



***If Not You, Who? If Not Now, When?:
Being an Agent of Environmental Change***

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This curriculum unit is recommended for:
Earth/Environmental Science
OCS Applied Science
Biology/OCS Biology

Keywords: Sustainability, Human Impact, Environmental Ethics, Philosophy, Special Education, Earth Science, Environmental Science, Biology, Pollution

Teaching Standards: See [Appendix 1](#) for teaching standards addressed in this unit.

Synopsis: This unit will provide teachers with activities they can use to incorporate philosophical ideas and environmental ethics into their classrooms. It will touch on the human impact of the environment and environmental ethics. It is designed for a small-group, high school, special education Science classroom. The curriculum materials are modified to meet the needs of my classroom but there are lots of ways to adapt to fit any science classroom with an environmental objective. This unit includes a Socratic seminar, a class debate, and a self-reflective essay. This unit will ask students to look at the current impacts they are making on the environment as well as those that are being made globally. It will ask them to take a position on what things could be done to fix these problems and whether or not they think they should make those changes.

I plan to teach this unit during the coming year to 30 students in 9th grade Resource Earth/Environmental Science, 10th and 11th grade Resource and OCS Biology, and 10th grade OCS Applied Science.

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**If Not You, Who? If Not Now, When?:
Being an Agent of Environmental Change**

Heather Nash

*"We need to conceive of ourselves as "agents" impelled by self-generated intentions."*¹

*"Earth provides enough to satisfy every man's need, but not every man's greed."*²

An Idea: Revisited

The idea for this curriculum unit started for me when I was applying for my first Charlotte Teachers Institute seminar in the spring of 2011. I had this notion that the students in my classes were not aware, or concerned with, the impact they were making on the Earth and the environment around them. I just started teaching Biology and as I prepared my lessons and learned the material along with my students, I was fascinated by the idea that we could run out of Earth! That prompted me to look at the curriculum we teach for human impact and ecology. I was interested to see if there was a better way to guide this learning.

As I got deeper into that first seminar a completely different topic surfaced. This new topic was better aligned with the activities we were doing in that seminar and lent itself better to the curriculum I was learning there. So, this idea of environmental stewardship and the idea of moral responsibility for the environment vs. a convenient, technologically savvy life got pushed to the side. Now, here I am three years later and this opportunity has presented itself again, with a vengeance this time. I have joined another philosophy seminar, this one more focused on a specific philosophical topic, and my schedule this year for the first time in my career, includes three different science classes which all have some form of ecological study or human impact analysis as a part of their curricula. Things have a way of falling into place sometimes in education!

Synopsis

It is hard to turn on the news these days and not hear or see something about global warming or global climate change. There are many government, scientific and higher education agencies who are researching the impact of human activities on the Earth. This research gets released in a variety of ways. Many times, the general public hears about this information on the news; this usually involves a lot of "talking heads" giving facts and figures. While watching such a news program recently it occurred to me that I don't often, if ever, take the information that is being provided to me and analyze it. That got

me thinking: how many of us take the time to thoroughly examine this data and consider our role in this ongoing problem? Why don't we do this? Why should we?

I believe that Thomas E. Wartenberg, author of *Big Ideas for Little Kids* says it best when he claims, "for the first time in the history of the human race, we have to face the possibility that our own actions may result in the destruction of many forms of life, including, perhaps, our own human one."³ Wartenberg makes a really interesting point here. Now is the time that we have to start analyzing this data and thinking about these things because we are finally at a point where we have to reconcile the consequences of the choices of both ourselves and our ancestors.

Demographic Background

Teacher

I received my Bachelor's degree in Elementary and Special Education from The University of North Carolina at Greensboro. I am licensed to teach K-6 elementary education, K-12 special education and 9-12 Biology. This is my sixth year teaching and fifth in Charlotte-Mecklenburg Schools (CMS). I teach in the Exceptional Children's department at East Mecklenburg High School, which is located in an urban neighborhood just outside Charlotte.

School

East Mecklenburg has a fairly diverse student population of nearly 1,700 students. Our populace consists of many different sub-groups (as defined by No Child Left Behind) including: 48% African American, 1% American Indian, 6% Asian, 24% Caucasian, 17% Hispanic, and 4% Multiracial. Our sub-groups also include: 61% economically disadvantaged students (receiving free and reduced lunch), 16% students with Limited English Proficiency, and 10% students with disabilities. The school also offers a wide variety of programs and classes including Advanced Placement, IB Middle Years Programme, and honors classes; an International Baccalaureate diploma track; English as a Second Language/Limited English Proficiency classes and consultative services, and the full continuum of classes and services for students with disabilities.

This diversity promotes an inclusive and collaborative environment and a well-rounded education for all of our students and helps us to move toward our mission statement, "world class education to create life-long learners", each day. Having so many different programs for students to be involved in and so many different types of students is beneficial for all involved at East Mecklenburg, staff and students alike. We are able to offer clubs and activities with a variety of focuses and topics.

To help foster this diversity and begin to include more globalization and diversity into our curriculum, we have also begun to work with Mothering Across Continents, “a 501c3 non-profit through which volunteer ‘catalysts’ receive consulting, coaching and mentoring to develop dream projects that help raise tomorrow's leaders,” to start a “global immersion journey.”⁴ We are looking to define global education, analyze the global activities already happening in our clubs and in some classes, find natural entry points within the curriculum and then promote global education within all classrooms. This curriculum unit is going to fit very well into our journey towards global education. We are looking at including the definition of global to include analyzing topics from alternative perspectives.

Students

The Exceptional Children’s (EC) department at East Mecklenburg offers a wide range of classes and service delivery models. Consultative services entail the case manager meeting with the student or his/her teachers twice a month to check in, ensure accommodations are being provided and offer supports in the classroom as necessary. The inclusion model involves students with disabilities being “mainstreamed” into the general education classroom, where there is a regular education teacher who serves as the expert in content and the special education teacher who is the expert in content delivery. The resource model is a separate, small group setting where an EC teacher has 10-12 students enrolled in general education classes who benefit from extra, individualized attention. The resource model is used sparingly because No Child Left Behind determined that a teacher must be highly qualified to teach this type of class; only an EC teacher who is dually licensed can teach this sort of class. The self-contained model includes students with severe and profound disabilities who are served in a separate, small group setting. Students in this group typically receive a certificate of completion, rather than a diploma, as they follow extensions to the standard course of study. The Occupational Course of Study (OCS) program is in the middle of this spectrum of services. This program offers students with disabilities an alternative path to the standard North Carolina diploma.

The OCS program provides a modified math, science, social studies and English curriculum, aligned with the North Carolina Standard Course of Study, but with a focus on employability, post-secondary planning and functional life skills. Along with taking core classes, students must take Career–Technical Education (CTE) classes and earn 900 vocational hours to receive their diploma. They receive these hours in a variety of paid and unpaid on and off campus jobs. Students enrolled in the OCS program typically have below average intellectual and academic abilities, most functioning between 2 and 3 grades below grade level. The OCS classes are separate, small group settings that range from 8 to 15 students depending on the subject; this provides teachers with a better chance to focus on individual skill needs, as laid out by the Individualized Education Plan

(IEP) that has been designed for every student.

This unit will be geared toward students who will be served in the resource and OCS models. The lessons and activities in this curriculum unit will be geared toward a standard/resource level class with some suggestions offered for modifications for the modified OCS curriculum.

Rationale

This curriculum unit will be directly related to the Human Agency seminar that I am taking at Davidson College. This CTI seminar has a focus on free will, choice, morality and moral responsibility. We have done a variety of readings on these topics. These readings lend themselves to teaching problem solving and critical thinking skills. Much of our education system today is based on the ability of students to be successful on normative, multiple choice tests. This “success” makes it necessary for many teachers to cut discussion and higher level questioning from their curriculum. Teachers are forced to weigh their ideals and teaching philosophy against the success of their students (and themselves because of merit pay and contracts).

I like to believe that I try to hold on to my ideals as much as possible within these constraints. I hold very high expectations for my students and try to incorporate a variety of activities in my classes. This unit will combine content preparation for the state exam that I have to administer at the end of the semester with critical thinking, decision making and problem solving skills. These skills are important to everyday life. It is required of citizens to be able to think critically, solve problems and make decisions about all sorts of issues in many situations.

Students are often surprised by the information that is provided to them during their study of human impact on the environment. This is usually a surface level surprise – seeing all of the oranges the average person eats in his or her lifetime all piled up in one place, for example, tends to be a shocking sight. The students don’t often stop to consider what it means to get those oranges around the country (or world). They fail to make the connection, on their own, to the impact that one single orange could have. It has to be picked, washed, transported and stocked in the store. This uses resources, manpower, time, and fossil fuels. This does not include that the truck and the shipping crate had to be built using more resources, time, manpower and fossil fuels. I think it is important for the students to start thinking about these impacts.

Objectives

Curriculum Unit Objectives

My objective for this unit is for my students and me to focus on the content necessary in a different and new way. I would like to include some real world examples of the content. I would also like to ensure that there are engaging activities included in this part of my classes. Typically the human impact unit is “taught” by providing students with very quick notes about the topics and then showing the National Geographic documentary “Human Footprint” with a questions worksheet. Typically, falling behind in the pacing guide doesn’t allow enough time to even finish or discuss this video. I think that this information is important for students because it has the most “real life” applications and implications. It is also the one unit where I feel the students are capable of actual synthesis of new information and action based on that synthesis.

My second objective for this unit is one that has become a key phrase by our principal over the past two years. He tells us all the time that “students should be reading, writing, thinking and speaking every day in every class.” This is a good objective because it incorporates the reading, writing, and speaking requirements of the Common Core standards that North Carolina adopted two years ago. Including reading and writing in the content area is something that my principal, CMS and Common Core all encourage. It is said that increasing reading and writing in content area classes will increase reading and writing skills while at the same time teaching the content requirements.

State Content Objectives

This unit will include activities that can be adapted to fit three different high school science classes: OCS Applied Science, resource level Earth/Environmental Science and Biology (both resource and OCS levels). Of course, activities could be modified further to fit other science classes. The North Carolina Standard Course of Study standards for these classes all include an analysis of the impact that humans have on the environment – the impact humans have on ecosystems through population growth, consumption of resources and the production of waste. Each class has specific content and vocabulary objectives that will require modifications to the content of the activities being used.

Assessment

Subjective

The philosophical and discussion activities of the unit will be graded based on the effort the students put in; rubrics will be developed and explained to students to help them understand the effort required for the grade they want. Students will not be graded specifically on their opinion but on having and sharing an opinion during discussions. Students will be asked to justify, in writing, their opinions based on content and philosophical learning that takes place.

Objective

This unit will also have an objective assessment aspect. Since all of my science classes will have North Carolina End-of-Course or Final Exams, it is necessary to have some multiple choice assessments based on the content. Students will be given standards-based assessments to determine mastery on state standards.

Unit Specifics

This unit will be a philosophical inquiry into the impact humans are having on the environment. The students will read, discuss, debate and write about the choices that they make as individuals that affect the environment. It will also give them the opportunity to explore whether or not they feel it is their moral responsibility to make changes for themselves, their families, and/or future generations.

There is a quote by Gaylord Nelson, former governor of Wisconsin and the founder of Earth Day that will be a good jumping off point for this discussion. He said "The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard." If the students are not getting a "thank you" for the choices they are making will they find it worth it? Are they making those choices because they are the "right" decisions or to receive praise or gratitude in some way? Once they decide if they feel like they should make a choice to change they will have to look at what they are trying to change and what the best way to go about that will be. The unit will last approximately one week in each class.

Content Background

The Philosophy

Webster defines philosophy as "a search for a general understanding of values and reality by chiefly speculative rather than observational means."⁵ When people think about philosophy they picture the "greats", Aristotle, Socrates, and Plato – great thinkers in the ancient world who set forward the thinking for centuries to come. There are many branches, or types, of philosophical thought. My CTI seminar leader, Meghan, has given us the framework of human agency to guide our philosophical reading, discussion and thought.

Agency is "the capacity, condition, or state of acting or of exerting power."⁶ During our seminar this semester, we have been approaching agency from the viewpoint of the choices that humans have. Some of the questions we have explored include: Do we have free will? What drives our choices? What causal events change the course of a human's life? During this semester we have done some readings that have guided these discussions. There are a few of these readings that lend themselves really well to helping

devise questions for this unit. I will quickly summarize these readings and provide citations below for the full text.

The first text we read in this seminar was a selection from *Nicomachean Ethics*⁷ by Aristotle. The chapters we read focused on blame and human choice. Aristotle points out that choices can be voluntary or involuntary. He says that people who act involuntarily do so due to force or due to ignorance of the circumstances, and those who act voluntarily are in control of their choices. He says that when one knowingly chooses under duress, the action is voluntary since there is still control of the choice. Aristotle argues that one can be neither blamed nor praised for a choice that is made involuntarily but can be rewarded or punished for voluntary choices. He goes on to say that those who are of good moral character will always make a choice toward a good end.

The next text we read in this seminar was a section from Plato's *Republic*. This selection is colloquially known as "The Ring of Gyges."⁸ This story references a legend about a ring that makes the wearer invisible. The argument made by the characters is that even the most just and moral person, with the safety of invisibility and no threat of punishment, would make unjust and bad choices. The argument is made that people are only just because they fear punishment.

The last text I will reference from this seminar is from Jean Paul Sartre's writings about existentialism.⁹ Sartre says that we are born (we exist) and that our experiences, choices and views on the world create our essence – who we are as people. The people we become depends on how we use our will and how we choose to exert ourselves in the outside world. When we exert these choices we are saying "this is who I am" and that I believe it is good/right for everyone to act this way.

The ideas from these readings are going to lend themselves quite well to a discussion of environmental ethics, human impact and the choices we should/do make. Aristotle discusses choices that people make and whether or not they can be blamed/punished or rewarded/praised for their choices. This will connect to the choice aspect of my unit. I would like the students to determine if they have a choice in what they are doing to the environment. For example, if you have to go to work/school and the only way to get there is a car, can you be blamed for choosing to drive to work? Plato is going to connect to the discussion aspect of my unit. I think a good talking point for discussion with the students would be the idea of the choices that you make when "no one is watching." An additional question is, if you're not going to be alive in the future, do the consequences of your current choices matter to you? Jean Paul Sartre explains that we are what we make ourselves. This concept will connect to the self-reflection part of the unit. Students will look at themselves and determine what the choices they are making say about them as people: if you choose to not care about the environment does that make you a good person or a bad person?

To include all of this into a unit for high school students, we will discuss the problems with human impact on the environment, whether or not they think a change is necessary, and whether or not they feel like they want to make a change. These questions will tie human agency to the field of environmental philosophy.

Environmental philosophy is a relatively new branch of philosophy. The Stanford Encyclopedia of Philosophy states that “Environmental [philosophy] is the discipline in philosophy that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its nonhuman contents.”¹⁰ Starting in the 1970s, philosophers began to look at our relationship with the Earth, how we affect it and our attitudes towards that affect. These questions will fit perfectly into the question of agency because the students will be asked to make choices about who they are as “agents,” whether or not they feel it is their responsibility to make a change, and then how they are going to go about implementing this change – advocating for others to change as well and/or making a case for no change.

The Science

Biology

The North Carolina Essential Standards for Biology includes a goal regarding the impact of human activities on the environment. Within this standard students are required to make inferences on how growth in population, increases in pollution, global warming, fossil fuel consumption, habitat destruction and non-native species affect or modify ecosystems. There is a focus specifically on how North Carolina ecosystems are affected by acid rain, beach erosion, urbanization, and the invasive/non-native species Kudzu. The standards also require students to be able to explain human impact on natural resources and to identify conservation methods and stewardship.

Earth/Environmental Science

The North Carolina Essential standards for Earth/Environmental Science ask students to explain climate change as it relates to fossil fuel burning, the greenhouse effect and deforestation. Students also have to analyze how temperature, sea levels and oceanic pH are changing on Earth because of the increasing climate. Students are asked to recognize the importance of biodiversity and recycling and analyze the effectiveness of sustainable agricultural processes.

OCS Applied Science

The North Carolina Essential standards for OCS Applied Science focus more on a positive outlook of environmental studies. Students are asked to explain the positive impact humans can have on natural resources, identify and explain ways that humans are

having a positive and negative effect on the environment, and to explain pollution and explain what individuals, families and communities can do to reduce pollution at a local level.

Lesson Plans – Strategies/Activities

The Lorax

Reading (or viewing) and Discussion

For this activity, I will use philosophical discussion to introduce these ideas in the classroom. I chose a text that I am comfortable with and have an adaptation for, but would encourage those who wish to use this with different grade levels to view Thomas Wartenberg’s website to find a text that fits the grade and Lexile levels you have in your classroom. Wartenberg’s site provides guides, available for use and edit under a free license, for teachers to lead philosophical discussions based on different texts. I will use one of these guides in my unit and link to the main search page below in the teacher resources.

I will introduce this unit in all of my classes using Dr. Suess’s *The Lorax*. This story tells the tale of The Lorax, who “speaks for the trees”, and how he tries to help the Once-ler to understand what his factory is doing to the environment.

Since my students are in high school they tend to prefer watching a video to listening to me read a picture book aloud; my students also struggle with reading fluency which hinders their comprehension of the text and their ability to pull details out for discussion. For these reasons, I will show them the 1972 TV animated special, available on YouTube.¹¹ At specific lines in the story, designated by Wartenberg, I will stop the video and lead a discussion using the questions he provides. You can find Wartenberg’s questions, annotated with times for the YouTube video, in Appendix 2.

Connection to Real World

When we have finished viewing and discussing *The Lorax*, students will read news articles regarding habitat destruction and pollution. These articles can be pulled from current events and should deal with local or global issues that relate to the story. An example of an article that will fit is the Doyle Rice article: “Study: Earth in the midst of sixth mass extinction” from July 24, 2014, found on the USA Today online.¹² Teachers can pull articles that will fit their students’ reading level or that concern things happening in their town or state.

While the students are reading their articles they will be using the content to prepare for a Socratic seminar. My students typically work best with a lot of structure, so for my

classroom I will modify the seminar structure and give them the questions (at least some of them) ahead of time.

1. How does this article relate to *The Lorax*?
2. What animals lost their habitat in *The Lorax*? What about in your article?
3. Is there pollution in your article? Describe the pollution in *The Lorax*.
4. Who, in your article, represents The Lorax? The Once-ler?

Giving the students the questions ahead of time will allow them to thoroughly prepare for the discussion with their classmates. It will also afford them time to annotate in their text or go back to the video and jot down notes from there. I will also ask my students to come up with some questions about *The Lorax* or about the article to share with their classmates during the discussion.

Self-Reflection

To get the students thinking about the impact that they have on the environment I will ask them to jot down a list of all of the ways they impact the environment in one 24 hour period. This list will be used at the end of the unit for the students to write a self-reflection about whether or not they feel they are doing things that are harmful to the environment. If they feel that they are not doing things that are harmful to the environment they will expand by discussing how they can spread their message of not harming the environment. If they feel that they are harming the environment they will expand by discussing whether or not they feel that they need to change their actions and why.

Group Debate

This activity will be used to get students to think “environmentally.” It will ask students to explore what they think about the environment as well as get them to use their skills as communicators to try and compel others to see their point of view.

This activity will open with students having three minutes to come up with as many reasons as they can to answer the question “Why should you care about the environment?” They will write each of their reasons on a sticky note. When the three minutes is over the students will get two minutes to come to the front of the room, read each of their reasons aloud and then place it on the whiteboard, where I have drawn a line with one end labeled “most important” and the other end labeled “less important.” When all students are finished presenting we will eliminate duplicate sticky notes from the board and review the placement of all of the reasons. I will read a reason out loud and

students will move to one side of the room if they feel that it is a “most important” reason and the other side if they feel it is a “less important” reason. We will then discuss, as a group, why each side feels the way they do. During this time students are allowed to move to the other side if they feel convinced by something another has said.

Research project

Students will be put into partners/groups and will be given a research topic. The assignment will be to find specific information on their topic and create a brochure or PowerPoint presentation to share the information with their classmates. Students will be asked to become experts on how their topic affects the globe and how it affects North Carolina. Topics and questions to be researched are listed below. Please see Appendix 3 to see an outline for this project. This outline will assist students in their research so they can use it to help them create their PowerPoint or brochure. Please see Appendix 4 for a grading rubric for this project.

Research Topics

- Global Warming
 - What causes global warming?
 - How does it affect North Carolina? The World?
 - What are the short term and long term effects?
- Greenhouse Gasses
 - What causes them?
 - How do they affect North Carolina? The World?
 - What issues are associated with greenhouse gases?
- Non-native species?
 - What are they?
 - Give examples in North Carolina.
 - Give examples in other parts of the world.
- Fossil Fuels
 - What are they?

- How do they affect the environment?
- What are the alternatives being researched?

Wrapping it all up

The last activity in this unit will be to watch National Geographic's documentary *Human Footprint*, which provides a look at how different stages of human life produce different amounts of waste and use different amounts of resources. Students will view the documentary and will then write a reaction paper addressing the following questions.

1. Which stage of life seems to be the most wasteful?
2. What changes could be made in this stage to make it less wasteful?
3. What was the most surprising thing you saw in this documentary?
4. What do you do in your life that you think is wasteful?
5. What do you do in your life that you think has a positive effect on the environment?
6. Do you think we should make changes to the way we live? If yes, why? If no, why not?

Appendix 1: Implementing Teaching Standards

This unit covers the North Carolina Essential Standards for three different classes: OCS Applied Science, Earth and Environmental Science and Biology. The unit encompasses the standards about Ecology and human impact on the environment. This unit will be used to teach, review and assess these standards in each class.

Human Impact

EEn.2.6.3 Analyze the impacts that human activities have on global climate change (such as burning hydrocarbons, greenhouse effect, and deforestation).

EEn.2.7.3 Explain how human activities impact the biosphere.

Bio 2.2.1 Infer how human activities (including population growth, pollution, global warming, burning of fossil fuels, habitat destruction and introduction of nonnative species) may impact the environment.

OA6.1.2 Explain the effects of pollution on the earth, air and waterways and what can be done at the individual, family and community level to reduce pollution.

These standards will be addressed during our discussion regarding *The Lorax* and during our research project when students will be looking at a problem and finding the negative effects and what can be done about it.

Sustainability/Conservation

EEn.2.8.2 Critique conventional and sustainable agriculture and aquaculture practices in terms of their environmental impacts.

Bio 2.2.2 Explain how the use, protection and conservation of natural resources by humans impact the environment from one generation to the next.

OA6.1.1 Explain how humans can have a positive impact on natural resources.

These standards will be addressed during our debate when we are discussing what things they feel are important and how they can be addressed. They will also be addressed when students are doing research about sustainability and conservation practices in their local and global environments.

Appendix 2

Discussion Questions from Thomas Wartenberg's Teaching Children Philosophy¹³
Content available under a free license

The Lorax tries to speak for the trees. When the Lorax first appears to speak on behalf of the trees, the Once-ler claims he is doing no harm by cutting down Truffula Trees to make Thneeds. (5:58 in YouTube video)

1. Was it harmful when the Once-ler cut down the first tree? If so, who, or what did it harm?
2. What does it mean to do something harmful? How can you tell things that are harmful from things that are not? Is it harmful to cut down just one tree?
3. Why do the Lorax and the Once-ler disagree on this? Who do you agree with?
4. The Lorax claims that it was harmful for the Once-ler to cut down the tree. Are trees the kinds of things that can be harmed? Can anything not be harmed?
5. The Lorax tells the Once-ler that his idea for Thneeds makes him sound crazy with greed. What is greed? How can you tell if a person is greedy?
6. Is the Once-ler greedy? Why do you think so?
7. Is being greedy harmful? Is it ever not harmful to be greedy? Is the Once-ler's greediness harmful?

The Lorax also tries to speak for the Brown Bar-ba-loots, the Swomee Swans, and the Humming Fish. The Once-ler ignores the Lorax and continues quickly expanding his business, cutting down more and more trees at a faster and faster clip... (21:16 in YouTube video)

1. The Once-ler's business making and selling Thneeds is very successful. Is the Once-ler's success a good thing? Why or why not? What might make it good? What might make it bad?
2. Now that the Once-ler is cutting down lots of trees, is this harmful? Why is cutting down one tree ok, but cutting down many trees harmful?
3. What happens to the Brown Bar-ba-loots? Why does this happen? Did cutting down the trees harm the Bar-ba-loots?
4. Why does the Once-ler keep expanding his business after the Brown Bar-ba-loots leave? Why does the Once-ler think that everyone needs Thneeds? Is he right?
5. Why do the Swomee-Swans leave? How about the Humming Fish? What happened to their habitats? Why doesn't the Once-ler care about what is happening around him?

6. How are the problems for the Bar-ba-loots, Swomee-Swans, and Humming Fish all related to the Once-ler cutting down Truffula Trees? Can the same thing happen in real life?
7. Why do you think the Once-ler keeps expanding more and more anyway? Is what the Once-ler is doing morally wrong? Why? Is it morally wrong when these same things happen in real life?

The Once-ler finally cuts down all of the Truffula trees. When the Once-ler realizes what has happened, it seems like it is already too late. (22:22 in YouTube video)

1. What happens to the Once-ler's factory once all the Truffula Trees are gone?
2. What is the world around the factory like? Describe the details. Is this a nice place to be?
3. Could the Once-ler have prevented this from happening?
4. Do you think that there could have been a way for the Once-ler to make Thneeds, without causing harm? Why or why not?
5. Do you think that if the Once-ler was not greedy, that he would have tried harder to be less harmful?

UNLESS Once the Lorax leaves, and the Once-ler is alone, he discovers a message on a pile of small stones. (End of the YouTube video)

1. Why does the Lorax leave the word "UNLESS" on a pile of rocks? What does "unless" mean?
2. The Once-ler says that he didn't mean to cause the harm he caused. Does not meaning to cause harm make you less responsible? How do you take responsibility for the things you have harmed? Do we ever have a responsibility to repair the harm someone else has caused? Why or why not?
3. Do you think that if we take the seed and follow the Once-ler's new advice that the Lorax and his friends will come back?
4. In the beginning of the story, the Once-ler claims that everyone needs Thneeds, but at the end he claims that what everyone really needs is Truffula trees. Why does he change his mind? What is different about the value of trees and the value of Thneeds? What makes trees more valuable?

Appendix 3

Research Project Outline

Issue: _____

Where is it happening? How long has it been happening? What is it doing to the planet?

1. _____

2. _____

What groups or agencies are working on these issues? What are they doing?

1. _____

2. _____

What is being done to fix it around the world? What happens if the problem is not solved?

1. _____

2. _____

Appendix 4

PowerPoint	1 point	2 points	3 points
Description of Topic Issues	Minimally addresses the topics, misses a few main points.	Addresses the main points but misses one or two main points of the issue.	Fully describes the issue's main points.
Description of How/Who is addressing the issue	Lists but does not describe how the issues are being addressed.	Minimally describes how the issues are being addressed.	Fully describes the different agencies/groups who are addressing the issues and how they are doing so.
Creativity, spelling/ grammar	PowerPoint is plain (missing color/animation/design), spelling and grammar mistakes throughout.	PowerPoint has some creative elements (missing either: color, animation and design), few spelling/grammar mistakes.	PowerPoint has all creative elements (color, animation and design), no spelling/grammar mistakes.
Total Score:	Total Score: _____		

Brochure	1 point	2 points	3 points
Description of Topic Issues	Minimally addresses the topics, misses a few main points.	Addresses the main points but misses one or two main points of the issue.	Fully describes the issue's main points.
Description of How/Who is addressing the issue	Lists but does not describe how the issues are being addressed.	Minimally describes how the issues are being addressed.	Fully describes the different agencies/groups who are addressing the issues and how they are doing so.
Creativity, spelling/ grammar	PowerPoint is plain (missing color/animation/design), spelling and grammar mistakes throughout.	PowerPoint has some creative elements (missing either: color, animation and design), few spelling/grammar mistakes.	PowerPoint has all creative elements (color, animation and design), no spelling/grammar mistakes
Total Score:	Total Score: _____		

List of Classroom Materials Needed for This Unit

- A copy of *The Lorax* or YouTube clip of The Lorax video

This will depend on whether the story will be read aloud, read by students or the students will simply watch the animated version of this story.

- Questions from Thomas Wartenberg's Teaching Children Philosophy

These questions, available under free license on the internet, as well as located in Appendix 2 of this unit, are written to help facilitate a philosophical discussion based on the text.

- Questions for Socratic Seminar

These questions can be created based on student ability level. There are many web resources with questions and question stems.

- Newspaper articles about habitat destruction and pollution

These articles should be current and relevant to student level and location. An example of the type of article is referenced above.

- Computer with projector

This will be to provide students the opportunity to watch *The Lorax* and/or *Human Footprint*

- *Human Footprint* documentary on DVD or online video

This documentary, created by National Geographic, does a wonderful job of showing how many resources the average human consumes in his/her lifetime.

- Computers/Internet Access

This will be used so students can research an assigned topic and create a final product to share with the class.

- Sticky Notes

These will be used to help students prepare points for classroom debate.

Student Resources

Silverstein, Shel. *The Giving Tree*. New York: Harper & Row, 1964.

This story follows a boy as he grows up and the relationship he has with a tree. It tells about the things that the tree “gives” him and how the tree plays a role in every stage of his life.

Suess, Dr. *The Lorax*. New York: Random House, 1971.

This story is about The Lorax, a character who proclaims that he “speaks for the trees.” He wants to be the voice for the animals and plants in the surrounding environment who can’t stand up for themselves. The story is about the Lorax and his battle to stop the Once-ler from destroying the ecosystem he lives in.

"A Student's Guide to Global Climate Change." EPA. August 28, 2014. Accessed November 22, 2014. <http://www.epa.gov/climatestudents/index.html>.

A kid friendly site for exploring climate change. Run by the Environmental Protection Agency.

"Earthwatch: Scientific Research." Earthwatch Institute Scientific Research. January 1, 2014. Accessed November 22, 2014. <http://earthwatch.org/scientific-research>.

This website provides students information on Earthwatch’s research and other research that has been done. It also provides information and pictures on many different topics.

Teacher Resources

Daniel, Marie-France, and Emmanuel Auriac. "Philosophy, Critical Thinking, and Philosophy for Children." *Educational Philosophy and Theory* 43, no. 5 (2009): 415-435.

This article discusses the importance of teaching critical thinking through philosophical discussion with children.

Freire, Paulo, Ana Maria Araújo Freire, and Donaldo P. Macedo. "The Banking Concept of Education." In *The Paulo Freire reader*. New York: Continuum, 1998. 67-72.

This chapter from Freire fits with my rationale for this unit and my teaching philosophy. It describes the concept that teachers should be offering students ways to experience their education rather than just depositing information into them.

"From Degrading to De-Grading." From Degrading to De-Grading. Accessed November 21, 2014. <http://www.alfiekohn.org/teaching/fdtd-g.htm>.

This article fits with my philosophy for teaching despite how out of the norm it is. This article discusses the pros and cons of grading students. It discusses the declines in performance and learning when grades are assigned.

"How to Teach a Socratic Seminar." Paideia Active Learning. Accessed November 21, 2014. <http://www.paideia.org/about-paideia/socratic-seminar/>.

This site gives a good description of a Socratic seminar that teachers can use in their classroom. It describes the roles for both the teacher and students and offers suggestions for how to pick topics.

"Human Footprint Education." - National Geographic Education. January 1, 2014. Accessed November 21, 2014. http://education.nationalgeographic.com/education/human-footprint-education/?ar_a=1.

This website provides many different activities and interactive tools that go along with the National Geographic "Human Footprint" documentary.

"Human Impact on Ecosystems: Teacher Packet." January 1, 2014. Accessed May 15, 2014. <http://www.thehenryford.org/education/erb/HumanImpactTeacherPacket.pdf>.

This packet, created by The Henry Ford, provides middle school teachers with information and activities to implement on the topic of human impact on the environment.

Wartenberg, Jake. "Category:Book Modules." – Teaching Children Philosophy. August 20, 2013. Accessed November 1, 2014.

http://www.teachingchildrenphilosophy.org/wiki/Category:Book_Modules.

This website can be used alongside Thomas Wartenberg's work. It provides a more comprehensive list of books and corresponding philosophy discussions. It allows you to peruse the list by philosophical topic and book title.

Wartenberg, Thomas E. *Big Ideas for Little Kids: Teaching Philosophy through Children's Literature*. Lanham, Md.: Rowman & Littlefield Education, 2009.

This book provides an account of how Thomas Wartenberg came to be a professor who teaches pre-service teachers how to teach philosophy to children through children's book. He provides guides on how to lead a philosophical discussion for those who do not have a philosophical background. He also provides some sample lessons for each topic covered in the book.

Notes

¹ Bruner, Jerome S. "Culture, Mind, and Education." In *The Culture of Education*, 16. Cambridge, Mass.: Harvard University Press, 1996.

² "Quotes." EPA. October 12, 2010. Accessed September 19, 2014.

³ Wartenberg, Thomas E. *Big Ideas for Little Kids: Teaching Philosophy through Children's Literature*. Lanham, Md.: Rowman & Littlefield Education, 2009, 109.

⁴ "Help Us Adopt Dreams." Mothering Across Continents. Accessed November 2, 2014.

⁵ "Philosophy." Merriam-Webster. Accessed September 22, 2014.

⁶ "Agency." Merriam-Webster. Accessed September 22, 2014.

⁷ "The Internet Classics Archive | Nicomachean Ethics by Aristotle." The Internet Classics Archive | Nicomachean Ethics by Aristotle. January 1, 2009. Accessed November 1, 2014.

⁸ "The Internet Classics Archive | The Republic by Plato." The Internet Classics Archive | The Republic by Plato. January 1, 2009. Accessed November 1, 2014.

⁹ Sartre, Jean Paul. "Existentialism." In Marino, Gordon Daniel, ed. *Basic Writings of Existentialism*. New York: Modern Library, 2004.

¹⁰ Brennan, Andrew. "Environmental Ethics." Stanford University. June 3, 2002. Accessed September 22, 2014.

¹¹ "The Lorax (original)." YouTube. Accessed November 1, 2014.

<http://www.youtube.com/watch?v=8V06ZOQuo0k>.

¹² Rice, Doyle. "Study: Earth in the Midst of Sixth Mass Extinction." USA Today. July 24, 2014. Accessed October 30, 2014.

<http://www.usatoday.com/story/tech/2014/07/24/mass-extinction-study/13096445/>.

¹³ Wartenberg, Jake. "The Lorax." – Teaching Children Philosophy. May 16, 2011.
Accessed November 1, 2014.
http://www.teachingchildrenphilosophy.org/wiki/The_Lorax.