

4th Grade Group Members:

Erinni Binikos
Makena D'Arpino
Ariyana Ragland
Karli Paul

How Humans Impact the Environment

1. Search the web for information on the topic. Write 1 to 2-page Fact Sheet. Include photographs and other graphical information.

Negative Human Interaction:

- Using chemical fertilizers, insecticides and herbicides to increase production actually pollutes the air, soil and water with toxic chemicals. Fertilizer runoffs cause toxic algal blooms that kill aquatic animals.
- Removing trees and other plants to increase areas of cultivation causes habitat loss and threatens the survival of numerous species of animals and plants.
- Large scale farming of animals increases their susceptibility to diseases such as Mad-cow disease and avian flu, for example. Waste generated in the farms and meat processing plants can affect the water quality in the area.
- The greater distance food items have to travel to reach the consumer, the greater that transportation's impact is on the environment.
- Humans require space, and lots of it whether it is for farmland, or industries which also takes up tons of space. An increased population results in more clear-cutting, resulting in severely damaged ecosystems. Without enough trees to filter the air, CO₂ levels increase which carries the potential to damage every single organism on Earth.
- Human dependence on coal and fossil fuels for energy, hence, the larger the population, the more fossil fuels will be used. The use of fossil fuels (such as oil and coal) results in copious amounts of carbon dioxide into the air- threatening the extinction of thousands of species which adds to the effect that forest depletion already has.
- Pollution is so bad that to date, 2.4 billion people do not have access to clean water sources. Humanity is continuously polluting indispensable resources like air, water, and soil which requires millions of years to replenish.
- Air is arguably the most polluted with the US producing 147 million metric tons of air pollution each year alone.
- Global warming is arguably the greatest cause of impact to the environment. The largest of causes emanating through CO₂ levels from respiration to more detrimental causes like burning fossil fuels and deforestation.

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- At any rate, humans are consistently increasing CO₂ levels globally- every year. The highest level of CO₂ in recorded history before 1950 was about 300 parts per million. However, current measurements of CO₂ levels have exceeded above 400 PPM, abolishing every record dating back 400,000 years.
- The increase of CO₂ emissions has contributed to the planet's average temperature increasing almost a whole degree.
- Genetically modified organisms (GMOs) have been a major contributor to the survival and prosperity of humans. GMO's are selected bred crops or crops that have had DNA directly implanted into it in order to give an advantage to the crop, whether that be to sustain colder temperatures, require less water, or yield more product.
- Ocean acidification is caused when CO₂ dissolves into the ocean bonding with sea water creating carbonic acid. The acid reduces the pH levels in the water, essentially changing the Ocean acidity by 30% in the last 200 years according to analysis - a level that the ocean has not been at in over 20 million years.
- Every year over 8 millions tons of garbage dumped into the ocean.
- Forests are cleared to make way for new humans, which in turn, makes more humans, you can see the problem. According to international data, an estimated 18 million acres of trees are clear-cut each year to make way for new development and wood products- that is just under half of all the trees on the planet since the industrial revolution began.
- Acid rain has also been known to completely eliminate entire species of fish, causing a snowball effect of damage to the ecosystem that relies on diverse organisms to sustain the environment.

Positive Human Interaction:

- Usage of renewable energy resources allows to help prevent the usage of fossil fuels.
- Planting more trees helps a better surrounding for human life and the environment.
- The creation of National Parks or protected areas ensure the safety of wildlife, but a place for people to enjoy the environment.
- Ecotourism protects the environment they life of natives

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- Recycling is utilized to help save the environment by reusing materials instead of purchasing new materials.

Photographs on Topic:



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2. Write introduction to the unit.

Introduction should include reasons/objectives for the selection of topic. Describe how the unit integrates NCSS strands and other curricular subjects. It

should also include strategies that are used to meet the needs of diverse learners (CLAD-Cultural, Linguistic, Ability Diversity) and styles of learning and using different instructional strategies.



The unit we chose to do is the Environment. There is so much we can do and so many different lessons that can be based in subjects such as social studies, science, math, reading and writing. The goal of this curriculum unit is to inform the children and influence them to treat our environment with care and respect. Some of the more specific lessons include but are not limited to, planting, global warming, recycling, solar energy, air pollution, positives and negatives of human interaction with the environment, and farmland. The NCSS strands that are integrated are science, technology, and society because scientific advances have helped us in our lives today. Technology is so great that we are able to save energy by using the sun's power. Global connections is another strand because focusing on things such as air pollution; China has the world's most air pollution, this could be a math lesson or reading/ writing to do research on china versus the United States. Global warming is also under this strand because the entire world is affected by everyone's interactions with the planet.

Another stand is People, Places, and Environments. This is the key strand since we are talking about the environment and the positive things that we can do to help the environment. When teaching this unit we want to be as hands on as possible. The environment is all around us. We will use the outdoors to our advantage. With being CLAD sensitive in our lessons, we will use different languages for names of certain plants that we may plant. We will use books on all our subjects as well as graphic organizers. We will use lots of pictures and videos for things we are unable to do outside. For students with disabilities, allowing more time for each lesson will assist their overall performance. Using these different strategies will help to meet the needs of the diverse learners within our classroom.

3. Develop at least 3 essential questions for the unit:

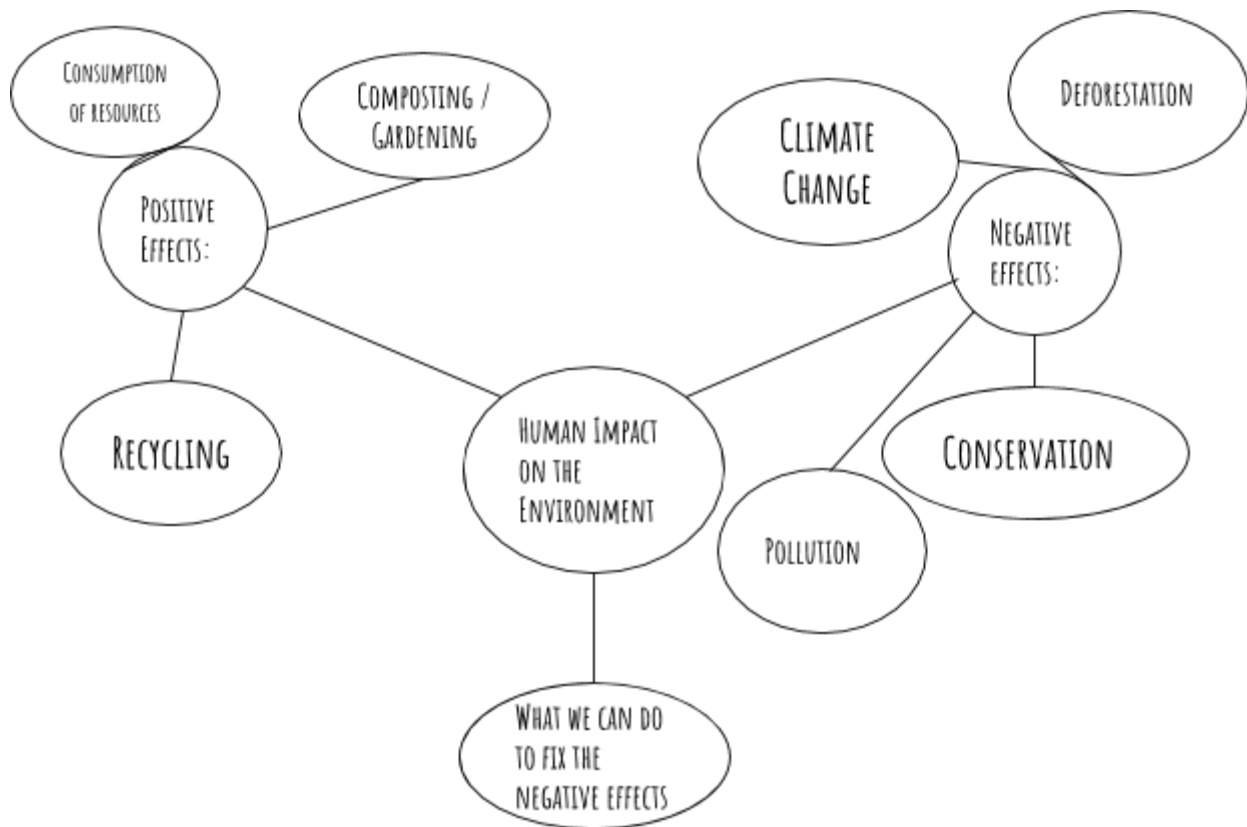
1. Why is it important to keep our Earth clean?

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2. What could happen to the Earth if we keep polluting?
3. What are some ways we can help keep our Earth clean?

4. Create a concept map for the CU. It should have at least 5 key concepts and related sub-concepts. Concept map should be created as a word document or using powerpoint program (at least 5 concepts connected to the topic of the CU)



- Positive Human Impact:
 - a. Recycling: what to recycle, where to recycle, why it is important to recycle, and the outcome of recycling
 - b. Composting/Gardening: roles of plants and trees and how to compost
 - c. Conservation: how to prevent wasting resources
- Negative Human Impact:

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- a. Climate Change: temperatures decreasing, global warming, landscapes, and locations
- b. Pollution: how pollution affects the world globally
- c. Consumption of Resources: where do wasteful resources go?
- d. Deforestation: the mass destruction of forests being utilized for other purposes and how to prevent this from happening.

5. Identify PA standard/s that the concepts will connect to.

- Standard - 4.3.4.A - Identify ways humans depend on natural resources for survival.
- Standard - 4.3.4.B - Identify the geographic origins of various natural resources.
- Standard - 4.4.4.A - Describe the journey of local/global agricultural commodities from production to consumption.
- Standard - 4.4.4.B - Describe how humans rely on the food and fiber system.
- Standard - 4.4.4.D - Identify how technology affects the development of civilizations through agricultural production.
- Standard - 4.5.4.A - Identify how people use natural resources in sustainable and unsustainable ways.
- Standard - 4.5.4.C - Describe how human activities affect the environment.
- Standard - 4.5.4.E - Identify different ways human health can be affected by pollution.
- Standard - CC.1.2.4.L - Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.
- Standard - CC.1.4.4.C - Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic; include illustrations and multimedia when useful to aiding comprehension.

6. Identify and explain how Curriculum Unit supports 21st century skills.

21st Century skills are 12 abilities that today's students need to succeed in their careers during the Information Age.

21st Century skills are:

- 1. Critical thinking:** Students can use critical thinking by thinking about our environment and how we plan to better it. This involves analyzing the environment, and realize causes of the earth's changes like climate change, pollution, and deforestation. Some other skills

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that we will use are classifying as we identify the different types of plants and trees or animals that are affected by the changes.

- 2. Creativity:** Students will use creativity while working on our lessons. They will be able to create their own designs and lead their creations. All the lessons will be hands on and working directly with the environment. Our lessons will foster creative development in young children and they will use their skills later on in the careers.
- 3. Collaboration:** Students will have the opportunity to collab with their peers on group work to create projects. Students will share their ideas and respect those of their peers. This involves turn taking and active listening skills.
- 4. Communication:** In order to find out different ways in which humans use the environment, the students must talk to people. An example of implementing this skill would be for them to conduct an interview of how someone recycled materials and used them for different things.
- 5. Information literacy:** Students will use this skill to research about the environment and find data that represents their findings. Students will use a range of resources like books, the internet, and articles. Students will also learn how to take their research and help their peers understand what they found.
- 6. Media literacy:** Students will use their knowledge of the internet and listen to podcasts, watching videos and other online forums to help them understand the environment. Students will learn to take their findings and analyze the data they find no matter where the source of information is coming from .
- 7. Technology literacy:** Students will be able to research on the internet and this will teach them global citizenship with the internet and using appropriate websites to research. Students will also learn how to identify whether something is resourceful and accurate or not useful information.

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8. **Flexibility:** Students will be able to develop this skill because using the environment as our classroom, things can change at many minute. While observing the plants and trees outside, it begins to rain. Students will have to adjust their plans to better fit the environment.
 9. **Leadership:** Students who have strong social skills will be able to share their knowledge and be able to solve problems within a group activity. Students will also be able to inspire one another to share their ideas about the environment and what impacts the environment.
 10. **Initiative:** Students will be able to decide whether they want to take initiative to recycle and inspire their peers and family to do so as well. They will be able to research and present to others their plan and what an impact that humans have on the environment.
 11. **Productivity:** Students will be able to create their own projects and use basic skills like planning, researching, and developing. Students will be able to develop their topic and use concrete details to support information on the topic.
 12. **Social skills:** Students will use these skills throughout the whole curriculum unit. They will be interacting with one and another and learning how to work together and share ideas. Students will be in groups for most of the lessons.
7. **Write learning goals (at least 5 learning goals) corresponding to the identified 5 concepts in the CU. You may need to add sub-concepts to address the learning goals. These sub-concepts will provide content knowledge for the main topic for the unit.**
1. The students will identify the way humans depend on natural resources for survival.
 - a. Fossil Fuels
 - i. Coal
 - ii. Oil
 - iii. Gas
 - iv. Soil
 - v. Phosphate
 - vi. Plants
 2. The students will identify how people use natural resources in sustainable and unsustainable ways.
 - a. Renewable

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- i. Sun
 - ii. Wind
 - iii. Water
 - iv. Air
 - v. Plants
 - b. Non-renewable
 - i. Coal
 - ii. Oil
 - iii. Other materials found in the earth
3. The students will describe how human activities affect the environment.
 - a. Air pollution
 - b. Global Warming
 - c. Climate Change
 - d. Animal Extinction-Food Chain
 - e. Deforestation
4. The students will identify geographic origins of various natural resources.
5. The students will identify how technology affects the development of civilizations through agricultural production.

8. List vocabulary words that will be learned through the topic:

- Environment - The surroundings or conditions in which a person, animal, or plant lives or operates;.
- Energy Pyramid - An energy pyramid is a graphical model of energy flow in a community. The different levels represent different groups of organisms that might compose a food chain.
- Food Chain - A hierarchical series of organisms each dependent on the next as a source of food.
- Ecosystem - A biological community of interacting organisms and their physical environment.
- Community - A biological community of interacting organisms and their physical environment.
- Global Warming - A gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect.
- Climate Change - A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely

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to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

- Deforestation - the action of clearing a wide area of trees.
- Ecotourism - Tourism directed toward exotic, often threatened, natural environments, intended to support conservation efforts and observe wildlife.
- Conservation - Prevention of wasteful use of a resource.
- Recycling - The action or process of converting waste into reusable material.
- Solar Energy - Radiant energy emitted by the sun.
- Air Pollution - The presence in or introduction into the air of a substance which has harmful or poisonous effects.
- Compost - Decayed organic material used as a plant fertilizer.
- Pollution - the presence in or introduction into the environment of a substance or thing that has harmful or poisonous effects.
- Earth Day - An annual event celebrated on April 22.
- Adaptation - A change or the process of change by which an organism or species becomes better suited to its environment.
- Habitat - The natural home or environment of an animal, plant, or other organism.
- Consumer - A person or thing that eats or uses something.

9. Write 2 – 3 lessons connected to each of the learning goals. (you will NOT be implementing these lessons at your field site). You will write an abbreviated lesson plan format that will be provided). Your lesson description will include: PA standard, NCSS strand, key concepts, vocabulary, materials needed, curricular area/s, brief description of instruction.

Lesson 1: Composting in the Classroom

PA Standard:

Standard - 7.4.4.B: Identify the effect of people on the physical systems within a community.

NCSS Strand:

People, Places and Environments

Key Concepts – content of what you will teach

- Describe ways in which humans can be proactive in helping the environment.

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- Understand the relationship between communities and the environment (i.e. natural resources, water, electricity, etc.)
- Discuss the importance of composting
- Understand human responsibilities in regard to protecting the environment.

Vocabulary:

- Compost
- Biodegradable
- Recycle
- Digest

Materials:

- 2 see-through plastic containers of the same size with lids; air holes punched in sides and on lid
- Earthworms
- Garbage items such as chopped carrots and eggshells so that they are easily visible in the soil
- Student journals

Curriculum Areas:

This lesson will tie into the positive effects: composting/gardening portion of our curriculum unit concept map, *Human Impact on the Environment*. This lesson will provide the students with a hands-on opportunity to witness the effects that humans proactiveness can have on the environment, which in turn directly affects our communities. Composting richens the soil while also cutting down on trash.

Brief Description of Instruction:

In order to introduce this lesson, students will listen to a read aloud of *Composting: Nature's Recyclers* by Robin Koontz. After the read aloud, the class will take part in a group discussion regarding the effects that composting has on the environment and community. Questions will include:

- What is composting?
- Why should we compost?
- What effects does composting have on the soil?
- What types of materials are compostable?

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Next, the students will be asked to predict what will happen in the containers over the next 2 weeks. They will be asked to predict if/what differences there may be between the container with worms and the container without.

Over a period of two weeks, students will be asked to journal any changes that they see in the containers so that they can record the process of composition over time.

Possible Assessment:

Assessment in this particular lesson will be done in two ways. First, assessment will take place through observation during the class discussion following the read aloud. Anecdotal notes may be taken if needed. Next, the students' journals will be used for documentation of tracking the process of composting.

Lesson 2: We Must Recycle

PA Standard: Standard - 4.5.4.A - Identify how people use natural resources in sustainable and unsustainable ways.

NCSS Strand: People, Places and Environments

Key Concepts:

- Students will learn how to reuse common items they would usually throw out
- Students will understand that common plastic can be used more than once
- Discuss the idea of recycling
- Discuss how and what you should recycle

Vocab:

- Recycle
- Plastic
- Reuse
- Reduce

Materials:

- Plastic bottles cut in half
- String
- Feathers
- Markers

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- Crayons
- Paper

Curriculum Areas: This lesson will focus on the recycling component of this lesson. Students will learn how to reuse plastic water bottles into a piece of art. They will learn that one time plastic can be reused more than once and in unique ways.

Instruction: The students will be introduced to the idea of “Reduce Reuse Recycle” we will then talk about items that should be recycled. Then we'll talk about how we can reuse items like plastic water bottles into art pieces. I will show the students my artwork then I will model how to use creativity to make something new. I will open the floor for the students to create something of their own.

Possible Assessments: I could assess the students by organizing through objects that can be recycled and what cannot. Students would put the correct plastic glass and paper into the appropriate bins and also decide what is garbage.

10. There will be a total of 10 -15 lessons. You will work in teams to map out the lessons connected to your curriculum unit. Provide a suggested sequence for the lesson plans. Give your reasons for the specific sequence you are suggesting go.

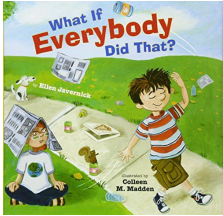


11. Your curriculum unit lessons must integrate language arts, science, math, PE-movement activities, and the arts into the plan.

Week 1: Negative Effects on the Environment

Monday: Language Arts	Tuesday: Writing	Wednesday: Math	Thursday: Physical Activity	Friday: Science
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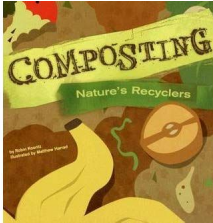


<p>Read Aloud: <i>What If Everybody Did That</i> by Ellen Javernick</p> <p>Graphic Organizer: Cause and Effect</p> <p>Standard - CC.1.2.4.D Compare and contrast an event or topic told from two different points of view.</p> 	<p>Research Human Negative Effects on the Environment utilizing Chromebooks</p> <p>Standard - CC.1.4.4.A Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p>	<p>Identify temperatures due to climate change and convert.</p> <p>Standard - CC.2.4.4.A.1 Solve problems involving measurement and conversions from a larger unit to a smaller unit.</p> <p>https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature</p>	<p>Environment Kickball: Each base will be: Global Warming, Pollution, and Deforestation</p> <p>Standard - 4.1.4.E Explain that ecosystems change over time due to natural and/or human influences.</p> 	<p>Ocean Pollution Stimulation</p> <p>Standard - 4.5.4.C Describe how human activities affect the environment.</p> 
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Week 2: Positive Effects on the Environment

Monday: Language Arts	Tuesday: Writing	Wednesday: Math	Thursday: Art	Friday: Science
<p>Read Aloud: <i>Composting: Nature's Recyclers</i> by Robin Koontz. (Lesson #1)</p> <p>Graphic Organizer: List three positive</p>	<p>Respond to article, "Renewable energy might be able to green a desert" by Alison Pearce Stevens.</p> <p>Summarize: What solutions can renewable</p>	<p>Analyze the data viewed on the maps and create their own.</p> <p>Standard - CC.2.4.4.A.2 Translate information from one type of data display to another.</p>	<p>Recycling plastic bottles to create art. (Lesson #2)</p> <p>Create: Artwork out of recycled materials.</p> <p>Standard: 4.5.4.A Identify how</p>	<p>Create a class composting system.</p> <p>Discuss: How these materials decompose over time.</p> <p>Standard: 4.4.4.C Use scientific</p>

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<p>ways composting helps the environment.</p> <p>Standard: 7.4.4.B Identify the effect of people on the physical systems within a community.</p> 	<p>energy bring to our environment?</p> <p>Standard: CC.1.2.4.C Explain events, procedures, ideas, or concepts in a text, including what happened and why, based on specific information in the text.</p> <p>https://news.nationalgeographic.com/2016/08/human-footprint-map-ecological-impact/</p> <p>https://www.science newsforstudents.org/article/renewable-energy-might-be-able-green-desert</p>	<p>people use natural resources in sustainable and unsustainable ways.</p> 	<p>inquiry to investigate the composition of various soils.</p> 
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12. Culminating activity for the unit – describe how you will end the study of this curriculum unit.

Ending Activity: Students will create a newsletter to inform people how to take of the environment. They will be advised to include how the negative effects have long term consequences and what we need to do to keep the environment clean. This activity will show what the students learned about human interactions impact the environment in negative and positive ways and what to do to retain a clean and healthy environment.

13. Revise introductory paragraphs introducing the curriculum unit explaining reasons/objectives for the selection of topic. Describe how the unit will integrate other curricular subjects. It should also include strategies that are used to meet the needs of diverse learners (CLAD) and styles of learning and using different instructional strategies.

The unit we chose to do is the environment. There is so much we can do and so many different lessons that can be based in subjects such as social studies, art, science, math, reading

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and writing. The goal of this curriculum unit is to inform the children and influence them to treat our environment with care and respect. Some of the more specific lessons include but are not limited to, planting, global warming, recycling, solar energy, air pollution, and positive and negative effects of human interaction with the environment. The NCSS strand that is integrated is science, technology, and society because scientific advances have helped us in our lives today. Technology is so great that we are able to save energy by using the sun's power. Global connections is another strand because we can focus on things such as air pollution; China has the world's most air pollution, this could be a math lesson or reading/ writing to do research on china versus the United States. Global warming is also under this strand because the entire world is affected by everyone's interactions with the planet. With global warming, we can also teach about ecosystems and how it would be affected if some animals were to go extinct.

Another strand is People, Places, and Environments. This is the key strand since we are talking about the environment and the positive things that we can do to help the environment. When teaching this unit, we want to be as hands-on as possible. The environment is all around us. We will use the outdoors to our advantage: observing, analyzing and collecting data from our environment. With being CLAD sensitive in our lessons, we will use different languages for names of certain plants that we may plant. We will use books on all our subjects as well as graphic organizers. We will use lots of pictures and videos for things we are unable to do outside. We could also have lessons outside on the grass as a way to destress and offer different seating and a different classroom environment. For students with disabilities, allowing more time for each lesson will assist with their overall performance. Using these different strategies will help to meet the needs of the diverse learners within our classroom.

14. Describe and explain assessment strategies that will be used to assess student learning. Provide examples of tools that will be used.

Some tools that can be used for assessment:

- Question and Answer: Students will be asked a question and they will respond to show their knowledge of the topic.
- Scoring Guide: Students will be assessed on whether or not they completed the task and showed understanding.
- Rubric: Students will be graded on overall performance of presentation on a certain plant.
- Graphic Organizers: Students will use graphic organizers during the middle of lessons and this is an easy way to check students' understanding during.
- Exit Tickets: Students will answer a question based on the topic. The question will be a quick way to check understanding.

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- Think-Pair-Share: When making predictions, students will think about their response to the question, pair and share with their partner.
- Four Corners: During discussion of human interactions on the environment, students will be able to say why they agree, disagree, strongly agree and strongly disagree. The students will be in each corner of the room.
- Thumbs Up/Down: Students will put thumbs up or down if they disagree with a statement or how well they understand a topic.
- White Boards: Students will answer questions during whole group on whiteboards and show their boards in the air.

15. List guest speakers and field trips that may be used for this unit.

Guest Speakers:

Jackie Dougherty - Penn State Graduate with a degree in Biology and Horticulture. She has worked in the field in a variety of environments such as desert, forests, and even South Africa! Jackie is able to provide the students with real life stories of the different environments she has seen and how people treat each environment differently.

Christopher Hill - Penn State Graduate with a degree in Energy Engineering. Chris currently works for ARM Group Inc., a company that installs solar panels. He will be able to talk to the students about the many different types of alternative energies that are available to use, solar for example. Furthermore, he can talk share stories about projects that he has worked on himself.

Field Trip:

Kettle Creek Environmental Education Center - Kettle Creek is a wildlife sanctuary that is almost 200 acres large and has a variety of different environments: mature deciduous forest, 2 ponds, a bog, fields, and more. There are also hiking trails that are suitable for all ages. Schools are welcome to bring their students on field trips to learn about natural history and the outdoors through hands-on experience in the field!

16. Will there be any collaboration with other content teachers? Explain how.

During this curriculum unit, there will be collaboration with other content teachers. For example, recyclable goods can be used in art class to make sculptures or other works of art. Science can also be incorporated by collaborating with science teacher about lessons concerning composting and plant life cycles.

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Before beginning the collaboration process, it is important to have a plan to present to the teachers that we would like to work with. Furthermore, it is also important to be open to changes concerning lesson plan ideas in other content areas.

17. Describe future curricular connections:

Being that this topic is so broad, there are many future curricular connections that are possible. Students can be reminded of the important lessons learned in unit when learning about subjects such as science, especially once they move into fifth and sixth grade, then into middle school. If students have an understanding of how humans impact the environment, they will be able to find more meaning when learning about subjects such as biology and other sciences.

A knowledge base on how humans affect the environment is also useful when learning about current events. Climate change is very real and the students that we are teaching will likely be affected most by the damage we have done to our Earth. It is crucial that they understand what they can do to help preserve our environments and protect our planet.

18. Create Bibliographies on the topic of:

A. Annotated list of Video clips (short 2-5 minutes) that are authentic (2)

1. The first video is about how as the human population continues to grow, so does our impact on the environment. In fact, recent research has shown that three-quarters of Earth's land surface is under pressure from human activity. In this short film, spoken word artist Prince Ea makes a powerful case for protecting the planet and challenges the human race to create a better future. <https://www.youtube.com/watch?v=B-nEYsyRIYo>
2. Plastic pollution poses one of the biggest known threats to the ocean, influencing all ecosystems from beautiful coral reefs to abyssal trenches, eventually accumulating in our own food. This video talks about ways to reduce plastic in the environment. <https://www.youtube.com/watch?v=HQTUWK7CM-Y>

B. Annotated list of books:

Reference books/informational books:

- *Composting: Nature's Recyclers* by Robin Koontz.
- *What If Everybody Did That* by Ellen Javernick
- *What a Waste: Trash, Recycling and Protecting our Planet* by Jess French

Poetry /fictional books:

Warned

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By: Sylvia Stults

*The sands of time have rendered fear
Blue skies on high no longer clear
Stars were bright whence they came
Now dimmed, obscured, pollution's haze*

*Crystal clear our waters gleamed
Fish abundant, rivers streamed
Ocean floors sandy white
Now littered, brown, pollution's plight*

*Trees towered high above
Trunks baring professed love
Birds chirping from sites unseen
Gone, paper joined pollution's team*

*One can't blame pollution alone
As they say, you reap what you've sown
So let us plant a better seed
Tear out old roots, cultivate, weed*

*Protect what has been given for free
Our waters, skies, wildlife and trees
For once they're gone, don't you say
Consider yourself warned of that fatal day*

Look Outside

By: Josie Greveling

Look outside, see the trees

4th Grade Group Members:

Erinni Binikos
Makena D'Arpino
Ariyana Ragland
Karli Paul

*Watch the flowers in the breeze
Things won't be like this in a year or two
If polluting is all we do
Seize the night
Seize the day
Things won't always be this way
Thousands of people are dying
In the night you hear children crying
Let's stop the war
Our people are sore
The world can't help itself
Who cares about your wealth
Help me to help you
Show the world what you can do.*

I am Dying

By: Marie Negus

*I am the Earth.
Mother of them all.
I'm getting hotter and hotter each day,
I just want to lay and rest.
Let me rest,
I'm dying.*

*My babies are dying,
The ice is melting,
The sun is burning my skin,
My babies,
My life.*

4th Grade Group Members:

Erinni Binikos
Makena D'Arpino
Ariyana Ragland
Karli Paul

*You cruel people,
You choke me to death.
Your chemicals are killing
What I have tried to raise.
How is life supposed to carry on...
If my people destroy what
Makes us live
And breathe?*

*My poor trees!
Just think and feel how they feel.
Why are you putting rubbish on my skin?
STOP...
OH, STOP it now!*

*You're giving me a disease,
And it's burning to my core.
Get in my mind, come on,
Look deep down and find
My heart is slowly stopping.
You're killing me,
You murderer.*

C. Websites – Annotated list of websites used for gathering facts and ideas. Group them by users: Teachers and students (at least 2)

Students:

<https://www.sciencenewsforstudents.org/article/renewable-energy-might-be-able-green-deser>
<https://kids.niehs.nih.gov/index.htm>
<https://news.nationalgeographic.com/2016/08/human-footprint-map-ecological-impact/>

Teachers:

4th Grade Group Members:

Erinni Binikos

Makena D'Arpino

Ariyana Ragland

Karli Paul

<https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>

<https://www.naturalbeachliving.com/pollution-activities-for-kids-earth-day-science/>

19. Attach Appendix for any forms/resources to be used with the unit.

20. List the InTASC standards in practice during this project.

- Principle #1: The teacher understands the central concepts, tools of inquiry, and the structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for student.
- Principle #2: The teacher understands how children learn and develop, and can provide learning opportunities that support their intellectual, social, and personal development.
- Principle #3: The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.
- Principle #4: The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.
- Principle #5: The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning and self-motivation.
- Principle #6: The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.
- Principle #7: The teacher plans instruction based upon knowledge of subject matter, the community, and curriculum goals.
- Principle #8: The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social and physical development of the learner.