

"Let us Breathe Clean Air."

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Abstract

The "Let us Breathe Clean Air" unit assists children in getting involved in matters concerning climate change on the Earth and within their community. The student will be captivated by the visuals used in this curriculum unit because the graphic images illustrate the effects of climate change over time on the Earth and within their community. The videos in this unit provide detailed explanations and clear examples of how humans have affected the Earth's climate through their constant use of fossil fuels. The unit offers students time to study their community and how climate change affects them and their parents. Some lessons allow the students to view information on the advantages of greener schools and how we can use our resources to reduce our carbon footprint. The unit allows the student to develop a plan of action to make their school or community greener. Students will display their writings, modules, projects, or plans to develop a greener community or school.

Keyword:

"Let us Breathe Clean Air," garbage, carbon footprint, recycling, recycle, Tilden Middle School, Pepper Middle School, glaciers, climate change, and greener schools.

Unit Content

I serve at-risk students (low-income, poor academic performance, various languages, and various ethnic backgrounds) with only a few resources within their community. The heating system at the school has been non-operating for years. Heat is pumped in from a neighboring school. The building engineer needs to have a way of regulating the heat in the building. Many teachers must open their classroom windows to lower the temperature in their teaching environment. The school grounds are always filled with trash from the community. The school grounds have crumbling, cracked, and bulging cement blocks surrounding the building.

Rationale

The diverse student body brings their perspective of what their community looks like to them. Some students come from countries where people love nature. They have trees and all kinds of flowers all around them. They recycle and treat every resource as a precious commodity. On the other hand, some students come from countries with trash

all around them and harvest the garbage to make money. I have learned that many of my students care about the environment but have not idea of what they can do about the abandoned homes and garbage sprouting around them like wildflowers.

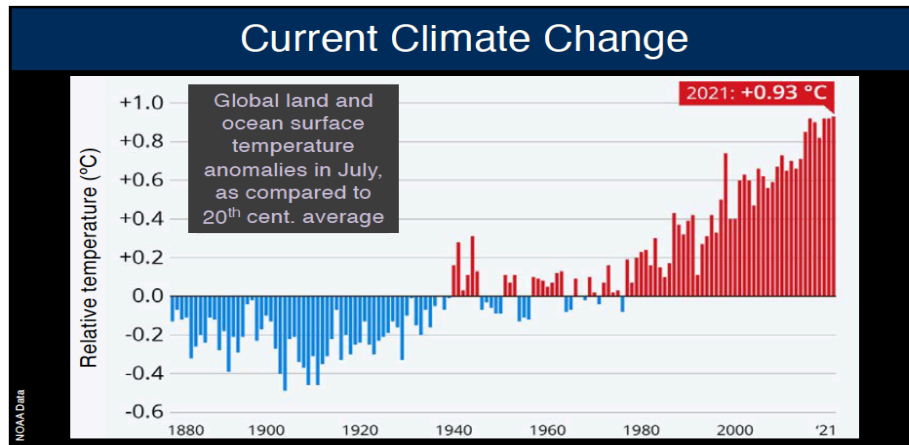
Many children living in Philadelphia are being sent mixed messages about caring for their community. The city of Philadelphia had a recycling program and mandated citizens to put bottles, cans, paper, and newspapers into the recycling bin. The city provided citizens with gift cards for the taking part of their recycling program. The schools had recycling bins for paper. The School District of Philadelphia provided teachers with professional development of the collection of trash and purpose of their recycling program. Then, the city and school system stopped their overall recycling program without warning to anyone.

The School District of Philadelphia, whose primary goal is to educate children, is failing to care for the community. The district Science Program is used to teach for two weeks how humans impact the climate. The lessons provided to teachers have a few time-lapse videos illustrating how the temperature rises over time. The information presented to children puts very little blame on how humans have treated the resources provided by the Earth. The emphasis is placed on the natural process of the Earth's life cycle and humans adding greenhouse gases.

Professor Reto Giere of the University of Pennsylvania developed the "Global Environmental Challenges and Potential Solutions" Seminar for teachers to learn and develop a curriculum usable within the classroom. Professor Giere introduced various topics involving the United States' environmental footprint. The readings, slide presentations, and class discussions, afforded us (the participants) the opportunity to analyze waste-management procedures. The seminar highlighted the effects of our lack of concern on the impacts of waste management in our country, which directly has affected climate change in our world. The forum allowed us to view potential solutions to decreasing our carbon footprint, reducing unwanted gases in our air from our waste, and reusing some of our waste for clean energy sources.

Fossil fuel is one primary source of carbon dioxide emissions into our atmosphere. Coal, petroleum, and natural gas are the primary source of carbon dioxide in the United States. The United States is dependent on fossil fuels (Gas and Coal) to help run most industries. Gas surges during the winter months and coal during the summer and winter seasons (Blasing, Broniak, and Marland (2004). Addiction is the high use of fossil fuels. Professor Giere brought to our attention that the United States and other countries need help eliminating or curtailing the use of fossil fuels. The United States is one of many countries that provide subsidies to fossil fuel companies for the consumption or production of fossil fuels (Erickson, Down, Lazarous & Koplou, 2017). The United States government is fully aware that fossil fuel emission is one of the direct causes of climate change.

Professor Reto Giere's presentation on Climate Change Impacts on Glaciers and Permafrost was filled with charts and visuals for us to grasp the effects of humans on climate change. The chart below is an illustration of our changing climate from the 1980's-the 2000s. We discussed that the temperature shows a slow rate of increase, but the effects of the rise are changing our landscape worldwide.



(Course slide presentation)

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In his presentation, through discussion, Professor Reto Giere delves deep into our thought process causing us to imagine the rising temperature around the world. He provided the visual below us to explore how fast but slow glaciers are disappearing in our society. This picture reminds us that the lack of snow and rain in the US has caused the land to dry up and created a lot of dry forest. The dry land in the west has generated the perfect breeding ground for the vast forest fires we have seen this year.



(Course slide presentation)

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The effects of climate change are hard to imagine. It was posed in class what the Earth would look like if all the snow and ice were to melt. The illustration below is highly effective because it shows how much land the US would lose due to the glaciers melting. Professor Reto Giere shows the slide below for us to see the effects of climate change on our nation. The west and east have lost much land from the rising water. The rise in water would reshape the west, east, and south coasts to include most of the coast because the ground already at sea level would be below sea level. This slide brought to remembrance the few hurricanes that have brought a lot of beach erosion to the east coast and caused trains and buses to be brought inward to higher grounds.



(Course slide presentation)

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The class material gave birth to the idea of "Let us Breathe Clean Air." I can delve deeper into climate change, waste management, and aquatic energy. The three areas are realistic topics to teach sixth graders so they to become advocates for reducing our carbon footprint in this city and the surrounding community. This unit lays the foundation for students to think about how they can be leaders in cleaning the air and the environment. This unit also allows students to understand how we can support the needs of people with minimum harm to the environment, which we love and need for the future. The sole purpose of my curriculum unit is to teach children the importance of using our resources wisely and caring for the environment. I hope teachers will use this curriculum to apply various techniques in class to reduce our carbon footprint within the city of Philadelphia, Pa, and the United States.

The School District of Philadelphia is committed to reducing its waste going to landfills. As of 2015/16, 42 schools recycle, and the district wanted to increase that number to 218 schools by 2020/2021 (Locke & Garner, 2016). The school district has brought 50 low-emission school buses to retire some obsolete ones. The district has a few schools with

schoolyards that maximize rainwater capture and help the plants and trees in their yard. The district is in the process of developing a curriculum to address a cleaner district.

The seminar allowed me to understand the role I must play in introducing my students to climate change and potential solutions. I was able to make a connection with the things we used to do to help the environment. I was taught at home to turn off the lights and tv when I am not using them. I remember putting garbage in a separate trash can so it could be collected by the city to feed the pigs at neighboring farms. I remember the old commercial which said, “give a hoot, don’t pollute, don’t be a dirty bird.” This commercial reminded me that society should throw trash on the ground, and we want our air to be fresh and clean. The memories caused me to think about the many class discussions on our carbon footprint. Memories led me to formulate the "Let's Us Breathe Clean Air" curriculum unit, understanding that the School District of Philadelphia hasn't made its plan for green schools assessable or known to the community.

The "Let's Us Breathe Clean Air" curriculum unit assists teachers in presenting Climate Change and reaching solutions that can be implemented in the classroom. This unit is created to meet the needs of regular education, special education, and ESOL (English as a second language) students. The use of hands-on science activities and visuals aid will address the student's learning styles and abilities within the classroom. The lessons incorporate Reading, English, Language Arts, and science standards to create standard-driven lessons with purposeful learning and small groups to enhance students' understanding. The teacher will then present the essential question to the class to guide the study. The teacher will teach their students through the following components of the lesson, an opening routine, a formative Task, and a closing exercise.

Content Objectives

Lesson 1 allows the teacher and students to learn about and discuss climate change. The section introduces the concept of climate change and its effect on the environment. Students will use the graphic organizer (KWHL) to answer essential questions. Students will read the book "**What is Climate Change**" to complete their graphic organizer. **Cornell notes (graphic organizer)** will capture what they have learned. Students in groups will read with a partner and complete the graphic organizer. Students will share their thoughts before turning in their graphic organizer. The teacher will generate a discussion with their students to connect how the community is contributing to climate change to understanding. The teacher will provide time for students to have a small and large group discussions to express their thoughts on the topic. Also, the teacher will allow students the time to create an illustration to show their thinking of the subject being taught. The objectives are as follows:

- The student will be able to read the text titled "What is Climate Change" **to** cite textual evidence to support analysis of what the text says explicitly, as well as inferences and generalizations drawn from the text.
- The student will be able to read the text titled "A Blanket Around the Earth" **to** cite textual evidence to support analysis of what the text says explicitly, as well as inferences and generalizations drawn from the text.
- The students will be able to read the text titled "**A warm Blanket Around the Earth**" to cite textual evidence to support analysis of what the text says explicitly, as well as inferences and generalizations drawn from the text.
- The student will be able to create illustrations of their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication and multi-media.

Lesson 2 centers on climate change and its effect in Southwest Philadelphia. This unit involves applying and conceptualizing how climate change has affected our society. Using “What do you notice and What do you wonder” as premises for the opening routine will allow students to apply what they understand about climate change. The lesson provides videos to delve deeper into how the Earth's climate has changed and its impact on the Southwest community. Students in small and large groups will be able to explain and discuss their thinking. The interactive lesson will keep students engaged in the content being discussed in class. Also, drawing will allow students to express their understanding of the topic being taught. The content objectives are as follows:

- The student will be able to research Pepper Middle School **to** cite textual evidence to support analysis of what the text says explicitly, as well as inferences and generalizations drawn from the text.
- Students will be able to create illustrations of their thoughts on climate change and its effect on their community **to** recognize, know, use, and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Lesson 3 centers on making Southwest Philadelphia a greener community. This section of the curriculum unit involves reviewing the benefits of recycling. Students will understand that trash is a source of untapped energy. The revisiting of the Pepper video to understand the benefits of utilizing Pepper as a hub for vitalizing the neighborhood. Students will learn of the community developing a garden on the school’s grounds as a

food source. The readings and videos will allow students to understand that recycling and creating green schools and communities will aid in reducing our carbon footprint. The interactive lesson will lead students to begin thinking of ways to help make their community a greener neighborhood. Students will create illustrations and model to express their understanding of a green school and community. The content objectives are as follows:

- The student will be able to read the article titled “PRO/CON: Are U.S. recycling programs too costly?” (Newsela) <https://newsela.com/view/ck9nooc0101ql0iqj2832g3bi/?levelId=ck7ecumoa08td14p7k5q93xdr> to cite textual evidence to support analysis of what the text says explicitly, as well as inferences and generalizations are drawn from the text.
- The student will be able to create illustrations of their thoughts on climate change and its effect on their community to recognize, know, use, and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media

Teaching Strategies

The "Let's Us Breathe Clean Air" curriculum unit assists teachers by offering lessons that support student and teacher conversation surrounding videos and hands-on activities. This cross-curriculum unit has standard-driven lessons with purposeful learning through small and large group interaction to enhance student learning. The unit allows the teacher to offer the student their background knowledge on the subject being discussed for each lesson. The teacher presents an essential question to guide the lesson to keep everyone on the same topic during class. The teacher will guide their students through the following components of the lesson, an opening routine, a formative Task, and a closing exercise. The lesson is designed to be done individually or as a unit, depending on the need of the students and teacher. The lesson in this unit is formulated to use in the School District of Philadelphia and other districts that require similar components. Also, many parts of the lesson are repetitive to ensure the content is taught with fidelity.

The teacher will set the stage for the class by stressing the importance of taking notes throughout the lesson. The teacher will provide each student with Cornell Notes to record the essential question and information learned in the lesson. The teacher will model the use of Cornell Notes. The teacher will explain to the students that they should review their notes daily and formulate questions for the next lesson. This will assist in the engagement of the lesson, and students will be able to connect to the information provided in all lessons. The teacher can explain that researchers often use the notes of others to help further the understanding of a mystery or disease.

An essential question will be presented to students before the start of the lesson. The essential question will be an open-ended question to guide the teacher and the student through each lesson. The essential question assists in the engagement of the lesson to support completing the activities and develop a response based on facts from the activities presented. Students will use their findings to present an answer to the essential question at the close of each lesson to show their understanding of the material presented in the lesson.

The teacher will create groups to support their students' learning abilities. The purpose of small groups is to allow the student to support each other through the lesson. The differentiated lesson offered in this curriculum supports the children in class as they navigate the information being addressed in the lesson. The strategies mentioned earlier will help to improve the engagement of the students as they transition from one section of the lesson to the next section of the lesson. As the student will be able to make connections with the videos and visualize to grasp climate change, recycling, and green schools/communities

The opening routine will consist of an activity that will activate students' prior knowledge. The opening routine will be an illustration, which may ask students to tell what they notice and wonder or what is the same and different about the items in the illustration. Discussing the opening routine will allow the teacher to grasp their student's understanding of the assignment. The teacher can use this exercise to address any misconceptions at the time. The opening routine will be aligned with the standard and the topic being discussed in the lesson. The opening routine can be individual, in small groups, or as a class. The teacher will allow students to express their responses to the entire class verbally.

The guided instruction portion of the lesson will be the part where the teacher will provide the students with activities that will assist them in responding to the lesson. The teacher will illustrate the usage of their thinking process to respond to the activity for this session. During this section, the teacher may use a video to discuss complex concepts and theories in their lesson. As the teacher models an idea during the lecture, he/she will assist the student with their thought process as they solve a problem discussed in the lesson.

The lesson will transition from the opening routine to the formative Task. The formative Task will identify a specific problem through the essential question for students to address in this lesson. The lesson will cause the students to investigate (research or experiment). The teacher will guide the students using probing questions to make the student think more critically about the exercise they are taking part in during this section of the lesson. The students and teacher will discuss their process to draw their conclusion during their lesson session.

The closing exercise is where the essential question will be presented to the students for the final time of the lesson. The students will take what they have learned to compile a clear and concise response to the essential question. The group will have some time to discuss their reactions to the topic. Then students will have a chance to change their thinking before sharing their findings with the entire class.

Finally, students in their groups will develop a means to display what they have learned in class. The students in their groups will create a mobile illustration of their responses. Students will have their KWHL and Carnell Notes on display for their exhibit. The teacher and the students will create the classroom into a museum to display what they have done during the use of this curriculum unit. The teacher and students will take part in a gallery walk to learn from each other during the cumulating activity.

Classroom Activities

Lesson 1: Climate Change

Session 1:

Objectives:

- Students will be able to read the text titled "What is Climate Change" **to** cite textual evidence to support analysis of what the text says explicitly, as well as inferences or generalizations drawn from the text.
- The student will be able to illustrate their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing impact on the environment.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century

English Language Arts Standards:

- **CC.1.3.6.B** Cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

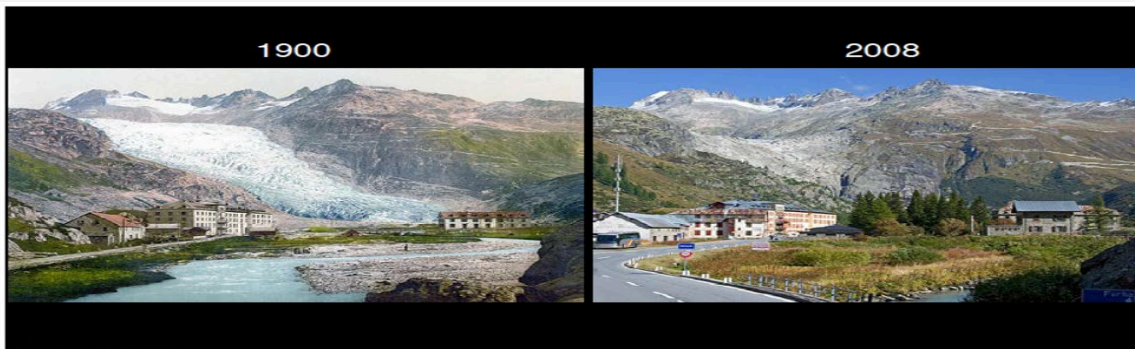
Materials:

- Smartboard
- KWHL Graphic Organizer (Google Image- A)
- Glacier (Seminar Slide)
- Climate Change (Template-A).
- Markers and Chart Paper
- The book titled "What is Climate Change?"

Essential Question:

- What effect did climate change have on the Earth?

Opening Routine (10 minutes):



(Seminar Slide)

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Formative Task/Guided Instruction (90 Minutes): The teacher will restate the essential question: "What effect did climate change have on your community"? The teacher will review the graphic organizer's parts (What I know? What do I want to learn? How do I find out? How have I learned? /KWHL Google Image- A). Students will read the book "**What is Climate Change**" by Gail Herman to complete their graphic organizer. Students in groups will read with a partner and complete the graphic organizer.

Closing Exercise (10 Minutes): The teacher will restate the essential question, "What effect did climate change have on the Earth"? Students will write a clear and concise response using Climate Change (Template-A).

Session 2:

Objectives:

- The student will be able to read the text titled "A blanket Around the Earth." (Newsela)
<https://newsela.com/read/lib-water-temperature-density/id/2001005965/>
to cite textual evidence to support analysis of what the text says explicitly, as well as inferences or generalizations drawn from the text.
- The student will be able to create illustrations of their thoughts on climate change and its effect on their community to recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing environmental impact.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century

English Language Arts Standards:

- **CC.1.3.6.B** Cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

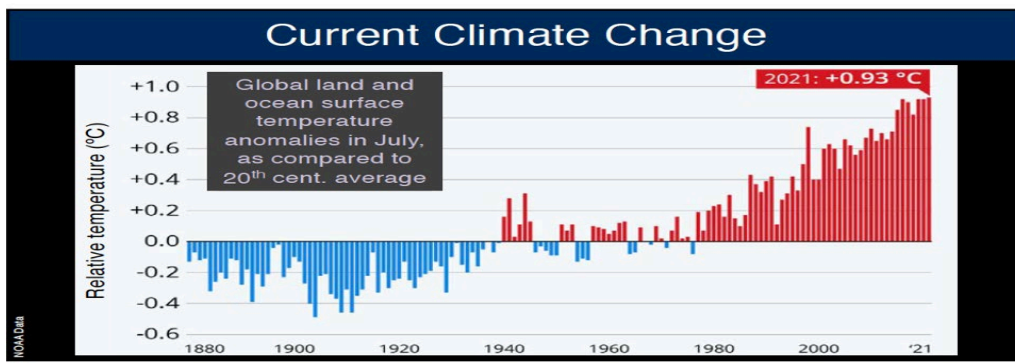
- Smartboard
- <https://www.youtube.com/watch?v=WkvPdUtYhX8> (Climate Change-YouTube)
- Cornell Notes (Google Image B)

- Climate Change (Template-A).
- Markers and Chart Paper
- Article titled "A blanket Around the Earth" (Newsela)
<https://newsela.com/read/lib-water-temperature-density/id/2001005965/>

Essential Question:

- What effect did climate change have on the Earth?

Opening Routine (10 minutes):



(Course slide presentation)

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Guided Instruction (50 Minutes): Students will watch "Climate Change" (YouTube Video) as they complete their Cornell notes in class (<https://www.youtube.com/watch?v=WkvPdUtYhX8>). Students will share their thoughts with their groups and class.

Formative Task (50 Minutes): Students will review the Article titled, "A blanket Around the Earth" (Newsela) <https://newsela.com/read/lib-water-temperature-density/id/2001005965/> Students in small groups complete the Cornell Notes (Google Image-B).

Closing Exercise (10 Minutes): The teacher will restate the essential question, "What effect did climate change have on the Earth"? Students will write a clear and concise response using Climate Change (Template-A). Students can share out their responses.

Session 3:

Objectives:

- The student will be able to read the article titled "A Warm Blanket Around the Earth" **in order to** cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.
- The student will be able to create illustrations their thoughts on climate change and its effect on their community **in order to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing environmental impact.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century

English Language Arts Standards:

- **CC.1.3.6.B** Cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

- Smartboard
- 1972-2012 (Seminar Image)
- The article titled "A Warm Blanket Around the Earth" (Newsela) (<https://newsela.com/read/benchmark-4-climate-change/id/31621/>)
- Video titled," Glacier Calving | 15 Amazing Collapses, Tsunami Waves and Icebergs" (YouTube) (<https://www.youtube.com/watch?v=49bYTMo3Vxw>)
- Cornell Notes (Google Image-B)
- Climate Change (Template-A).
- Chromebook

Essential Question:

- What effect did climate change have on your community?

Opening Routine (10 minutes):



(Seminar Slide)

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Guided Instruction (50 Minutes): The teacher will restate the essential question: "What effect did climate change have on your community? Students in their groups will read the article titled "A Warm Blanket Around the Earth"(Newsela)

(<https://newsela.com/read/benchmark-4-climate-change/id/31621/>) using their Cornell Notes (Google Image-B).

Formative Task (50 Minutes):

The student will view the video titled" Glacier Calving | 15 Amazing Collapses, Tsunami Waves and Icebergs"(YouTube)

(<https://www.youtube.com/watch?v=49bYTMo3Vxw>)

Closing Exercise (50 Minutes): The teacher will restate the essential question, "What effect did climate change have on the Earth"? Students will write a clear and concise response using Climate Change (Template-A). Students can share out their responses.

Lesson 2: Climate Change and its Effect in Southwest Philadelphia

Session 1:

Objectives:

- The student will be able to research Pepper Middle School to cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.

- The student will be able to create illustrations their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing impact on the environment.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century

English Language Arts Standards:

- **CC.1.3.6.B** Cite textual evidence to support analysis of what the text says explicitly, as well as inferences or generalizations drawn from the text.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

- Smartboard
- KWHL Graphic Organizer (Google Image- A)
- Desert and Flower Field (Google Image)
- Climate Change (Template-A).
- Chromebook

Essential Question:

- What effect did climate change have on your community?

Opening Routine (10 minutes):

Guided Instruction (50 Minutes): The teacher will restate the essential question, which is "What effect did climate change have on your community (Pepper Middle School) utilizing the graphic (KWHL- Google Image- A).

To complete the graphic organizer, students in groups will research Pepper Middle School and any climate change that affected the school. Students will share their thoughts before turning in their graphic organizer.

Formative Task (50 Minutes): The teacher will allow students the time to create an illustration and a paragraph showing their thoughts on the issue being taught and presented to the class.

Closing Exercise (50 Minutes): The teacher will restate the essential question, "What effect did climate change have on your community"? Students will write a clear and concise response using Climate Change (Template-A).

Session 2: (60 Minutes)

Objectives:

- The student will be able to illustrate their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing environmental impact.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century

English Language Arts Standards:

- **CC.1.3.6.B** Cite textual evidence to support analysis of what the text says explicitly, as well as inferences or generalizations drawn from the text.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

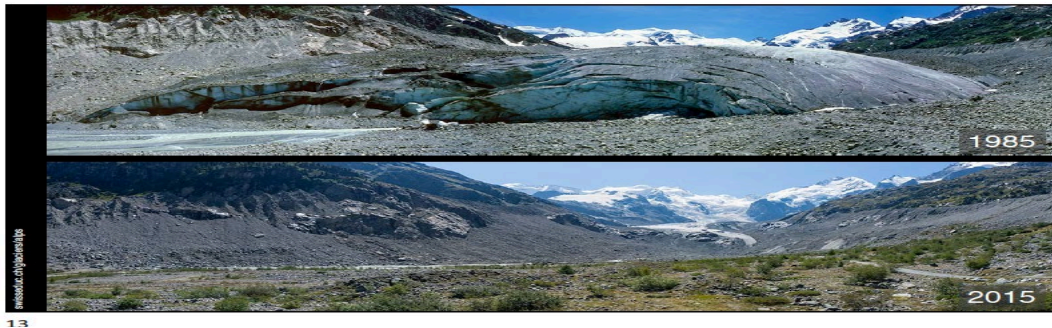
- Smartboard

- Cornell Notes (Google Image-B)
- 1985/2015 (Seminar Image)
- Climate Change (Template-A).
- <https://www.youtube.com/watch?v=WtjRvT029TA> (Pepper Middle School)
- Chromebook

Essential Question:

- What effect did climate change have on your community?

Opening Routine (10 minutes):



(Seminar Image)

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Guided Instruction (50 Minutes): The teacher will restate the essential question, which is, "What effect did climate change have on your community (Pepper Middle School)?" Students view the YouTube video listed below and complete Cornell Notes (Google Image-B) to show the effects the environment had on the school and the community in which it is serviced: <https://www.youtube.com/watch?v=WtjRvT029TA>

Formative Task (50 Minutes): The teacher will generate a discussion with their students to connect how the community is contributing to climate change to understanding based on the YouTube video <https://www.youtube.com/watch?v=WtjRvT029TA> of Pepper Middle School. The teacher will allow students the time to create an illustration and a paragraph showing their thoughts on the issue being taught and presented to the class.

Closing Exercise (50 Minutes): The teacher will restate the essential question, "What effect did climate change have on your community?" Students will write a clear and concise response using Climate Change (Template-A). Students will share out their responses.

Lesson 3: A Greener Southwest Philadelphia?

Session 1:

Objectives:

- The student will be able to illustrate their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing impact on the environment.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century

English Language Arts Standards:

- **CC.1.3.6.B** Cite textual evidence to support analysis of what the text says explicitly, as well as inferences or generalizations drawn from the text.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

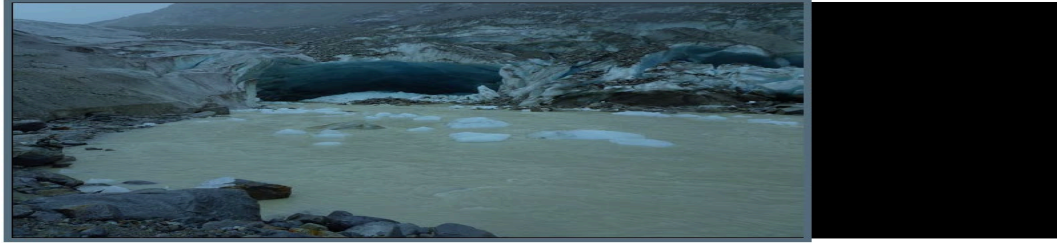
Materials:

- Smartboard
- Cornell Notes (Google Image-B)
- 1985/2015 (Seminar Image)
- Climate Change (Template-A).
- <https://www.youtube.com/watch?v=WtjRvT029TA> (Pepper Middle School)
- Chromebook

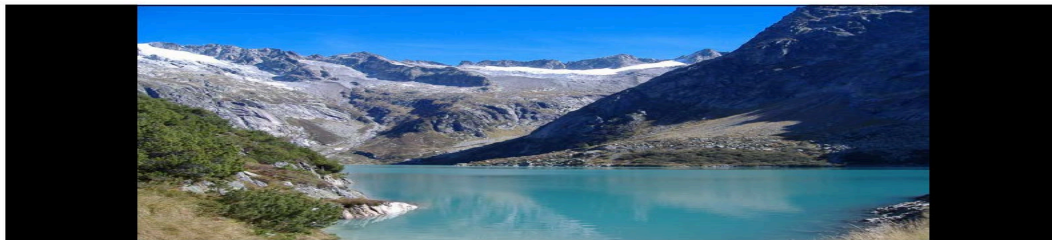
Essential Question:

- What effect did climate change have on your community?

Opening Routine (10 minutes):



1.5



(Seminar Image)

Copyright: Reto Giere, 2022

Formative Task (50 Minutes): The teacher will generate a discussion with their students to connect how the community is contributing to climate change to understanding based on the YouTube video <https://www.youtube.com/watch?v=WtjRvT029TA> of Pepper Middle School. The teacher will provide time for students to have a small and large group discussions to express their thoughts on the topic. Also, the teacher will allow students the time to create an illustration and a paragraph showing their thinking of the issue being taught and presented to the class.

Closing Exercise (50 Minutes): The teacher will restate the essential question: "What effect did climate change have on your community?" Students will write a clear and concise response using Climate Change (Template-A).

Session 2:

Objectives:

- The student will be able to read the article titled "PRO/CON: Are U.S. recycling programs too costly?" (Newsela) <https://newsela.com/search/?needle=recycle> to cite textual evidence to support analysis of what the text says explicitly, as well as inferences or generalizations drawn from the text.

- The student will be able to illustrate their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing impact on the environment.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century

English Language Arts Standards:

- **CC.1.3.6.B** Cite textual evidence to support analysis of what the text says explicitly, as well as inferences or generalizations drawn from the text.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

- Smartboard
- Cornell Notes (Google Image-B)
- Climate Change (Template-A).
- Trash at Pepper Middle School (YouTube Image)
- <https://newsela.com/search/?needle=recycle> article titled, “PRO/CON: Are U.S. recycling programs too costly?” (Newsela)
- <https://www.youtube.com/watch?v=WtjRvT029TA> (YouTube) (Pepper Middle School)
- Chromebook

Essential Question:

- “What can we do to help make our community greener”?

Opening Routine (10 minutes):

Formative Task (50 Minutes): The students will read the article “PRO/CON: Are U.S. recycling programs too costly?” (Newsela) <https://newsela.com/search/?needle=recycle> and complete Cornell Notes (Google Image-B) in their small group. Students will have time to discuss the article in small groups and as a class.

Closing Exercise (50 Minutes): The teacher will restate the essential question: "What can we do to help make our community greener?" Students will write a clear and concise response using Climate Change Template-A. Students can share out their answers.

Session 3:

Objectives:

- The student will be able to create illustrations of their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing environmental impact.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

- Smartboard
- Cornell Notes (Google Image-B)
- Climate Change (Template-A).
- <https://www.youtube.com/watch?v=aHzltu6Tv18> (How FIVE BILLION Pounds of Las Vegas Garbage Powers a City -YouTube)
- Chromebook

Essential Question:

- “What can we do to help make our community greener”?

Opening Routine (10 minutes): Students will share what they notice and wonder about the first 25 seconds of (How FIVE BILLION Pounds of Las Vegas Garbage Powers a City -YouTube) <https://www.youtube.com/watch?v=aHzltu6TvI8>.

Formative Task (50 Minutes): The teacher will restate the essential question: "What can we do to help make our community greener"? The teacher will tell students to look at the view and tell what humans are doing to our climate based on the video <https://www.youtube.com/watch?v=aHzltu6TvI8> while using their Cornell Notes.

Closing Exercise (50 Minutes): The teacher will restate the essential question: "What can we do to help make our community greener"? Students will respond by writing a clear and concise response based on what they have read (Template-A). Students can share out their answers.

Session 4:**Objectives:**

- The student will be able to create illustrations of their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing impact on the environment.
- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

- Smartboard
- Cornell Notes (Google Image-B)

- <https://www.youtube.com/watch?v=mHL9P53RIiI> (Five Things you can do-YouTube)
- <https://www.youtube.com/watch?v=geEgeQOJ7LM> (Green School-YouTube)
- Chromebook

Essential Question:

- “What can we do to help make our community greener”?

Opening Routine (10 minutes):

Guided Instruction (50 Minutes): The teacher will restate the essential question: "What effect did climate change have on your community? The teacher will tell students to look at the view to tell what humans are doing to help our climate based on the YouTube video <https://www.youtube.com/watch?v=geEgeQOJ7LM> (Green School), and complete Cornell Notes to show the environment has affected the school environment and the community in which it service:

Formative Task (50 Minutes): The teacher will tell students to look at the view video and say humans are trying to reduce their contribution to climate change based on the footage <https://www.youtube.com/watch?v=mHL9P53RIiI> (Five Things you can do-YouTube) to complete the Cornell notes (Google Image- B) while reviewing the video.

Closing Exercise (50 Minutes): The teacher will restate the essential question, "What effect did climate change have on your community"? Students will write a clear and concise response based on what they have read (Template-A). Students can share out their responses.

Sessions 5

Objectives:

- The student will be able to create illustrations of their thoughts on climate change and its effect on their community **to** recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, and multi-media.

Science Standards:

- **MS-ESS3-3** Apply scientific principles to design a method of monitoring and minimizing environmental impact.

- **MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Art Standards:

- **9.1.8.B.4.** Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.

Materials:

- Smartboard
- Markers, Crayons, Scissors
- Shoe boxes
- Construction Paper
- Chart Paper
- Chromebook

Essential Question:

- “What can we do to help make our community greener”?

Task:

- Students within their groups will create displays on what they can do to improve their school and community.
- Students will hang graphic organizers around the room to document their thinking process.
- Students, teachers, and parents will be invited to participate in a Gallery walk to review the finished product.

Resources

Name: _____ Date: _____

Climate Change

Essential Question: _____

(Template-A)

Name _____ Date _____

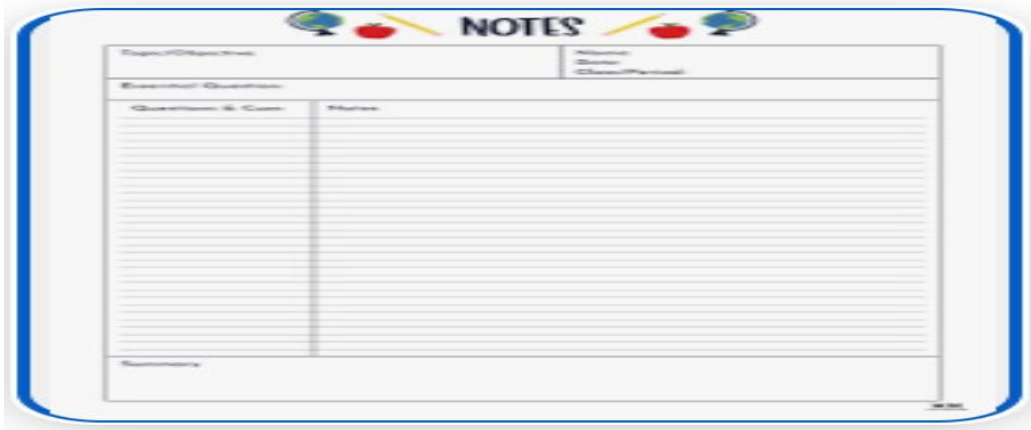
Title/Enter Text Here

Directions:

Topic:			
Know ★ ★ <small>What do I know?</small>	Wonder ★ ★ <small>What do I want to know?</small>	How ★ ★ <small>How do I find out?</small>	Learned ★ ★ <small>What have I learned?</small>

www.storyboardthat.com StoryboardThat

(Google Image- A)



(Google Image- B)

Resources:

Herman, G. (2018). What is Climate Change?

This book explored how climate change is affecting the Earth. The expounds on how climate change is causing the glaciers to melt all over the world. The book explains the loss of the glacier is causing polar bears to travel farther. The polar bears are smaller and more fragile than the polar bears of the post. The book explores the rise melting of the glacier is causing a rise in sea level, resulting in the loss of land and buildings.

- <https://newsela.com/read/lib-nasa-blanket-around-earth/id/25108/> (A Blanket Around the Earth)
<https://newsela.com/search/?needle=recycle> (Pros/Con: Are U.S. Recycling Programs too Costly)
<https://newsela.com/read/benchmark-4-climate-change/id/31621/> (A Warm Blanket Around the Earth)
<https://www.youtube.com/watch?v=aHzltu6TvI8> (Recycling in Las Vegas)
<https://www.youtube.com/watch?v=WkvPdUtYhX8> (climate Change)
<https://www.youtube.com/watch?v=geEgeQOJ7LM> (Green School)
<https://www.youtube.com/watch?v=mHL9P53RIiI> (Five Things you can do)
<https://www.youtube.com/watch?v=WtjRvT029TA> (pepper future)

Appendix

The lessons for this unit utilize the standards below to drive instruction:

Science Standards:

MS-ESS3-3 Apply scientific principles to design a method of monitoring and minimizing environmental impact.

S8.D.1.3.1 Describe the water cycle and the physical processes on which it depends (i.e., evaporation, condensation, precipitation, transpiration, runoff, infiltration, energy inputs, and phase changes).

S8.D.1.3.2 Compare and contrast characteristics of freshwater and saltwater systems based on their physical characteristics (i.e., composition, density, and electrical conductivity) and their use as natural resources.

English Language Arts Standards:

CC.1.3.6.B Cite textual evidence to support analysis of what the text says explicitly, as well as inferences and generalizations drawn from the text.

CC.1.4.6.E Write with an awareness of the stylistic aspects of composition. • Use precise language and domain-specific vocabulary to inform about or explain the topic. • Use sentences of varying lengths and complexities. • Develop and maintain a consistent voice. • Establish and maintain a formal style.

Art Standards:

9.1.8.B.4. Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts. Visual Arts: paint; draw; craft; sculpt; print; design for environment, communication, multi-media.