year from water-related disease, according to Water.org. Contaminated water kills close to 5,000 children every day. Humans need water to avoid dehydration.

Petronella walks more than 2 miles each day to collect water for her family. Still, the water she collects is polluted. Petronella's story was told in the film "This Is Normal". The film seeks to shed light on the world water crisis.

“When drinking bad water sometimes children can die, so I worry because (my children could) suffer,” Petronella told Derek Watson, the film's director. “I, myself, could suffer from drinking bad water.”

Deadly Diarrhea

One of the main risks of drinking unpurified water is diarrheal disease. The World Health Organization (WHO) reports that diarrheal disease kills 1.5 million children every year. The disease causes 1.5 billion bouts of illness per year in children younger than age 5 living in poor countries.

Diarrhea causes the body to lose water and salts necessary for survival. Death from diarrhea is caused by severe dehydration and fluid loss. Even though the disease is preventable, it kills more children every year than HIV/AIDS, tuberculosis and malaria combined.

“Diarrheal disease is a lot more of a problem than many people think, certainly in the West,” Peter Kolksy, a professor at the University of North Carolina, said in the film. “People have been spoiled by the experience that we think of diarrheal disease as something that perhaps happens (on vacation) or we eat in a strange place and get an upset stomach for a couple of days. We then take medications if necessary and then it’s resolved. That doesn’t reflect the reality (of the disease) killing something like 2 million children every year.”

In 2006, a United Nations Health Development Report stated that the number of children dying from polluted water and poor sanitation was greater than the number of deaths caused by war. Still, war gets more attention in the press than water pollution.

Seeking Solutions

When Oklahoma businessman Dick Greenly learned about the world water crisis, he decided to do something.

“I was astounded to discover that a sixth of our world's population is playing Russian roulette every time they take a drink of water,” Greenly told Watson.

In 2008, Greenly and his wife, Terri, established an organization called Water4. The aim of the organization is to end the global water crisis by training people in countries including Zambia, Haiti and Rwanda to drill water wells on their own and in their surrounding communities. The affordable drilling system allows locals to tap into fresh water underground.

Petronella’s village is now equipped with a fresh-water well.

“Before we had (this well) we had many child (in our village) with diarrhea,” Petronella told Watson. “But at this moment it is controlled.”

Water4 is one of many organizations based in the United States trying to resolve the worldwide water crisis. Every year, World Water Day takes place on March 22. The purpose of the day is to focus attention on the importance of clean drinking water.

“I have hopes and dreams for the future,” Petronella said in the film. “I hope that my children will grow up and be educated. To see that happen would make me the happiest person in the world.”

Attachment 7: Graphic Organizer

LEQ: How is water contaminated?

Possible Contaminates Found in Water	Possible Solutions to Remove Contaminates

Attachment 8: Rubric

Name of Investigation: How can we filter out contaminates in our drinking water?				Science Standard	ELA/CC Standard
Name(s):	**Due Date:**		Period A B C D		
Component of Technical Writing Lab Report	**Above Standard 3**	**At Standard 2**	**Below Standard 1**		
Conclusion	Competently and insightfully	Partially	Minimally		
a. The **Problem** or **Purpose** of **Investigation/ Lab** is restated and answered. Restate the overall purpose of the experiment (include IV and DV in this sentence.)					
b. Evidence is supported with background research. What have you **learned** and **where** did you learn it. (at least 2 cites, for example a video, article or notes)					
c. Hypothesis is restated and shown whether it was supported, not supported or partially supported with evidence.					
d. Observations are discussed about. Surprises in results are explained or inferred.					
e. Future impact or evidence is extended to other areas. What could be studied next after this experiment? What new experiment could continue study of this topic? If you have any recommendations to improve **this** lab they are identified.					
f. Error Analysis - What errors were made in in this experiment and how will you improve it next time. Speculate on possible sources of error.					
g. Overall Appearance - neat, English and grammar are correct.					
Total Points: 24 + 1 (name, date & period) ---------- OUT OF 25 x2 = _____					

Attachment 9: Cornell Notes

Knight Notes	**Topic/Objective:**	**Name:**
		Class/Period:
		Date:
Essential Question:		

Questions:	**Notes:**

Summary:

Attachment 10: Article

Digging Deeper

TREATMENT OF DRINKING WATER AND WASTEWATER

Most people in the United States get their water from municipal (city and town) water systems. Most people in rural areas, and also some in suburbs, get their water from their own wells, which tap shallow or deep groundwater.

The water that is supplied from municipal water systems comes mainly from three sources: streams and rivers; natural lakes or artificial reservoirs; and groundwater, pumped from large wells. Lakes and reservoirs that are located in unpopulated areas far from cities and towns usually have the highest-quality water. That is also true for streams and small rivers in unpopulated areas. Large rivers usually have lower-quality water, because of pollution from upstream areas. Ground water is contained in underground materials called aquifers. The quality of ground water varies a lot from place to place, depending on the quality of the surface water that supplies the aquifers.

As You Read...
Think about:

1. *What are the sources for water that supply municipalities?*
2. *How can fine sediment be removed to increase the quality of drinking water?*
3. *What substances in water make it "hard"?*
4. *How is household wastewater treated?*

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51

Treatment of Drinking Water

Some sources of drinking water are of such high quality that not much treatment is needed. Usually, an addition of small amounts of chlorine are sufficient to kill any harmful bacteria or other microorganisms. Other water sources, especially large rivers, have higher levels of pollution. Such sources require more to bring the water up to the needed level of quality. River water usually contains fine sediment particles in suspension. The water can be passed through filtration materials, like sand, to remove the fine sediment. Filtering the water also tends to remove bacteria. Another way of removing the fine sediment is to let the water sit in large basins while the sediment slowly settles to the bottom. Sometimes this settling process is speeded up by adding certain chemicals that cause the fine sediment particles to clump together into larger particles. The larger particles settle faster than the original fine particles.

One problem in any system for water treatment is the difficulty of removing dissolved salts. All natural waters contain some dissolved substances, like sodium, calcium, magnesium, and iron. When the concentrations are too high, however, the water may taste salty. Calcium and magnesium make the water "hard," which makes washing with soap or detergents more difficult. Salt can be removed from water by various processes in what are called desalination plants. Drinking water produced by desalination is considerably more expensive than natural fresh water. It is used mainly in developed countries, like the United States, Israel, and Saudi Arabia, where fresh water is scarce but the ocean is nearby. Some coastal cities in California are beginning to use desalination for part of their water supply.

Wastewater Treatment

Most of the water that is used in homes and businesses is put into either municipal sewers or home septic

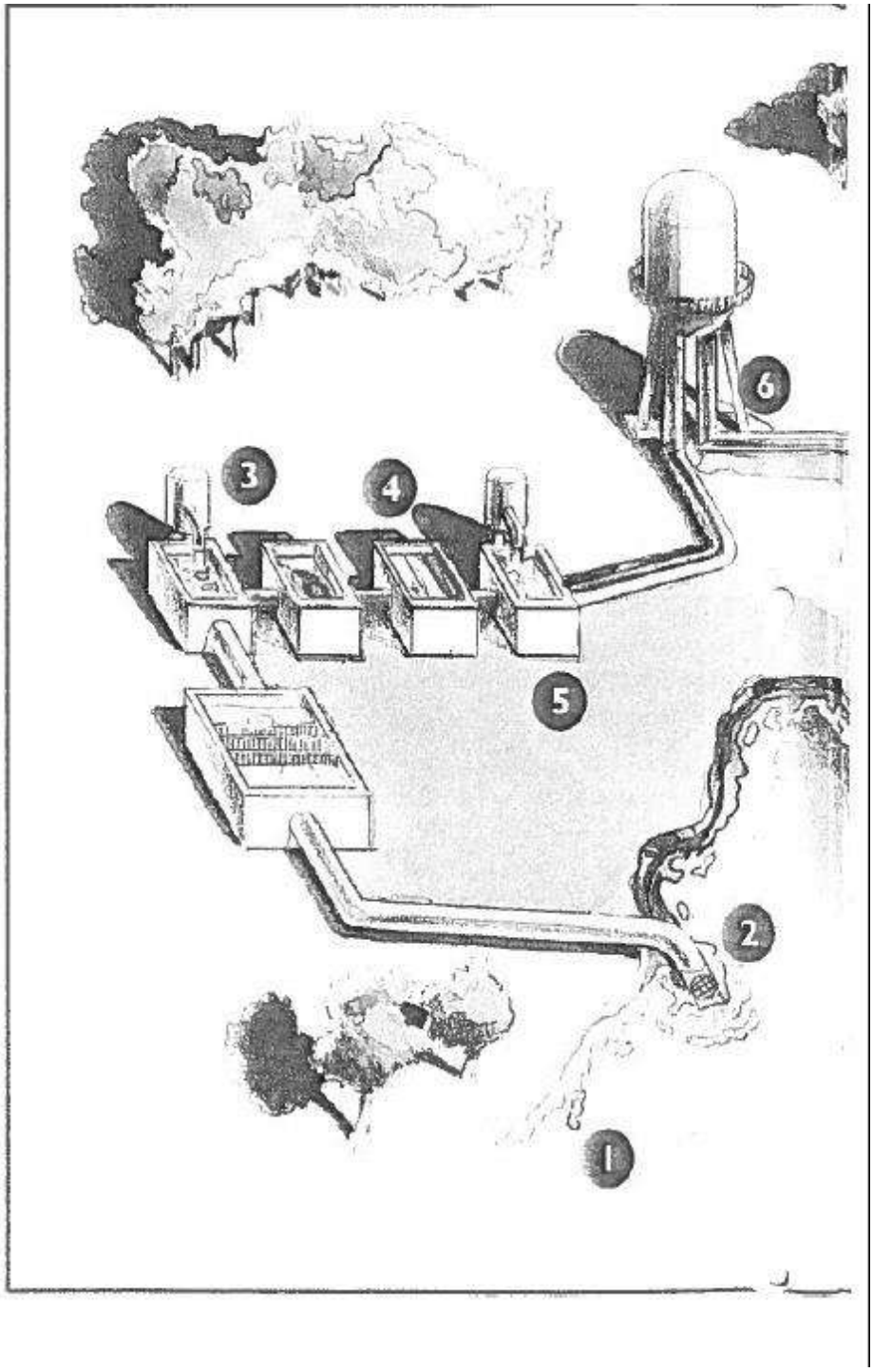
systems. Most of that water is polluted to some extent, because it comes from clothes washing, bathing, and toilets. In earlier times, sewage was put directly into the ground, into rivers, or into the ocean, without any treatment. As populations have grown, however, the need for wastewater treatment has increased as well.

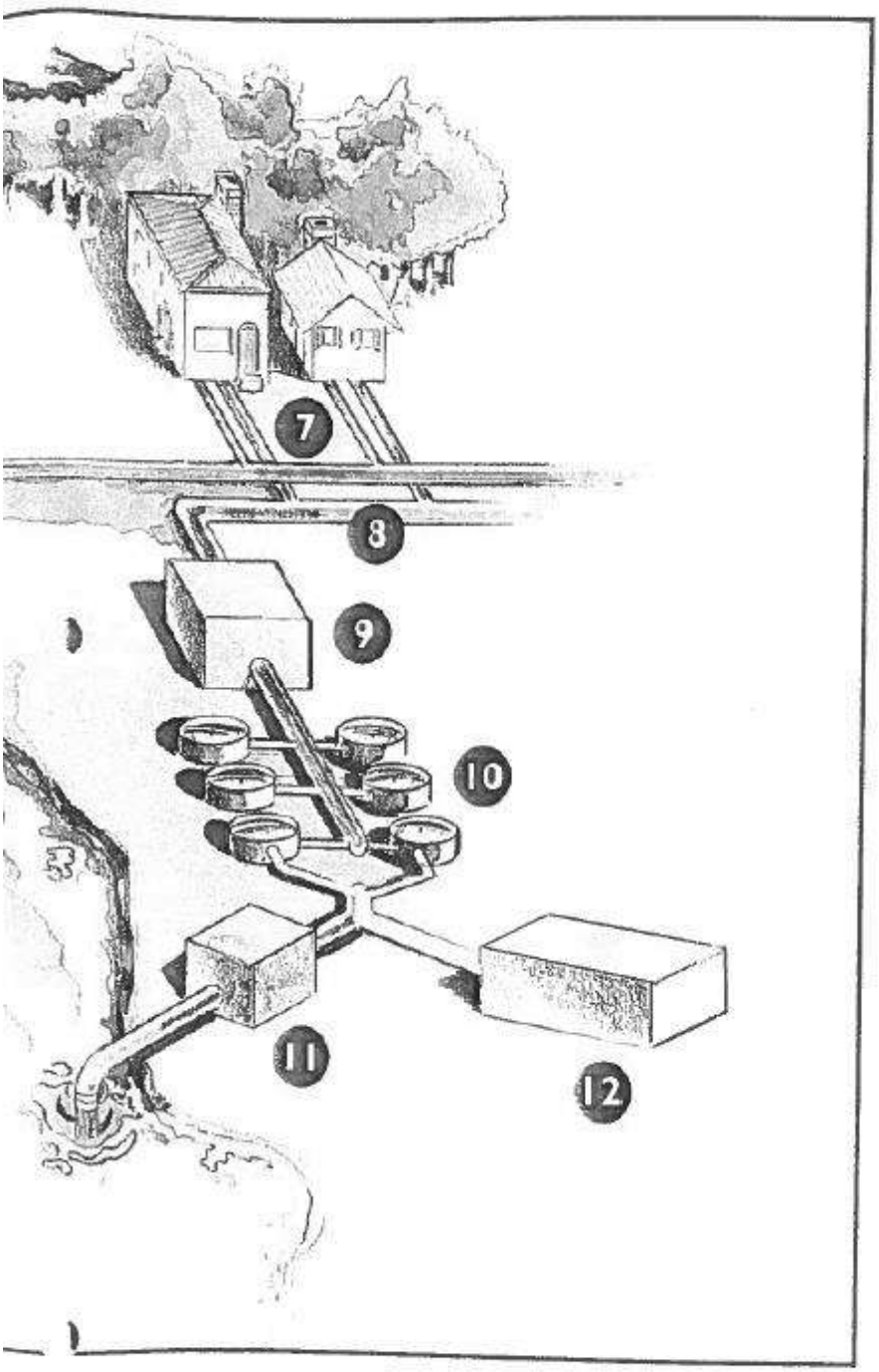
Home septic systems consist of a large underground tank, where anaerobic bacteria (those that do not need oxygen) gradually break down most of the solids. The remaining liquid waste flows out into what is called a leach field, where the water flows out from porous underground pipes into the ground. This water still contains pollutants and harmful microorganisms. Some of these are removed as the water flows through soil and rock, but in many places they reach groundwater supplies and add to problems of water pollution.

Municipal sewage is treated in special wastewater treatment plants. There are several common methods of treatment. Also, the level of treatment varies greatly.

- In primary treatment, all that is done is to put the water in large tanks or ponds to let the solid material, called sludge, either float to the surface or settle to the bottom. The water is then usually chlorinated, and the sludge is treated and disposed of in various ways.
- Most wastewater undergoes secondary treatment as well. The most common method is to sprinkle or trickle the water over a bed of sand or gravel. As the water filters downward, it is put into contact with oxygen and microorganisms, which work together to break down the organic matter in the water.
- In a few places, the water undergoes tertiary treatment, which involves a variety of processes to purify the water even further. After tertiary treatment, the water can be pure enough to drink!

1. Streams, rivers, lakes, and artificial reservoirs are sources of municipal water.
2. Screens are used to remove debris.
3. Settling removes fine sediment. Chemicals are added to speed the process.
4. Filtration also removes fine sediment.
5. Chlorine is added to kill microorganisms.
6. Water is pumped through water mains.

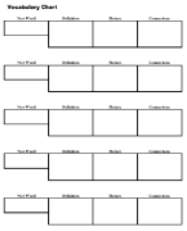




7. Clean drinking water is delivered to homes.
8. Pipes carry wastewater away.
9. Primary treatment takes place in large tanks. Solid materials settle as sludge.
10. During secondary treatment air and bacteria break down sewage.
11. Water is returned to the lake or river.
12. Tertiary treatment uses chemicals, filters, and radiation to purify water even further. It can be pure enough to drink.

LESSON 3: Claims and Counterclaims

Grade: 7th ELA/Social Studies **Unit/Module: Are You Thirsty?**
Name: Millsboro Middle School **Topic : Claims and Counterclaims**

Learning Goals for this Lesson: Students will analyze the development of different points of view on the same subject. Students will recognize a claim and argue a position incorporating counterclaims.	**Standards:** **CCSS.RI 7.9:** Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts. **CCSS.RI 7.8:** Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims. **CCSS.SL.7.1:** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
Students Will Know: • Author's argument/specific claims • Opposing viewpoints/counterclaims	**Students Will Be Able To:** • Trace and explain arguments/claims • Trace and evaluate the argument and specific claims in a text • Argue a position incorporating counterclaims
Lesson Essential Question: How does an author's position and perspective shape his or her presentation of information?	
Activating Strategy: The teacher will project the following prompt on the SmartBoard, "should surveillance cameras be used in schools?" Students will be asked to respond to this prompt and support their answers with reasons and evidence.	
Key Vocabulary to preview and vocabulary strategy: (See attachment 1) Tier 2 Vocabulary • Claim • Counterclaim  Students will create a chart with the definition, picture and example. Students will be given sentences with the vocabulary words to use context clues to fill in their chart.	

LESSON INSTRUCTION

Learning Activity 1: On the SmartBoard the teacher should project information about claims. The students should record this information into their student journals.

A claim is…

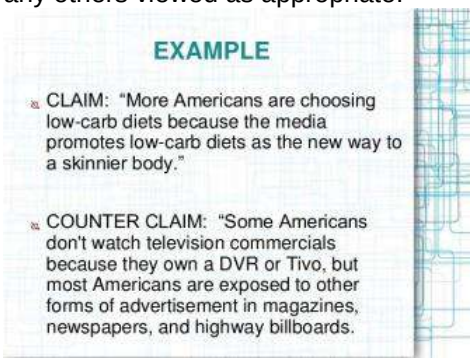
- A single sentence
- The topic of an argument
- Not a question
- Supported by evidence

Using this information, the students should work collaboratively to construct a definition. The definitions should be shared with the class in order to create a class definition for the word claim.

Assessment Prompt for LA 1: Students should be given the introduction paragraph of three water articles. These articles include "Poison in the water," (Attachment 2) "Lead Companies Pushed their Products even as People were Being Poisoned," https://newsela.com/articles/lead-toxic/id/14862/ and "Ex-Flint mayor to tell Congress that it's State's Fault." http://www.freep.com/story/news/local/michigan/flint-water-crisis/2016/03/14/ex-flint-mayor-tell-congress-state-blame-crisis/81773784/
Working collaboratively in a group of three, each student will receive a different paragraph. The students should highlight the author's claim in each introduction. The students should be prepared to justify their thinking.

Evidence of Learning: Answers may vary. Students should be able to accurately identify a claim using the key components recorded in their journals.

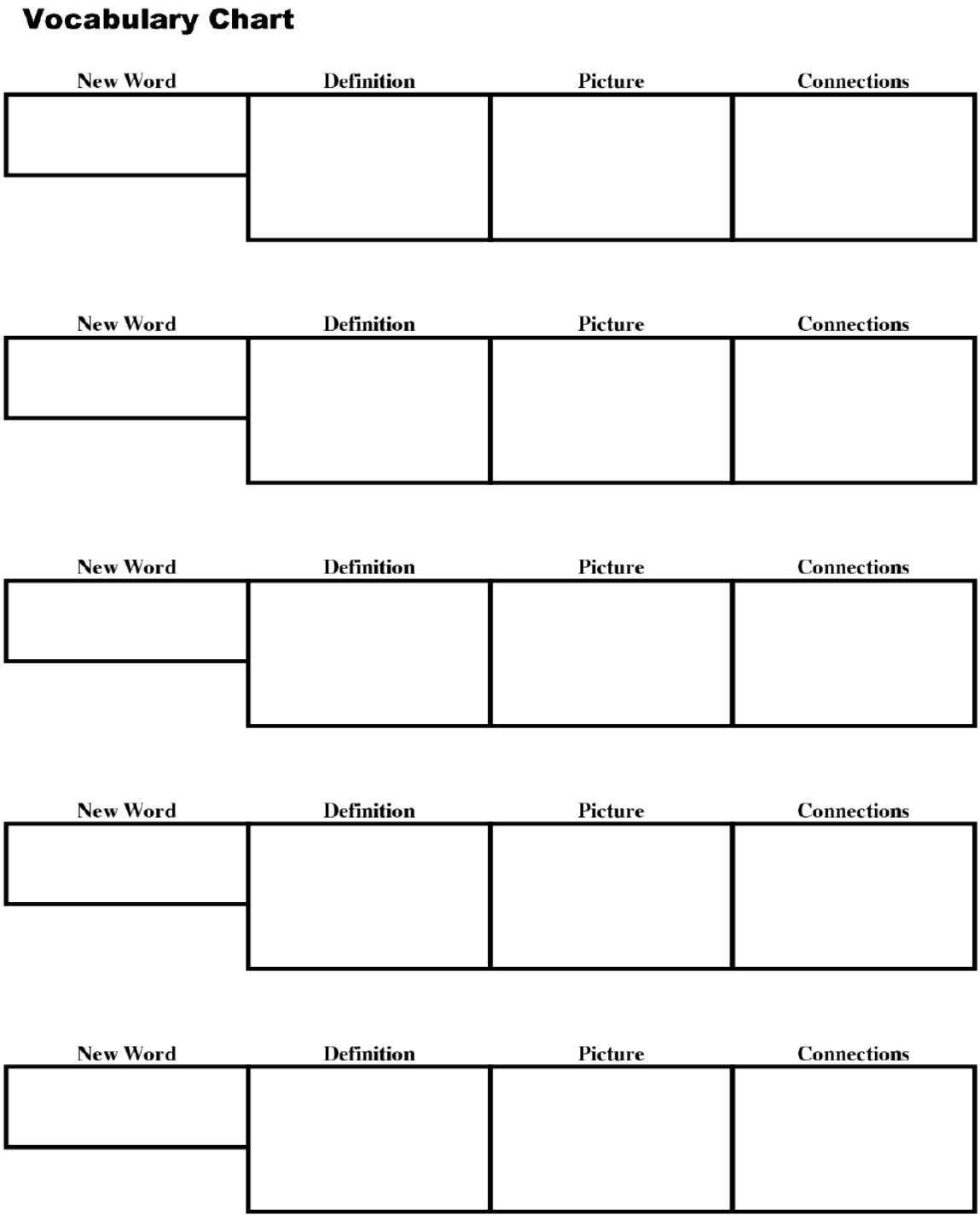
Supporting Student Needs: If the students are struggling to understand or list a claim with counterclaim, the teacher may post the following example on the board, as well as any others viewed as appropriate.



Learning Activity 2: On the SmartBoard the teacher should project information about claims. The students should record this information into their student journals. A counterclaim is… • A reasonable statement that disagrees with the claim • A solid argument that opposes the claim • Supported with evidence Using this information, the students should work collaboratively to construct a definition. The definitions should be shared with the class in order to create a class definition for the word claim. **Assessment Prompt for LA 2**: **Think-Pair-Share -** Using the highlighted claims from the article introductions (AP 1), discuss possible counterclaims to each claim. **Evidence of Learning:** Answers may vary. The possible counterclaims should include the key components recorded in their journals.	
Learning Activity 3: The students should be instructed to construct a T-chart into their student journal. One column should be labelled with claims while the other is labelled counterclaims. Next, have the students watch the following video, "Fresh water scarcity: An introduction to the problem." **https://www.youtube.com/watch?v=otrpxtAmDAk** As they watch the video, the teacher should model how to recognize claim and counterclaims. The video should be stopped so students can have time to discuss and record the claims and counterclaims into their T-chart. **Assessment Prompt for LA 3**: Using the information from the video that was recorded in a T-chart, the students should be instructed to summarize the claim and counterclaim in 10 words or less. **Evidence of Learning**: Answers may vary. For example, one claim could be "there is plenty of water in the world." The counterclaim would be "then some women have to walk for miles for water."	

Learning Activity 4: The teacher should model how to write a claim and counterclaim. Additionally, have the students work collaboratively to generate a list of key words/phrases that usually indicate a counterclaim. For example, “yes, I recognize your position,” “in contrast,” “others may think,” “but” or “however.” **Assessment Prompt for LA 4**: The students should be instructed to choose one of five provided topics and write a claim and counterclaim related to the topic. Topics: 1. Should cell phones be allowed in schools? 2. Should schools start later? 3. Should people go to jail when they abandon their pets? 4. Should parents of bullies be fined? 5. Should all students wear uniforms? Upon completion, the students should switch with a partner in order to receive feedback. The partner should look for the following components which should be projected onto the SmartBoard. • Was the claim clearly stated? • Is there evidence to support the claim? • Was the counterclaim clearly stated? • Is there evidence to support the counterclaim? **Evidence of Learning**: Answer may vary. The claim should be a well-stated clear position. The counterclaim should be a reasonable statement that demonstrates an opposing view. Additionally, the counterclaim should incorporate the key words.	

Attachment 1: Vocabulary Chart



Attachment 2: Article

NATIONAL

POISON IN THE WATER

Using a local water supply was supposed to help the struggling city of Flint, Michigan. Instead, it exposed tens of thousands of people to toxic chemicals. How did this happen?

BY BRYAN BROWN

For months, government officials denied that anything was wrong. In April 2014, Flint, Michigan, switched to a new water source, the Flint River, to save money. Almost immediately, residents began complaining about the water coming out of their faucets. It was orange or brown and smelled disgusting. People developed rashes or headaches. Some lost clumps of hair in the shower. Yet for a year and a half, the Michigan Department of Environmental Quality (DEQ), the agency responsible for the safety of the state's drinking water, insisted there was nothing to worry about.

But Flint residents pushed for answers. Dr. Mona Hanna-Attisha, a pediatrician, ultimately brought the emergency to light at a press conference last September. After analyzing the blood tests of children in the community, she found that the number of kids with elevated levels of lead in their blood had almost doubled since the water switch. Lead is a toxic metal known to cause permanent brain damage, especially in young children.

Within a week, Michigan Governor Rick Snyder finally admitted there was a crisis and told residents not to drink the water without filtering it. Flint River water, officials now say, is highly corrosive. As it moved through the city's aging pipes, many of which contain lead, it ate away at them, absorbing the toxic substance before pouring out of showerheads and kitchen faucets.

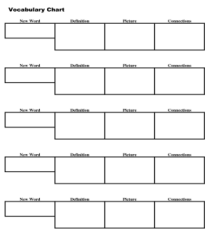
On October 16, 2015, Flint switched back to its previous water supply. But by then, the damage had been done. Lead pipes throughout the city are now so corroded that unless replaced, they'll likely continue to deposit lead into the water, regardless of the source.

Underscoring the severity of the situation, President Barack Obama declared a state of emergency in Flint in January. "If I was a parent [there], I would be beside myself that my kids' health could be at risk," he remarked days later. "It is a reminder of why you can't shortchange basic services that we provide to our people."

Now lawmakers and citizens around the country are asking: How is it possible that the people of Flint were failed so miserably? →

LESSON 4: Supporting a Claim

Grade: 7th ELA/Social Studies **Unit/Module: Are You Thirsty?**
Name: **Millsboro Middle School** **Topic: Supporting a claim with sound reasoning**

Learning Goals for this Lesson: • Analyze the logic in the development of different points of view on the subject. • Create a claim and argue a position incorporating counterclaims in a class debate.	**Standards:** **CCSS.RI.7.9:** Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts. **CCSS.SL.7.1a:** Come to discussions prepared by having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion **Pre-Requisite Standard:** **CCSS.RI 7.8:** Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.
Students Will Know: • How to interpret/infer points of view. • Elements of argument. • Thesis (claim), audience, purpose, position and occasion in an argument. • Claim, reasoning, and evidence in an argument.	**Students Will Be Able To:** • Identify perspective in a sample text. • Analyze the thesis (claim), audience, purpose, and occasion in a sample text. • Analyze claim, reasoning, and evidence in an argument. • Identify and evaluate an author's claims and use of reasons and evidence to support a position
Lesson Essential Question: How do I evaluate sound reasoning and relevant evidence used to support an argument or claim?	
Activating Strategy: Show students 5 minute news clip from CNN of water supply crisis in Flint Michigan. https://www.youtube.com/watch?v=nTpsMyNezPQ Students should discuss with a partner how this situation could happen to them. Reference could be made to the water crisis that happened in Selbyville, DE last year (2015).	
Key Vocabulary to preview and vocabulary strategy: (Tier 2 vocabulary) • claim • counterclaim • debate • argument • position • controversy  Students will create a chart with the definition, picture and example. Students will be given sentences with the vocabulary words to use context clues to fill in their chart. (See attachment 1)	

LESSON INSTRUCTION	
Learning Activity 1: Supporting a claim The teacher will explain the components of a successful argument. More specifically, the teacher will explain that claims must be supported with reasons and evidence. Using the article, "Lead Companies Pushed their Products even as People were Being Poisoned," https://newsela.com/articles/lead-toxic/id/14862/ the teacher will model for the students how to circle the author's claim and underline reasons or evidence that support that claim. **Assessment Prompt for LA 1:** After reading the article, students will summarize the author's claim in 15 words or less. **Evidence of Learning:** Students were able to successfully recognize the author's claim. For example; "Citizens were upset by environmental regulators who incorrectly treated the water in Flint."	**Supporting Student Needs:** Pre-teach vocabulary to reinforce that struggling students understand the main concepts of the lesson before beginning.
Learning Activity 2: Each student will receive a copy of the article, "Ex-Flint mayor to tell Congress that it's state's fault" by Detroit Free Press. http://www.freep.com/story/news/local/michigan/flint-water-crisis/2016/03/14/ex-flint-mayor-tell-congress-state-blame-crisis/81773784/ While reading the article, students will underline key details and evidence which supports the author's claim. The teacher may wish to model in the beginning of the article. **Assessment Prompt for LA #2**: After reading, the students will be instructed to pick a side to represent – the Mayor's side or the State official's side, and prepare to argue why that particular side is NOT responsible for the decisions that caused the Flint water crisis, and why the other party IS responsible for the Flint water crisis. The students will be instructed to state a claim as to who is responsible for the decision to use polluted water from the Flint River as the town's main water source. They will use a template in order to record their side, claim, and evidence to support the claim. (see attachment 2) **Evidence of Learning:** The teacher will conduct a debate with the class once each student has collected their evidence to justify their claim. In order to do this, the teacher will have the students stand on opposite sides of the room, in order to depict with which party they decided to side. The students will take turns, using the graphic organizers for the lesson (attachment 2) in order to offer justifications for their claim as to which party is responsible for the Flint water crisis – the State officials or the former Mayor. After the debate is conducted, the teacher and students will have a discussion about which party is "correct" in this matter – the State officials or the former Mayor of Flint. The teacher will lead the students to the conclusion that neither party is necessarily right or wrong, but they each have their own claims, and justifications for those claims.	**Supporting Student Needs:** For struggling learners, have them focus on stating their claim and finding evidence to support. They may omit proving the other side incorrect.

Learning Activity 3: Learning Activity 3: The teacher will begin LA 3 with a graphic to be placed in student journals. (see attachment 3)

Underneath the picture, the students will respond to the prompt, "What does this mean to you?" The class will have a few minutes to write and respond, then share with a partner. After sharing with a partner, the teacher will ask students to share out with the class. The teacher may want to share the following example with the class, so that they may better understand the concept; "At home the other day, I went to get some ice cream, only to find that the carton was nearly empty. Imagine my disappointment! I asked everyone in my family who was responsible for leaving a virtually empty carton of ice cream in the freezer. No one wanted to take responsibility, but wanted to place blame on another person in the family."
After sharing interpretations with the class, the teacher will explain to the students that the next article they will read relates to the graphic, because the EPA Region 5 Administrator (former) named Susan Hedman, does not feel that she is responsible for the corrosive water that caused the Flint water crisis.

Article: Former Exec Downplays EPA role in Flint Water Crisis Todd Spangler, Detroit Free Press. http://www.freep.com/story/news/local/michigan/2016/03/15/former-exec-downplay-epa-role-flint-water-crisis/81802130/ Each student will receive copy of the article or read on line. The students will read the article with the purpose of recognizing and interpreting one person's claim.

Assessment Prompt for LA 3: The students will fill out a graphic organizer (see attachment 4) that may be placed in their journals. The graphic organizer has the students provide evidence to support a claim then determine whether they agree or disagree with the author's claim.

Evidence of Learning: Students successfully state the position of Susan Hedman, Former EPA Region 5 Administrator on the Flint Water Crisis and her role in the situation. Students will use the article to pull out at least 2 pieces of evidence to support why Susan Hedman does not take responsibility for the lead in Flint water. Students will successfully state whether they agree or disagree with Susan Hedman and state three pieces of evidence to support their position.

Supporting Students Needs:

Guide students in marking the text (highlighting or underlining the claims and evidence; summarizing each paragraph as they read) to aid in reading comprehension.

Summarizing Strategy:

- Students will watch a model of a Socratic Seminar in class and discuss rules necessary in order to have a successful and respectful debate. **https://www.youtube.com/watch?v=oG64GWpE9Jo**
- Students will use information from each of the three articles they have read regarding the Flint, Michigan water supply crisis. They will evaluate each author's claim and determine which author they agree with the most.
- Socratic Seminar/Debate – The teacher will lead a Socratic seminar on the controversy over the Flint water crisis. The teacher will ask who is responsible and what should be done to rectify the situation. Students will respond individually and in an orderly way.

Attachment 1: Vocabulary Chart

Vocabulary Chart

New Word	Definition	Picture	Connections

New Word	Definition	Picture	Connections

New Word	Definition	Picture	Connections

New Word	Definition	Picture	Connections

New Word	Definition	Picture	Connections

Attachment 2: Claim

Claim: It is my position that _____ need(s) to take responsibility for corrosion of water in Flint, Michigan.

Here are some reasons why I believe that _____ is responsible for the corrosion of water in Flint, Michigan.

Paragraph ___ : The author states: _____

_____

This means that _____

_____

Paragraph ___ : The author states: _____

_____

This means that _____

_____

Paragraph ___ : The author states: _____

_____

This means that _____

_____

Summary of key points:

_____

_____

_____

_____

Attachment 3: Graphic

Attachment 4: Counter

Claim: I, Susan Hedman, Former EPA Region 5 Administrator, do NOT take responsibility for lead in the water in Flint Michigan.

Here are some reasons why:

1.

2.

3.

Claim: I, _____(student name) do/do not agree with Susan Hedman, Former EPA Region 5 Administrator.

Here are some reasons why:

1.

2.

3.

LESSON 5: Paraphrase/Cite

Grade: 7th ELA/Social Studies
Name: Millsboro Middle School

Unit/Module: Are You Thirsty?
Topic: Cite/Paraphrase

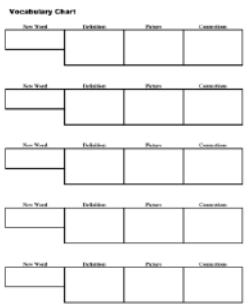
Learning Goals for this Lesson:	**Standards:**
Students will gather relevant information from multiple digital and print sources to quote and paraphrase to avoid plagiarism	**CCSS.7.W.7.8:** Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or while avoiding plagiarism and following a standard format for citation. **CCSS.SL.7.1a:** Come to discussions prepared by having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion
Students Will Know: • How to gather relevant information from multiple sources • How to avoid plagiarism by paraphrasing and providing appropriate citations	**Students Will Be Able To:** • Differentiate between paraphrasing and directly quoting research, as well as be able to determine when each should be used

Lesson Essential Question: How do I effectively paraphrase and use direct quotes in order to avoid plagiarism?

Activating Strategy: Have the students respond to this question; "why is it important to write information in your own words?" Student answers may vary but should include reasons such as "to avoid plagiarism," "to gain a better understanding," or "in order to summarize." This strategy can lead to a discussion on plagiarism and the teacher should provide the students with a definition.

Key Vocabulary to preview and vocabulary strategy: (Tier 2 Vocabulary)

- Paraphrase
- Cite
- Plagiarism



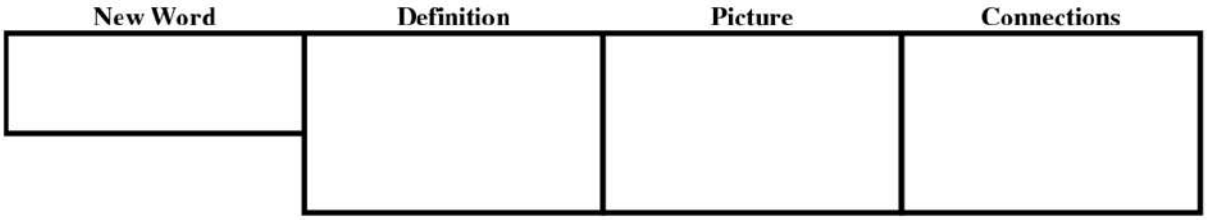
Students will create a chart with the definition, picture and example. Students will be given sentences with the vocabulary words to use context clues to fill in their chart. (See attachment 1)

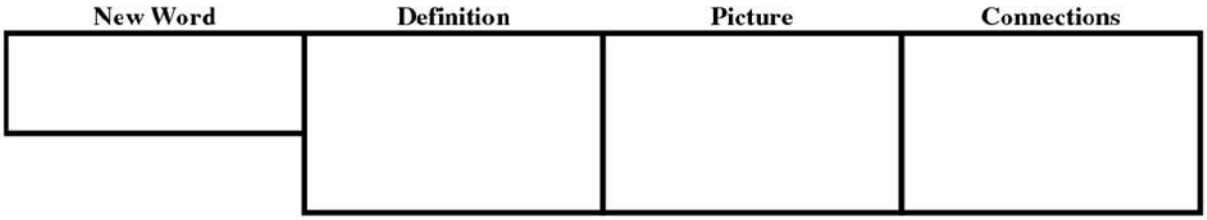
LESSON INSTRUCTION	
Learning Activity 1: Inform the students that when they put information into their own words they are paraphrasing. Working in collaborative groups, have the students construct a definition for the word, paraphrase. Have the various groups share out their definitions in order to create a class definition. **Assessment Prompt for LA 1:** Use the higher order thinking strategy called "The answer is…" Students should write questions which would have the answer of paraphrase. **Evidence of Learning:** Questions may vary. The questions should demonstrate an understanding of the word paraphrase. For example, "what is it called when you put information into your own words?" or "How do you avoid plariagrism?"	
Learning Activity 2: Working in collaborative groups, have the students generate a list of guidelines that would be useful in knowing how to paraphrase. As each group shares their lists, the teacher should be creating and adding to a class list. Items on the list may include the 5Ws, big ideas, synonyms and author claims. **Assessment Prompt for LA 2**: Working in collaborative groups, each group should receive a different paragraph from the article, "Poison in the water." Students should read their provided paragraph independently then work together to paraphrase the information into their own words. Each group will present their paraphrase paragraph to the class. The class should give a thumbs up or thumbs down as each paraphrased paragraph is read. Students should be prepared to justify their thinking. **Evidence of Learning:** The paraphrased paragraphs should reflect the items included in the class guidelines for paraphrasing.	

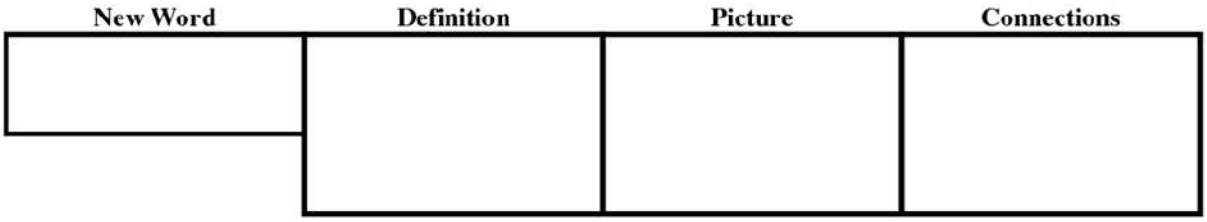
Learning Activity 3: Next the teacher should explain to the students that sometimes direct quotes are necessary in order to better support your claim. Additionally, since the information is a direct quote and not a paraphrase it is essential to cite the source in order to give proper credit. Working in collaborative groups, have the students generate a list of key components that should be included when you cite an outside source. Items on this list may include author, date, and quotation marks. The teacher should then model how to incorporate a direct quote into writing. **Assessment Prompt for LA 3**: Working independently, give students the article "Poison in the water" and have them highlight examples of citations found in the article. When finished, have the students switch with a partner and compare answers. After comparing with a partner, project the article onto the SmartBoard and have a few students come forward to share their answers. Students should be prepared to justify their answers. **Evidence of Learning**: Students should highlight where quotation marks were used.	
Learning Activity 4: Students will read the article "Poison in the water" and use the marking the text strategy as they read. More specifically, the students should be instructed to number the paragraphs, circle key details, and underline main ideas. **Assessment Prompt for LA 4**: After reading the article the students should complete the provided graphic organizer (See attachment 2). In the first box, the students should be instructed to summarize the author's claim. In the second box, the students should state their opinion on the topic. In the remaining boxes, the students should paraphrase three reasons which support the author's claim and use direct quotes from the author to support those reasons. **Evidence of Learning**: Answers may vary. The three reasons should be clearly paraphrased and the direct quotes should correlate with the reasons used.	**Supporting Student Needs:** For struggling readers or English Language Learners, students may focus on reading and marking only one or two paragraphs out of the text. **Supporting Student Needs:** Struggling readers and English Language Learners may need to be reminded or pre-taught the word "claim."

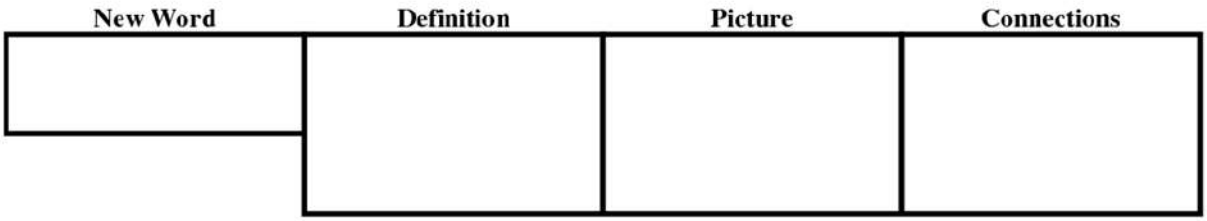
Attachment 1: Vocabulary Chart

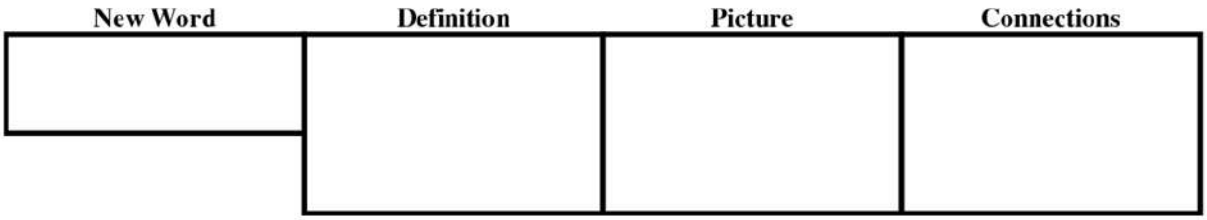
Vocabulary Chart











Attachment 2: Article

NATIONAL

POISON IN THE WATER

Using a local water supply was supposed to help the struggling city of Flint, Michigan. Instead, it exposed tens of thousands of people to toxic chemicals. How did this happen?

BY BRYAN BROWN

For months, government officials denied that anything was wrong. In April 2014, Flint, Michigan, switched to a new water source, the Flint River, to save money. Almost immediately, residents began complaining about the water coming out of their faucets. It was orange or brown and smelled disgusting. People developed rashes or headaches. Some lost clumps of hair in the shower. Yet for a year and a half, the Michigan Department of Environmental Quality (DEQ), the agency responsible for the safety of the state's drinking water, insisted there was nothing to worry about.

But Flint residents pushed for answers. Dr. Mona Hanna-Attisha, a pediatrician, ultimately brought the emergency to light at a press conference last September. After analyzing the blood tests of children in the community, she found that the number of kids with elevated levels of lead in their blood had almost doubled since the water switch. Lead is a toxic metal known to cause permanent brain damage, especially in young children.

Within a week, Michigan Governor Rick Snyder finally admitted there was a crisis and told residents not to drink the water without filtering it. Flint River water, officials now say, is highly corrosive. As it moved through the city's aging pipes, many of which contain lead, it ate away at them, absorbing the toxic substance before pouring out of showerheads and kitchen faucets.

On October 16, 2015, Flint switched back to its previous water supply. But by then, the damage had been done. Lead pipes throughout the city are now so corroded that unless replaced, they'll likely continue to deposit lead into the water, regardless of the source.

Underscoring the severity of the situation, President Barack Obama declared a state of emergency in Flint in January. "If I was a parent [there], I would be beside myself that my kids' health could be at risk," he remarked days later. "It is a reminder of why you can't shortchange basic services that we provide to our people."

Now lawmakers and citizens around the country are asking: How is it possible that the people of Flint were failed so miserably? →

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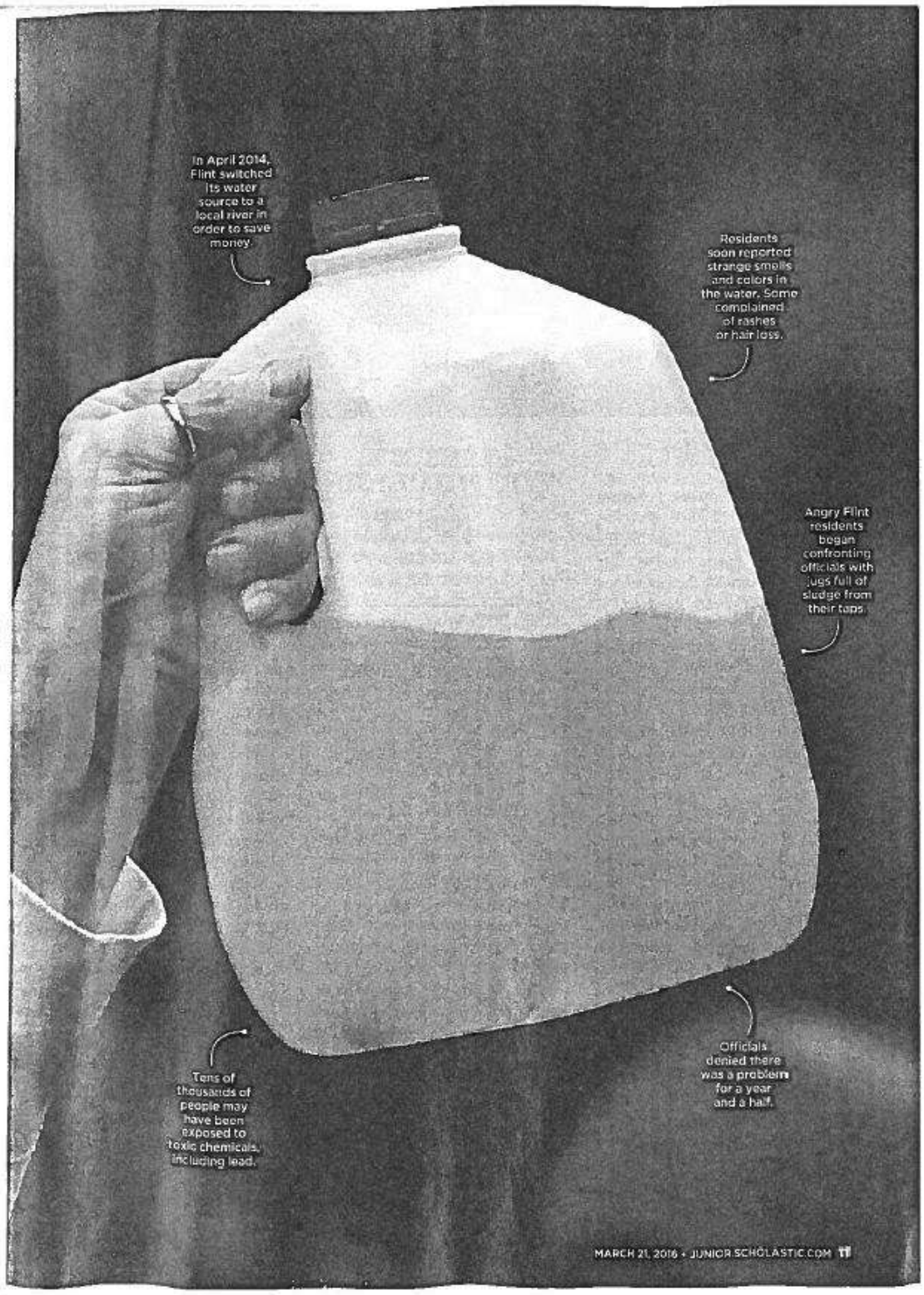
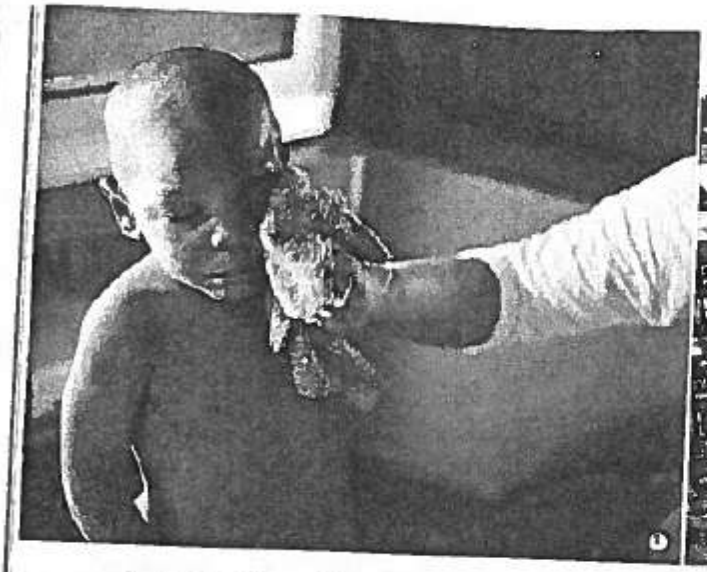




A Fateful Decision

It began as an effort to save money, a chronic concern in Flint. The birthplace of General Motors, Flint was once a manufacturing hub for the auto industry. But in the 1980s, as jobs moved overseas, the city started to decline. Today, nearly 42 percent of its residents live in poverty.

In 2011, when Governor Snyder took office, Flint was millions of dollars in debt. He soon appointed an emergency manager to take control of Flint's finances. Under Michigan law, such unelected officials have veto power over a city's mayor and city council.

Water seemed like a logical cost-cutting option. For decades, Flint had drawn water from the system in nearby Detroit. *(See map, p. 10.)* But that was expensive. In 2013, city officials voted to join a new regional pipeline to Lake Huron that would be more cost-effective. But the pipeline wouldn't be ready until 2016. The Flint River was chosen as an interim water supply.

Who actually made that decision? Today, city and state officials are pointing fingers at each other. Under control of the emergency manager, the city had no real influence in the matter, claims then Mayor Dayne Walling. "I look back on that and I'm just so angry with how it was handled," Walling says, laying blame firmly at the feet of state officials.

FLINT BY THE NUMBERS

8,657
Children under age 6 exposed to lead

41.5
Percent of residents below the poverty line*

$24,834
Median household income (Michigan median: $48,411)

SOURCES: *USA Today*; U.S. Census Bureau (2)

Frightening Changes

The day the switch was made to the Flint River, officials toasted each other with tap water at a ceremony. Not everyone in Flint was so enthusiastic, however. For years, the river had been a dumping ground for **industrial waste** and old cars.

Almost immediately, residents began complaining. "The water was brown, and it had a disgusting smell," Flint resident Tammy Loren recalls. "It was like dirt coming out." After her four sons developed rashes that doctors were unable to treat, the family switched to bottled water when possible. Still, there were times they couldn't afford it. "We just kept drinking out of the tap," she says.

Conflicting Results

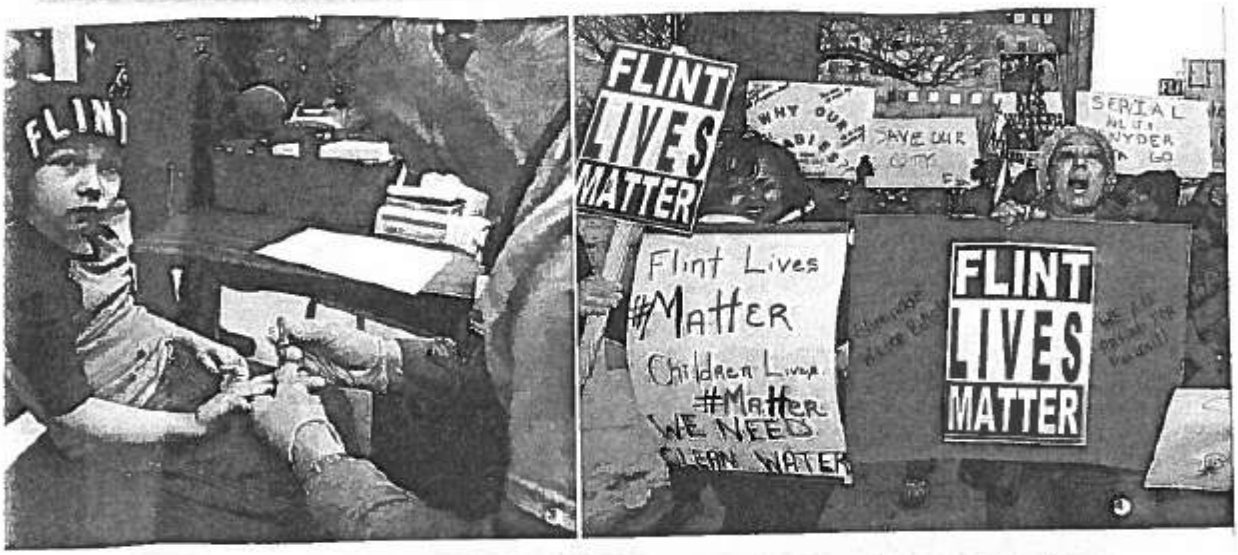
By March 2015, amid rising concerns, Flint's City Council sought to reconnect to Detroit's system—but the emergency manager overruled it. Although the DEQ had been testing Flint's water and had found lead, it insisted the water met federal standards. Experts now say that those tests were flawed.

Worse, the DEQ had not done what almost all **municipalities** do: add a chemical to the water to cut down on corrosion. It was this lapse, critics say, that caused lead to leach from Flint's pipes into the water.

As increasing numbers of residents reported serious symptoms, independent experts began conducting investigations. Researchers at Virginia Tech found that water in some Flint homes contained such high lead levels that it could be classified as hazardous waste.

Then, in September, Hanna-Attisha reported her analysis of children's blood lead levels. Faced with her findings and an angry public reaction, state officials finally acknowledged the reality. Snyder pledged millions of dollars in state aid to help Flint switch back to Detroit's water system and provide special filters for homes.

*In 2014, the national poverty line for a family of four was $24,230.



National Reaction

For many Americans, Flint's crisis raises uncomfortable questions of race and class. Flint is nearly 57 percent black, with a median income about half the state's average. Is that why officials ignored its plight for so long?

"I'll tell you what," said Democratic presidential candidate Hillary Clinton in January, "if the kids in a rich suburb of Detroit had been drinking contaminated water and being bathed in it, there would've been action."

Although it took many months, help is arriving. National Guard troops have distributed thousands of gallons of bottled water and filters. President Obama has earmarked $80 million in federal aid—much of it to repair Flint's water infrastructure.

Meanwhile, the U.S. House of Representatives is holding hearings and the FBI is investigating whether officials broke laws, such as the Safe Drinking Water Act. The Environmental Protection Agency is also looking into the Michigan DEQ's actions.

For his part, Governor Snyder has been contrite about the state's failures. The DEQ also admitted that its oversight was flawed. As a task force appointed by Snyder soon concluded about the agency: "It failed in [its] responsibility and must be held accountable for that failure."

Moving On?

In some ways, Flint is moving on. Late last year, the city began adding the chemical phosphate to the water. Experts say that this has cut down on lead levels. Flint's emergency manager has been removed and a new mayor, Karen Weaver, was elected in December. She has called for quickly removing the old lead pipes. Yet replacing them could take years and cost $1.5 billion.

▲ Scenes from Flint: ❶ A mother bathes her young son with bottled water, since tap water causes him to break out in rashes. ❷ The National Guard hands out bottles of water. ❸ A nurse tests a boy's blood for lead. ❹ Flint residents protest in Lansing, Michigan's capital, calling for Governor Snyder to resign.

Other challenges remain. Flint residents still cannot use untreated water, so they frequently lug bottled water home from distribution centers and install special water filters on their faucets. Parents shuttle children to pediatricians for blood tests, uncertain about what damage was done by months of drinking lead-tainted water.

And, like Tammy Loren, whose sons' skin remained irritated months after Flint returned to its original water source, they worry. The effects of lead poisoning—including learning and behavioral problems—can take years to develop. "My trust in everybody is completely gone," Loren says. "We've been lied to so much. . . . These lies are affecting our kids for the rest of their lives, and it breaks my heart." ◆

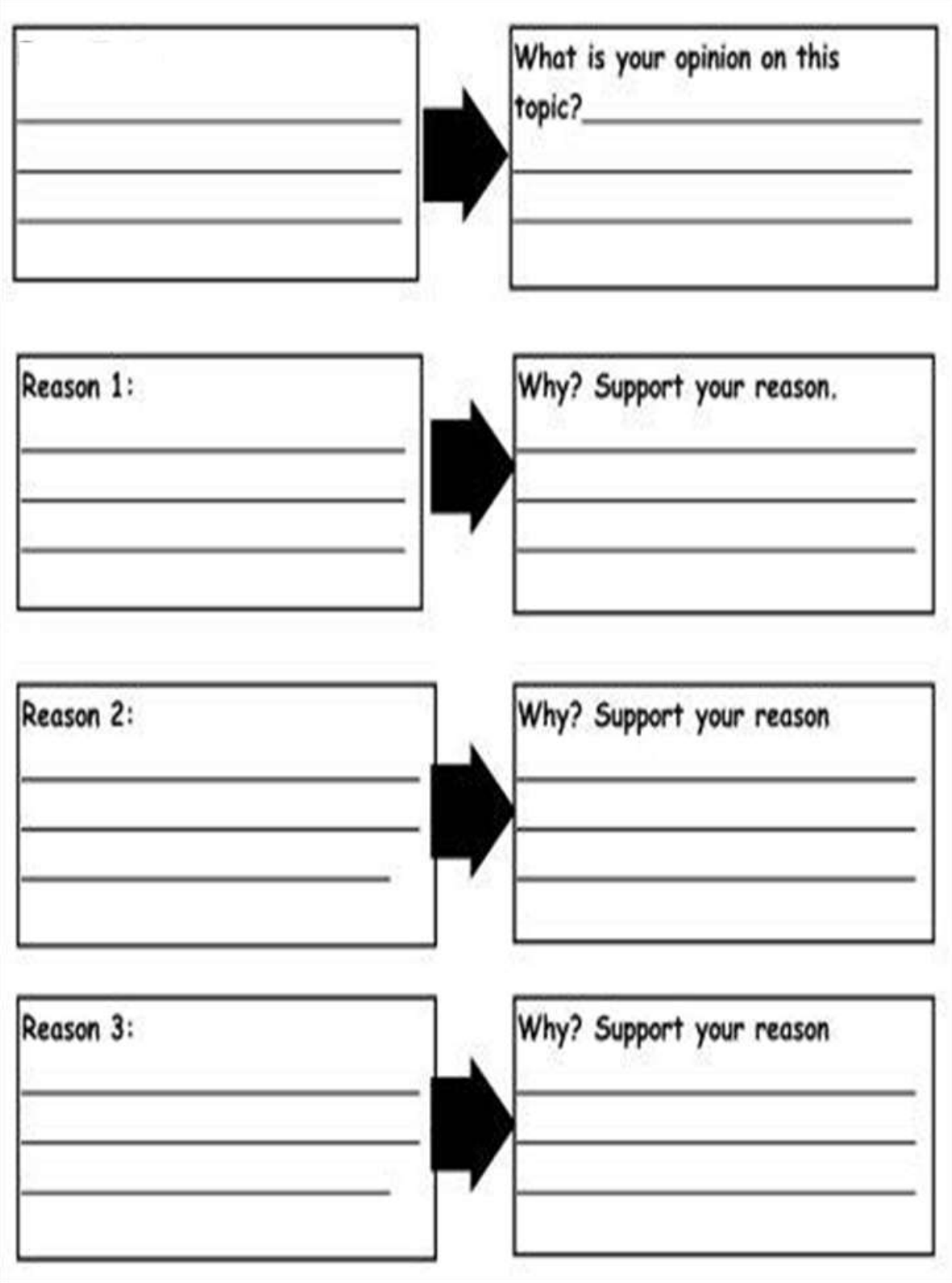
With reporting by *The New York Times*

The EPA requires action to reduce lead in water when levels reach 15 parts per billion (ppb). Flint's water tested as high as 13,000 ppb.

YOUR TURN Do governments really pay more attention to the needs of affluent people? Explain your answer.

Watch a **video** about the Flint water crisis at **junior.scholastic.com**.

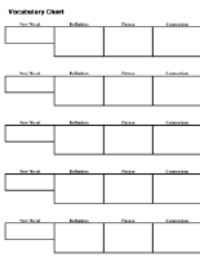
Attachment 3: Graphic Organizer



Lesson 6: Intro/Conclusion Argumentative Writing

Grade: Grade 7
Name: Millsboro Middle School Argumentative Writing

Unit/Module: Are You Thirsty?
Topic: Intro/Conclusion-

Learning Goals for this Lesson: Students will be able to analyze and identify the components of an introductory and concluding paragraph in an argumentative essay.	**Prerequisite Standards:** **CCSS.W7.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate task, purpose and audience. **CCSS.W.7.5:** With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing and rewriting or trying a new approach focusing on how well purpose and audience have been addressed. **Standards:** **CCSS.RI.7.5:** Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas. **CCSS.W7.1e**: Provide a concluding statement or section that follows from and supports the argument presented.
Students Will Know: • Text structures related to non-fiction text • Relationship between parts of a text and whole text • Components and organizational structure of an argumentative essay	**Students Will Be Able To:** • Identify and explain how the major sections contribute to the whole and development of ideas • Analyze the structure an author uses to organize a text
Lesson Essential Question: How does a reader use text structures to synthesize information and analyze the development of an argument?	
Activating Strategy: Students will activate prior knowledge about introductions and conclusions for argumentative writing by using a four-square-note catcher. Students are simply stating what they already know about introductions and what makes a successful introduction to an argument. Additionally, they should record what they know about conclusions (specifically what makes a successful conclusion to an argument).	
Key Vocabulary to preview and vocabulary strategy (Tier 2 vocabulary) • Introduction • Conclusion • Claim • Counterclaim • Analyze • Text structure • revising	 Students will create a chart with the definition, picture and example. Students will be given sentences with the vocabulary words to use context clues to fill in their chart. (See attachment 1)

LESSON INSTRUCTION	
Learning Activity 1: What are the elements of an introduction for argumentative writing? (Attachment 2 – graphic organizer) The teacher will lead a discussion on the various components of introduction paragraphs referring to a model paragraph. The students will take notes on the key components. These components include: • four to five sentences • catches the reader's interest (hook) • background information on the topic • states the main point with author's claim/thesis statement **Assessment Prompt for LA 1:** Students should attempt to write an introduction paragraph on the topic of "water scarcity is a global issue." After completion the students will switch with another student in order to give as well as receive feedback. **Evidence of Learning:** Answers may vary. The student introductions should be evaluated on the bulleted components found above.	**Supporting Student Needs:** beginner ELL students may need pre-teaching in the way of vocabulary. Both beginner and intermediate ELL students should be given examples (visuals) of introductions and conclusions during LA1. Struggling students and beginner/intermediate ELL students may be given sentence frames to complete Assessment Prompt for LA1.
Learning Activity 2: Students are provided with a variety of introduction paragraphs and are to evaluate for strengths and weaknesses (See attachment 3). In their collaborative groups, the students should discuss what makes an introduction paragraph weak. **Assessment Prompt for LA 2:** Generate a list of changes that could be made to strengthen the weak introduction paragraphs. **Evidence of Learning**: Students have identified specific elements of weakness such as no hook, lack of background knowledge, and an unclear position on the topic.	**Supporting Student Needs:** Intermediate ELL students should be placed with proficient readers who can help if needed and provide academic model.
Learning Activity 3: What are the elements of a conclusion for argumentative writing? (Attachment 4) The teacher will lead a discussion on the various components of conclusion paragraphs referring to a model paragraph. The students will take notes on the key components. These components include: • three to five sentences • restate the claim/thesis • make a final comment about the claim/thesis • a call to action statement – what are the next steps? **Assessment Prompt for LA 3:** Students should attempt to write a conclusion paragraph on the topic of "water scarcity is a global issue." After completion the students will switch with another student in order to give as well as receive feedback. **Evidence of Learning**: Answers may vary. The student conclusions should be evaluated on the bulleted components found above.	

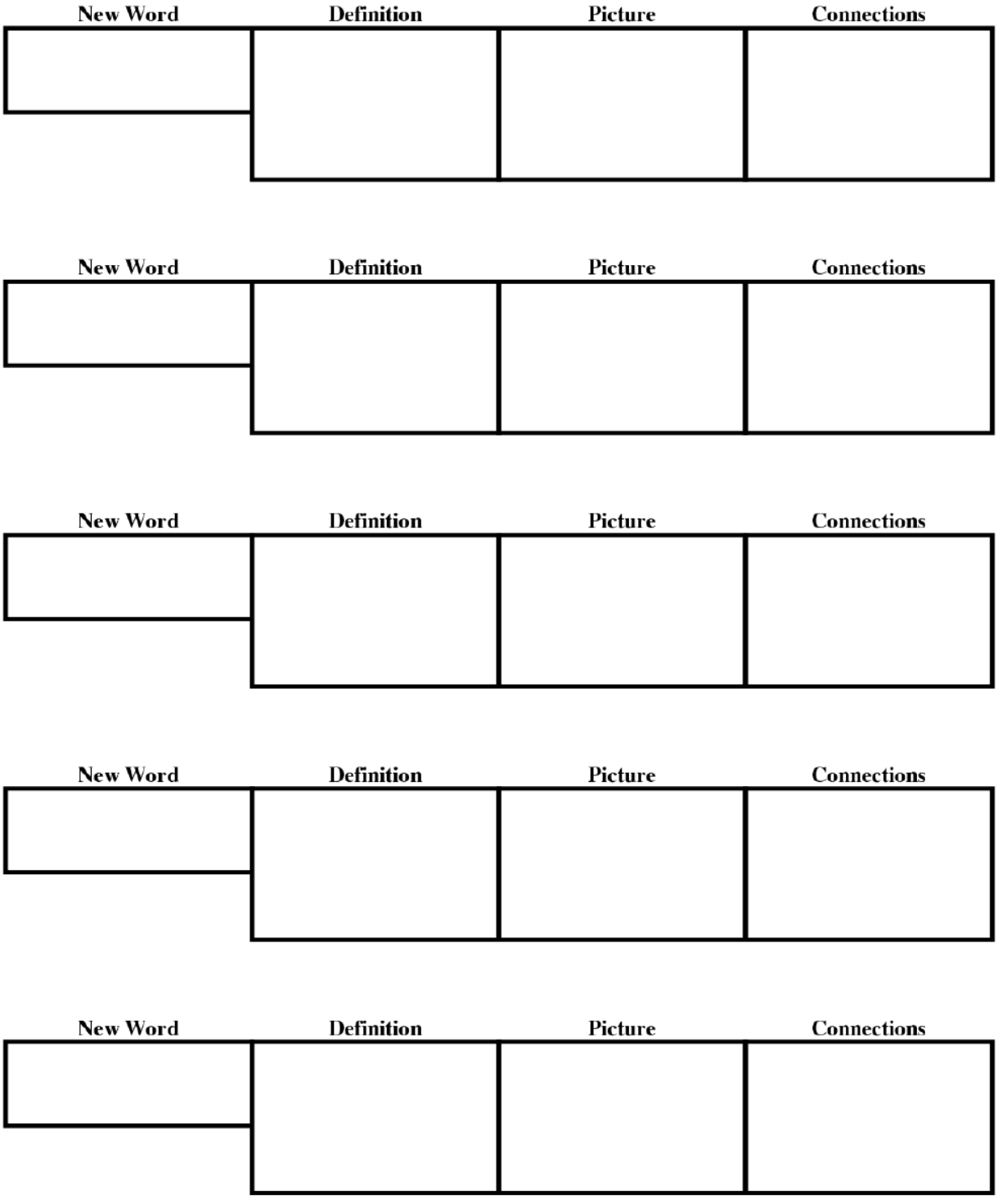
Learning Activity 4: Students are provided with a variety of conclusion paragraphs and are to evaluate for strengths and weaknesses (See attachment 5). In their collaborative groups, the students should discuss what makes a conclusion paragraph weak. **Assessment Prompt for LA 4:** Generate a list of changes that could be made to strengthen the weak conclusion paragraphs. **Evidence of Learning:** Students have identified specific elements of weakness such as "does not restate the claim/thesis," "no final comment," or "lacks a call to action statement."	

Summarizing Strategy:

After receiving feedback from a peer as well as evaluating strong and weak paragraphs, students should revise and rewrite the introduction and conclusion paragraphs generated from previous learning activities.

Attachment 1: Vocabulary chart

Vocabulary Chart



Attachment 2: Intro Graphic Organizer

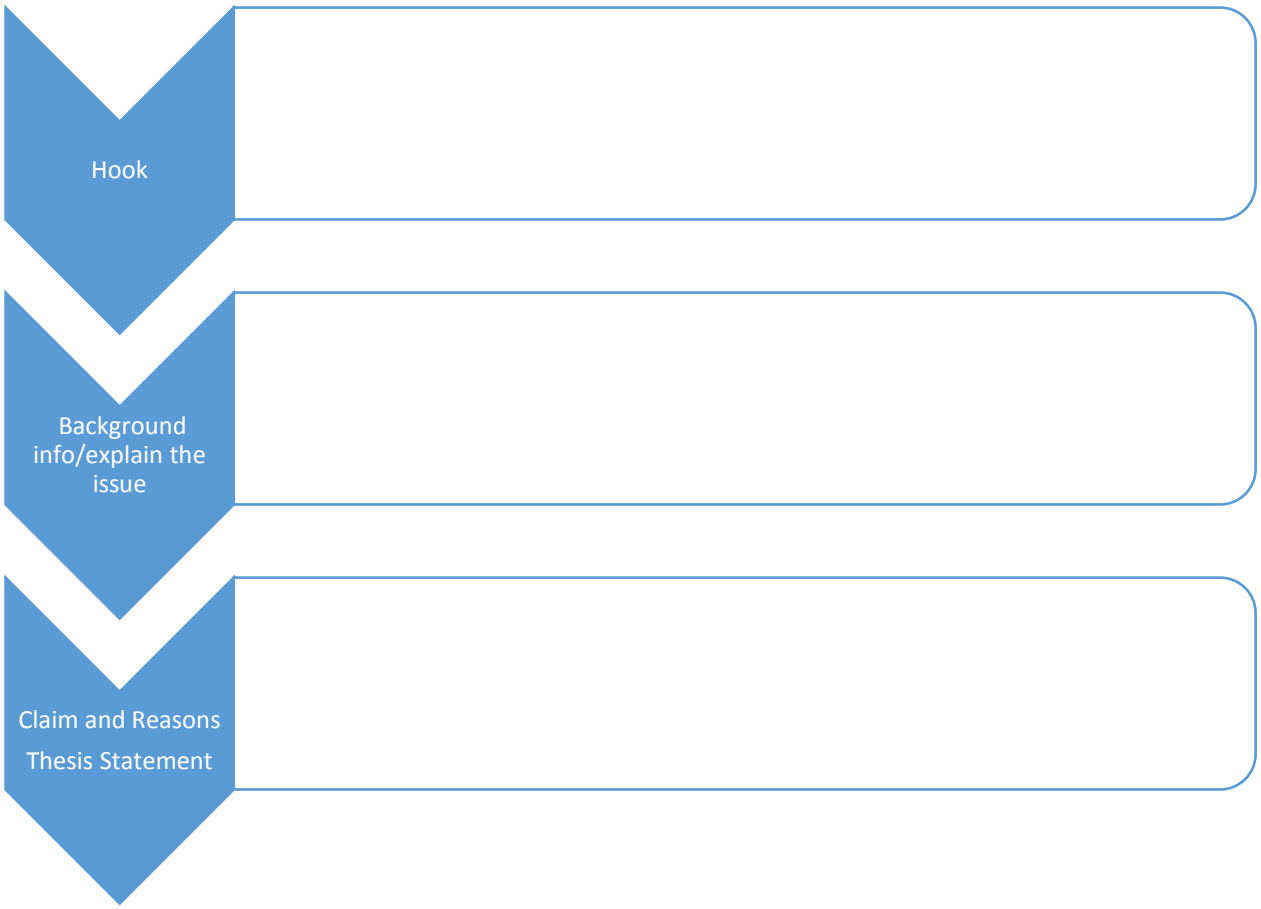
Name _____ Date_____

Argumentative Essay Graphic Organizer –

Topic_____

Remember to cite your sources in your writing.

Introduction Paragraph



Attachment 3: Introductions

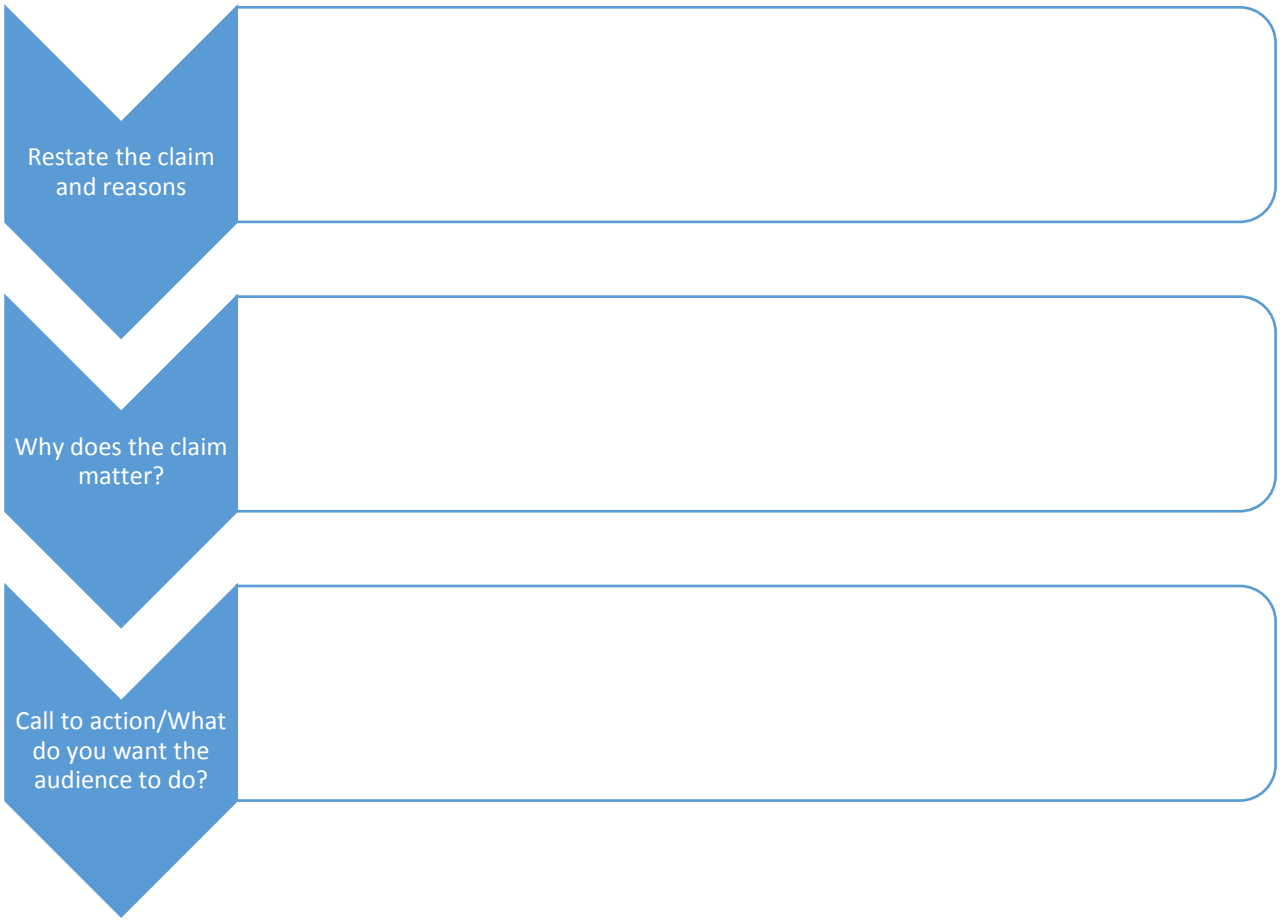
1. Cooking is an important skill. Humans have cooked many different foods in many different ways throughout history. Food such as meat, vegetables, and grain products can be heated, causing a chemical reaction that makes food softer and easier to chew. Cooking is something unique to only humans. It helps us eat our food and raise our families. It was first discovered along with fire.

2. Have you ever been so bored that you couldn't concentrate? So tired you almost you fell asleep in class? Have you ever daydreamed about being on a tropical island while your teacher is explaining The Pythagorean Theorem? Then the arts are for you! Studies show that art classes including Choir, Band, Art, Graphic Design etc. improve student concentration and motivation. As school budgets across the country become smaller, many districts are cutting art programs. No matter how small the budget, art should not be removed from schools because it helps students focus in other subjects, cultivates student talent, and makes school a more pleasant experience for students everywhere.

3. According to The United States Geological Survey, less than 3% of all the fresh water in the world is available for drinking. With over 7 billion humans on Planet Earth, how can we possibly have enough drinking water to last us into the future? Although many of these questions need to be resolved by state and federal governments, the good news is that citizens like you and me can take action by conserving water!

Attachment 4: Conclusions Graphic Organizer

Conclusion Paragraph



Attachment 5: Conclusions

1. Cooking is an important skill. Humans have cooked many different foods in many different ways throughout history. Food such as meat, vegetables, and grain products can be heated, causing a chemical reaction that makes food softer and easier to chew. Cooking is something unique to only humans. It helps us eat our food and raise our families. It was first discovered along with fire.

2. Have you ever been so bored that you couldn't concentrate? So tired you almost you fell asleep in class? Have you ever daydreamed about being on a tropical island while your teacher is explaining The Pythagorean Theorem? Then the arts are for you! Studies show that art classes including Choir, Band, Art, Graphic Design etc. improve student concentration and motivation. As school budgets across the country become smaller, many districts are cutting art programs. No matter how small the budget, art should not be removed from schools because it helps students focus in other subjects, cultivates student talent, and makes school a more pleasant experience for students everywhere.

3. According to The United States Geological Survey, less than 3% of all the fresh water in the world is available for drinking. With over 7 billion humans on Planet Earth, how can we possibly have enough drinking water to last us into the future? Although many of these questions need to be resolved by state and federal governments, the good news is that citizens like you and me can take action by conserving water!

Text Complexity Analysis of *Long Walk to Water*

By: Linda Sue Park

Recommended Complexity Band:

Qualitative Measures

Meaning/Purpose: *(Briefly explain the levels of meaning (Literary Text) or purpose (Informational text.)*
Very complex:
The book has multiple levels of meaning. Readers are exposed to varying global perspectives and points of view as well as the implications of governmental and geographical differences and their effects on society and ways of life in a time of war.

Text Structure: *(Briefly describe the structure, organization, and other features of the text.)*
Very complex:
The author's use of flash back/flash forward as well as text contrast of parallel lives in different geographical locations and at different time periods might inhibit comprehension for those used to novels with chronological events. While the third person omniscient narration will aid readers in being able to understand the main character's perspective and events in the text, the challenge will be reading two narrative voices simultaneously.

Language Features: *(Briefly describe the conventions and clarity of the language used in the text, including the complexity of the vocabulary and sentence structures.)*
Moderately complex:
This text includes simple sentence structure. The vocabulary is moderately complex. There are a few terms that are geographically specific and may be unfamiliar to students, but they are presented with sufficient context clues.

Knowledge Demands: *(Briefly describe the knowledge demands the text requires of students.)*
Very complex:
Students must be able to grasp the concept of intercontinental issues and their impact on life experiences. Students must be able to process inclusive abstract ideas.

Text Description

Briefly describe the text: The text presents two main characters and their adventures as they face their own unique challenges relative to their geographic locations in Sudan set in different time periods.

Quantitative Measure

Complexity Band Level (provide range): Grade Band 4-7

Lexile or Other Quantitative Measure of the Text:
Lexile: 720
ATOS: 2.75-5.14

Considerations for Reader and Task

Below are factors to consider with respect to the reader and task (See attached guiding questions to assist each teacher in filling out this section for his or her own class):

Potential Challenges this Text Poses: The text shifts from one character and setting to another throughout the story, which may be confusing for readers.

Major Instructional Areas of Focus (3-4 CCS Standards) for this Text:

Differentiation/Supports for Students: Partner read with frequent summarizing strategies, preview vocabulary in context, establish background information through use of news/current event connections.

Recommended Placement

Briefly explain the recommended placement of the text in a particular grade band.
This text is written in simple sentence structure with only moderately complex vocabulary. However, due to the depth of cultural and geographical issues dealt with in this text, it is more appropriate for a sixth-seventh grade level.