

Greetings from Turtle Island
Connecting with Indigenous Wisdom through Photographic Participatory Science

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Introduction

Connecting with Indigenous Wisdom through Photographic Participatory Science, that's a big title. Besides Chief Dan George's character Old Lodge Skin's wisdom in *Little Big Man*, such as "sometimes the magic works and sometimes it doesn't" I am not sure that I have ever really connected with indigenous wisdom. I grew up in Delaware and have never, knowingly, interacted with members of the Lenape Indian Tribe of Delaware, the Nanticoke Indian Association, or the Nanticoke-Lenni-Lenape Tribal Nation and I am sure that my students have not, knowingly, as well. In my experience, Native American culture has been romanticized, a la Rousseau's idea of the Noble Savage, by so many people that I am not sure what is real and what is wishful thinking. I am also, by nature, a skeptical person, will I really rub jewelweed on my poison ivy because people have done so throughout history? So, how will I connect Indigenous Wisdom, or, more specifically, Traditional Ecological Knowledge through Photographic Participatory Science to my students and to myself? The easy part is Photographic Participatory Science. How can I take our iPads and apps such as iNaturalist and Litterati and make an engaging unit for my 1st graders? We can look at our school grounds and at the litter, from the roadways that border us and from the students and faculty at the school. We can also observe the flora and fauna that populate it. How can I then tie that in with indigenous wisdom from those whose cultures were here when the first Europeans arrived? What wisdom do the Lenni Lenape and Nanticoke Indians have that will resonate with a 6-year old child? This unit will attempt to uncover those stories and ideas that will resonate with my students and combine them with Citizen Science to create meaningful experiences for us all.

Background

The elementary school where I teach consists of many different kinds of students with a variety of beliefs and experiences. Our school has approximately 1200 students from Kindergarten through 5th grade. There are nine 1st grade classrooms; seven in one hallway and two Spanish immersion classrooms in another part of the school. I can have up to 25 students from Hispanic, African, Caribbean, Asian and Middle Eastern cultures as well as students whose families are from the United States. My classes, historically, have been around 50% African American, 30% White, and 20% other ethnicities, and are usually a close split between boys and girls. Socio-economically, my class will also be diverse with all economic classes represented. My school is a Title 1 school and qualifies for free lunch for all students. We live about one hour from the ocean yet many of my students have never seen it yet alone have gone swimming in it. Most students have never seen an

animal in the wild nor have they seen one in the zoo. When asked to name animals for a research project we do in class, many students are stumped after naming lions, tigers, polar bears, monkeys, and reindeer. They are interested in animals but don't have much experience with them, as they don't show up on too many video games. The sum total travel experience of many students is the shopping trip to Walmart and the weekly attendance at their family's house of worship. Most experiences are virtual through tv, movies, and video games; very few are with the natural world.

Our grade level teaches Science, in rotation with Social Studies, in a 20 to 30-minute block at the end of every day. This unit will be taught early in the school year during that block so we can collect data throughout the year.

Rationale

We live in a time when opinions are given the same credence as facts. Take a look at your Facebook or Tweeter feeds and everyone thinks they are an expert. We need to give our students the skills to think critically about information that they are given. Learning about science, how to do science, and what to do with science will help them to parse the overload of information that they will receive for the rest of their lives. Critical thinking does not mean that we throw away allegorical thinking, that we ignore stories that have a double or hidden meaning. Looking at stories taken from oral histories, such as creation stories as to how the Earth, animals, and humans were made, may have important ideas for my students to ponder. We can look at indigenous life, without romanticizing it, and see what lessons there are for us and how we can apply those lessons to the 21st century.

I have a few sections in my unit. The first is how to use the camera on an iPad. This component of the unit teaches students how to actually shoot photos and videos. We will look at the various reasons that we take photographs and videos and learn different techniques, techniques for both artistic and scientific photography.

In the next section of the unit we will discuss creation stories. Using ideas from Braiding Sweetgrass, we will explore how traditional Native American ideas could translate to our own lives. We will also look at Indigenous histories in Delaware and what knowledge we can glean from their traditions.

Taking the notion of respect for our planet, we will look at the flora and fauna of our school grounds. What lives there? How did it get there? What is native and what is invasive? How does it survive? We chart the sunrise and sunset throughout the year. We can also chart when the leaves change color and reappear and when we see, and do not see, different insects and animals.

Unfortunately, nature is not the only thing we can find on our grounds. Using the app Litterati, we can document the litter that we find on our grounds. We can collect data

throughout the school year and see when our grounds are more likely to be littered. Using this data, we can create an action plan to address the situation.

An important element of this unit is to encourage an “Explorer’s Mindset” in my students. An explorer’s mindset instills in students these attributes: to be curious, to observe, to collaborate, to communicate, to be responsible, to problem solve, and to be empowered. The lessons will be written with an eye towards the National Geographic Learning Framework which incorporates these qualities to help teach about the world and how it works.

Content Objectives

Photography

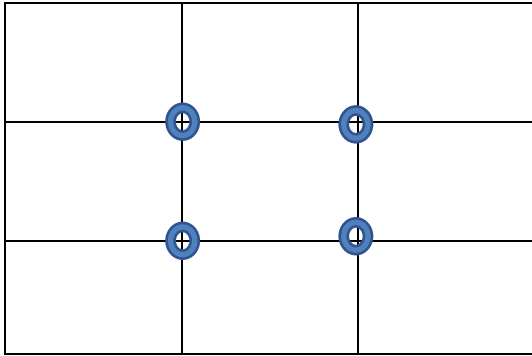
Almost every student in the United States now has access to a camera. The camera may be on their parents’ cellphone or, more increasingly, on their own cellphone or tablet. When my students have engaged with the camera on our classroom iPads it is often for humorous effect. A look, deep inside their mouth, their friend’s ear, or surreptitiously filming a classmate doing anything. Can we teach our first graders to take meaningful photos; photos that we might actually want to see.

There are two reasons for our students to take photos in the classroom. The first is for creative artistic purposes, including storytelling, and the second is for observational purposes such as observing scientific phenomena. Each one of these purposes may involve using the camera differently. Rod Stewart famously said in his 1971 song, “Every picture Tells a Story Don’t It” and, yes, our students’ pictures will tell their stories, but how can we make sure they are stories that we want to see?

According to National Geographic photographer Robin Moore in a talk in April of 2018 “an image that works is technically sound in focus, light, and composition, tells a story, is unique in perspective, makes you look, makes you think, and makes you act.”¹ We can help our students to make sure their subject is in focus, that there is enough light to shoot, and that the subject is composed in the frame in an interesting way. Our students are young so an important element of our instruction is to let them find their own stories with their own unique perspective. If we do that we can help them find the photos that make us look, think, and, finally, act, because isn’t the whole point of participatory science to get ordinary citizens to act?

With the help of the artificial intelligence in our phones and tablets, getting a shot in focus and with good light has never been easier. Teaching our students how to change the focus with a tap of the finger and using available light via a slide of the same finger will allow them to take better pictures than I did with my Hawkeye instamatic when I was their age. Composition will be the hardest thing to teach. Where does the subject fit into

the frame of the shot? Conventional wisdom says that one should use the “Rule of Thirds. The camera screen should be broken up into 9 equal segments and the subject of your shot should be located where any four segments intersect. “This allows the image to be more balanced and will enable a viewer of the image to interact with it more naturally”².



Our students have a unique perspective as they see the world from about two feet lower than we do. They should take advantage of this to see things that we would miss. They also have the power of their imagination which, I hope, has not been “structured” out of them and we should encourage them to use their imaginations when using their cameras. Close ups of faces, colors, textures and patterns will give added dimension and details to their photos. Not every photo needs to be a realistic portrait. When shooting insects, plants, and the like, they may want to include something, like a coin, so we can get a sense of scale. Finally, while we may be asking our students to take photos of specific things, we need to give them the space to be creative, to try “unique” perspectives, and to take “terrible” photographs. Only by doing this will they be able to find their own special voices.

Native Americans

In first grade, our students have not been exposed to too much Native American history. Besides the story of Squanto and the Pilgrims, there are not many stories that students will have heard. I am not sure that most of our students even understand that people were living in the Americas long before Columbus, who they probably also have never heard of, came onto the scene. It is probably good to start with a little background as to who the Native Americans are and where they came from. We can talk of land bridges and migration but, why do that when we can discuss how the Native Americans feel that they came to this land. In particular we can talk about the Lenni Lenape who have lived in our Mid-Atlantic region for countless years. A website that gives some background information about the Lenni Lenape in the Philadelphia area is “The Original People and Their Land: The Lenape, Pre-History to the 18th Century” by West Philadelphia Collaborative History. This site gives information on the history, the culture and European and then American interactions with the Lenni Lenape up until the 1860’s.

In an earlier unit, I discuss the scene in Ken Burns' The West when N. Scott Momaday relates the Kiowa story as to how Devils Tower was created. He prefaces the story to say that it happened in the time "when dogs could talk," a time much earlier than now and a time when wondrous things could occur.³ This is the time of the Lenni Lenape creation stories.

All societies have their creation stories, in Judeo Christian tradition there is the story of Adam and Eve, in many Indigenous peoples' tradition the creation story involves Turtle Island. The Nanticoke and Lenape Confederation Learning Center and Museum relates a few of these stories. In one, "He Who Creates Us By Thought" created the world but there was no land and all the animals had to live in deep water. That was pretty terrible so they decided to see if they could bring up some mud from the bottom to make some land. Well, they couldn't go deep enough. Then that old weakling, muskrat, decided to give it a go and he went down, down, down for a long time (in some traditions too long) but finally emerged, more dead than alive with some mud grasped in his tiny paw. Well, "He Who Creates Us By Thought" must have been impressed because he commanded turtle to come to the surface and muskrat heaped his paw full of mud on the turtle's back. And as guys named "He Who Creates Us By Thought" are known to do, he spread that mud out and caused it to grow and it became land and all the animals were happy. Then a tree started to grow in the middle of the turtle's back and it threw off a shoot and that's where Man came from. No one wants to be alone so the tree grew another shoot and that's where Woman came from. These were the first man and woman, ancestors to us all.⁴

In this story people are created from the living things of the earth, we are part of the Earth. "He Who Creates Us By Thought" doesn't give us dominion over the animals. We are part of nature. In another story, retold by Robin Wall Kimmerer in Braiding Sweetgrass, the first woman, Skywoman, falls from the sky and is caught by some geese. The world again is only deep water. As the geese tire they discuss what to do, a turtle offers his back for her to live on. Animals decide she needs land to live on not just a turtle's back and Loon, Otter, Beaver, and Sturgeon dive deep to find mud, and they come up short. Muskrat takes his turn and eventually brings up that small paw full of mud. In this story, it costs him his life. Sky woman spreads the mud across turtle's back and it spreads as she dances her thanks until it becomes our world. She repays the kindness of the animals by spreading seeds over the island causing life to multiply and giving a home to those who want to escape the waters.⁵ In this story, people have a symbiotic relationship with the animals, not one just using the other.

In the chapter entitled "In the Footsteps of Nanabozho",⁶ Kimmerer tells about the first man, Nanabozho, and how he followed Skywoman onto this earth. He came to the world when it was fully formed and was given instructions by the Creator to walk like each step was a greeting to Mother Earth. He had no idea what that meant so he first went East. Then he got hungry and wondered how he would eat. When he thought about his

instructions he realized that all he needed was present in the earth. “His role was as not to control or change the world as a human, but to learn from the world how to be human.” When we are with our students, we can teach them how to care for our planet, how to take care of spaces that we already have and how to create spaces that can enhance the world around us. In first grade we can take back some of the nature that has been changed around our school and create a garden with native plants, built to provide food and shelter for our native insects.

Europeans brought with them the notion that time is linear, it goes from past, to present, to future. In Native American thought, the idea of Nanabozho, time is seen as circular or cyclical. The story of Nanabozho can be one of the past but can also be one of the future. By restoring our land, in this case our garden, to native species, we are enabling Nanabozho to walk among us and greet Mother Earth.

Well, yes, this idea of time gets a little metaphysical and maybe beyond the knowledge of first graders but, anyone who has taught first grade can realize that circular time is not beyond their experience. Time has no meaning to a 6-year old. If anyone is ready for the idea that time is a circle it is the ones who equate 20 minutes of recess to it “just starting” and a 15-minute Math lesson to an eternity.

In lectures we have watched given by Lenni Lenape chiefs⁷, we heard about how the Indigenous people experience the land a little bit differently than those of us without that tradition and deep connection to the land. The land has provided food and medicine with the knowledge of what plants are beneficial and what plants are harmful passed down by elders. Those of us without those traditions are disconnected from the land. Lawns are sprayed with weed killer and fertilizer giving, by middle class American standards, a nice-looking lawn but one that is far removed from what would grow naturally if given the chance.... of course, no one would want a lawn full of poison ivy which seems to grow in abundance in Delaware. That being said, that poison ivy does provide food and habitat for, among others, deer, rabbits, and muskrat (what a reward for that paw full of mud) so what causes a terrible reaction in many of us does have its place in the natural world.

Native tradition says that jewelweed will help the rash that poison ivy gives us and we can find all sorts of remedies in nature for the ailments of being human. Go to the homeopath or browse Amazon and many supplements offer better living through nature rather than chemistry. Many of these products are the results of people taking Traditional Ecological Knowledge, what plants help what ailments, and turning a profit off of it. As the chiefs said, private property was really an unknown idea to the peoples of the Americas. This use of their knowledge is akin to “buying” native land with mirrors and trinkets, except, I doubt any trinkets were even offered as payment.

One resource we can use to compare life now to life when indigenous cultures were still flourishing is the book When the Shadbush Blooms by Carla Messinger. This book compares the life of a contemporary Lenape girl to that of her foremothers. It illustrates how life has changed for our native peoples and how some things have stayed the same.

Citizen Science

Now that we have some minimal background on Native American values we can discuss our own relationship to nature. What is nature? Where do we see it? How do we interact with it? Wouldn't it be nice to value nature just as the Native Americans have done throughout the years?

In our schools, we are surrounded by nature, the birds that fly over, the insects and spiders that crawl through, and the weeds that poke their heads through the hard-packed soils of the playground. At my school, we are lucky to have behind our school a very large field and a small wood straining against a chain link fence. While we cannot go into the woods, we can see the trees, bushes and other plants and come very close to them, close enough to take pictures.

We can keep a journal of our pictures, maybe each student can find a particular tree or area to photograph and we can take a photo, every day of that scene. As the year progresses, we can see the changes that come, from green or brown in the late summer, to the colors of fall, the bareness of winter and, perhaps, snow, and then the regreening and promise of spring. In June, we can look at our 170ish photos and tell the story of the year. When did the leaves change? When did they fall? When did they grow back?

iNaturalist

If I were to ask my students what kind of tree is growing on the playground, they would probably not know. If I ask my fellow teachers, they would not know... I do not know. We take the things around us for granted. Using a citizen science app like iNaturalist or Seek by iNaturalist, we can start to spark the curiosity of our students as to what surrounds them. We can easily find out about that tree. We can explore the field and look for different plants that grow there. iNaturalist does not only identify plants but animals as well. We can look at the insect life and see what is born, lives, and dies in the acres behind our school. We can compare the life we can see in the woods to the life we see in the field. Are there plants that are the same or do different plants live in different places? A question to ponder is what purpose do these plants serve? The Lenni Lenape used plants for food and medicine. What do we use our plants for? When they look in their gardens, why are those plants there? Are they native to Delaware, were they here before Europeans came in the 1500's or were they brought from somewhere else. Why were they brought? Was it intentional or did they come here accidentally?

So, what is Citizen Science? According to National Geographic, “Citizen science is the practice of public participation and collaboration in scientific research to increase scientific knowledge. Through citizen science, people share and contribute to data monitoring and collection programs.”⁸ The pictures that our students upload can help researchers get a look at what organisms live in our location.

Students can use the cameras on their parents’ phone to find and identify plants and animals that live in their neighborhoods, between their apartment buildings or in their backyards. Once they snap a picture and upload it to iNaturalist, it becomes part of the database for that geographical area. Students can find out the name of the organism and some information about it such as where it is found in the world, whether it is native or not, the last time it was spotted, and how many times it was spotted.

Litterati

Our school is near a major North South highway and a very busy local road. There is a lot of litter that ends up on our school grounds. We can use our new-found photography skills and help our planet at the same time. Using Litterati, a citizen science app, we can photograph our litter, tag the picture before we toss the litter, and then challenge others to keep their areas clean. Using the data that Litterati aggregates, students can develop an outreach event to create positive changes in our community and maybe even help change environmental policy at the local level.

National Geographic Framework

First graders have their curiosity, they have their sense of adventure, and, as we see more and more, students have a penchant for empathy. In order to help foster these traits I have started using the National Geographic Learning Framework. This framework cultivates the mindset of an explorer: the attitudes, skills, and knowledge necessary to understand the world and how it works. We want our students to be curious, responsible, and empowered to make a difference. We want them to observe our world, communicate their ideas, and collaborate with others to problem solve and reach their goals. Our students need to understand our human journey, our changing planet and, especially interesting to a six-year old, the flora and fauna that populates our planet.⁹

Part of the framework is to have a “call to action”, to take the lesson out of the theoretical and into the real world. Our call to action will be using what we learn with the Litterati app and challenging our peers in the school, the staff, and our families to take better care of our communities.

Activities

Photography

My first graders will be very excited to actually be encouraged to use the cameras on our iPads. The key to this activity is giving the students the freedom to be creative while still providing structure so that the goals of the lesson can be met. As we will be starting this at the beginning of the school year, there should be plenty of opportunities to go outside. Depending on how many iPads you have access to, you might have students working individually, in pairs, or in groups. It is important to remember that some students may not want to be (or be allowed to be) photographed so starting the unit with photographing things allows all students to get comfortable being around the cameras. Students need to be taught how to carry the iPads safely, how to share the iPads safely, and how to actually use them to take a photograph. This may require the teacher to experiment so that he or she becomes comfortable with the process before showing their students.

When students are comfortable with handling the iPads, keeping the cover (and their fingers) out of the lens, it is time to show them how to frame their pictures. Encourage the students to look at something from a variety of heights and angles. How does it look in the frame? Discuss the ideas of “Rule of Thirds”. How does their photo look in different parts of the frame? How does it look if it fills the frame? As a class, look at your own and then student photographs and discuss them.

Take the students outside. What happens when the sun is behind the subject? What happens when it is behind the photographer? How do shadows effect the photograph? How does using the light sensor on the camera effect the picture? Are there insects or plants you can photograph? How can we tell how big they are? How does putting something like a quarter in the frame help us to understand the size of our subject? As a class, look at some of the photographs and discuss what you see.

Have students select their favorite photograph for a class show. Create a slideshow and share it with parents and staff. You can center your show around a theme such as “What we see on the playground”.

Indigenous Wisdom

Now that students are comfortable using the camera we can look at Traditional Ecological Knowledge of our Indigenous peoples. We should start by seeing how much our students know about Indigenous peoples in the United States. Do they know that people were here before Christopher Columbus came? (Do they know about Christopher Columbus?) Our students have probably heard about the Pilgrims and Wampanoag and the myths we tell about the first Thanksgiving. We can use their background knowledge about the Wampanoag helping the Pilgrims find food to talk about why the Pilgrims

needed help. They did not have the same flora and fauna that they were used to seeing. The Pilgrims' Traditional Ecological Knowledge was pretty much useless in a new land. We can generalize that Indigenous people have a deep connection to their land and would know where to find food, what plants could be eaten, and what could be used as medicine, and in the case of the Wampanoag, they were willing to share. This information was passed down from indigenous generation to generation. As the "new" American population increased, the Indigenous populations were removed from their lands and much of this knowledge was forgotten. Eventually native lands became farmland, towns, and cities. Ideas about the collective good became supplanted by individualism. "Better living through chemistry" became the mantra and the importance of a connection to the land became secondary to the strides of science. Eventually, many have found this approach to be lacking something and there has been a renewed interest in Traditional Ecological Knowledge and values.

This is a good time to talk about the tribes that can be found in our area, the Lenape Indian Tribe of Delaware, the Nanticoke Indian Association, or the Nanticoke-Lenni-Lenape Tribal Nation. Our area looked different before the European settlers came, no farmland, no highways, no strip malls, apartment buildings, or housing developments, just forests. The forests and marshlands were full of game and the streams full of fish. The tribes of Delaware would know what plants were good for eating and good for medicine and, importantly, which to avoid. They would know where and how to fish and where to hunt. After the colonists created a foothold, they started to change the landscape. While the Indigenous population practiced agriculture and would have to move every two decades or so after the soil was depleted¹⁰, the extent of their practice was quite small compared to the settlers that came. The settlers cleared forests and created farm fields, bending the land to their will. Forests were razed to create lumber to build towns and cities. Rivers and streams were fouled with the refuse of "civilized" living. We still reap what was sewn so many years ago: native species extinct and the pollution of progress ever present.

How we see the land is pretty much summed up in the stories we tell ourselves about how we came to be. In the Western canon, God gave us dominion over the land and the animals. In Native American cultures, man and nature live in harmony, humans using nature to survive but also being a caretaker to the planet knowing that we all prosper when every species thrives. Students should hear about Turtle Island and how the animals helped the first people. They can reflect on how the experiences of the first humans informed their relationship with nature. The ancient Iroquois had a principle that they lived by, "The Seventh Generation Principle". The Great Law of the Haudenosaunee, the founding document of the Iroquois Confederacy, the oldest living participatory democracy on Earth says, "In our every deliberation, we must consider the impact of our decisions on the next seven generations."¹¹ This does not seem to be the guiding principle of our society.... yet. Why not? How do our stories impact the way we live?

Citizen Science

After we have learned about photography and the ideas of how the Indigenous cultures interacted with nature, we can put this together with our citizen science apps. We know there are trees on our land at school, but do we know what kind? Do we know where they came from? We have plants in the field but are they “just grass” or something different. How about the brush along the fence line? What lives in it? Are any of these plants that Lenni Lenape would have used such as dogwood for arrows, jewelweed for poison ivy, or cardinal flower for stomach aches¹²? We can use iNaturalist to answer these questions.

How does our environment change over the school year? Students can take pictures of one area outside every week or every day as your curriculum allows and compare what it looks like in August to October to December and so on until June. What do they notice? Why does it happen? How are August and June’s pictures similar? How are they different? If you take them at the same time, can you tell where the sun is in the sky? Is it in the same place or a different place? How can shadows help you know this?

Our students, we hope, will be energized by the idea that we should be doing a better job taking care of our planet. We need not only think seven generations ahead but also just one generation ahead, our students’ generation. What can they do to help the earth and, ultimately, to help themselves? One thing every six-year-old can do is pick up litter and dispose of it properly. That is great but it is an individual effort. How can we mobilize our school community and our communities at home to also be involved? This is our call to action, let’s make our school and our community (and our planet) a nicer place to live. Litterati has an easy interface to use so we can show and share how we are having a positive impact on our world. Students can use their photography skills to highlight an area of the school yard that was filled with litter but is now clean. They can challenge other classes, grades, or even schools to clean up our planet!

Remote Learning

This unit is being written during the Covid-19 Pandemic of 2020. This entire unit could be taught remotely if parents are willing to let their first graders use the cameras on their phones. Instead of looking at nature in the schoolyard, students can look at their backyards or the common areas of their apartment buildings. Utilizing technology such as Seesaw, students can upload their pictures and they can be viewed by the class via Zoom. If parents download the apps, data can be sent to both iNaturalist and Litterati. The call to action may be a little more individualized as to how can a student’s family help to clean up their surroundings.

Appendix A

Next Generation Science Standards we may address are:

K-LS1-1 FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES

Use observations to describe patterns of what plants and animals (including humans) need to survive.

2-LS4-1 BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY

Make observations of plants and animals to compare the diversity of life in different habitats.

Common Core State Standards for ELA we may address are:

RL 1.2

Retell stories, including key details, and demonstrate understanding of their central message or lesson.

RL 1.9

Compare and contrast the adventures and experiences of characters in stories.

Resources

"7th Generation Principle." Seven Generations International Foundation. Accessed December 08, 2020. <http://7genfoundation.org/7th-generation/>.

Defines and discusses the importance of the seventh-generation principle.

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List of plants known to the Lenape Indians and their traditional uses.

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Kimmerer, Robin Wall. *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*. Minneapolis: Milkweed Books, 2013.

A book that looks at how we can develop a more sustainable world looking through the lens of Native American traditions.

"Learning Center." Nanticoke and Lenape Confederation. Accessed December 07, 2020.

<https://nanticokelenapemuseum.org/news/1380/creation-stories/>.

Information on Lenni-Lenape and Nanticoke tribes.

Messinger, Carla Kanietakeron, Susan Kanietakeron Katz, and David Kanietakeron Fadden. *When the Shadbush Blooms*. New York, NY: Lee and Low Books, 2020. Story that compares life of a modern-day Lenape girl with that of her ancestor.

Moore, Robin. "Grosvenor Teacher Fellowship Storytelling Bootcamp." Lecture, National Geographic, Washington DC, April 4, 2019.
Lecture on Photography by National Geographic photographer Robin Moore.

National Geographic Society. "Citizen Science." National Geographic Society. October 09, 2012. Accessed December 07, 2020.
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What is "Rule of Thirds" and why is it important.

Society, National Geographic. "National Geographic Learning Framework." National Geographic Society. Accessed December 07, 2020.
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H1.title .region-subtitle Span { Display: Block; Line-height: 1.1em; Font-size: 20px; Margin-top: 5px; Margin-left: 0px; } Part of West Philadelphia Before the 20th Century
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"THE WEST - When Dogs Could Talk." PBS. Accessed December 07, 2020.
<https://www.pbs.org/weta/thewest/program/episodes/one/whendogs.htm>.
Creation story about the Big Dipper. and Devil's Tower

Thunder, Chief Quiet. "Chief Quiet Thunder Lecture." Lecture, September 28, 2020.
Lecture on traditions of Lenape Indian Tribe of Delaware.

¹ Robin Moore, "Grosvenor Teacher Fellowship Storytelling Bootcamp" (lecture, National Geographic, Washington DC, April 4, 2019))

² "Rule of Thirds in Photography," Digital Photography School, December 01, 2020, [PAGE], accessed December 07, 2020, <https://digital-photography-school.com/rule-of-thirds/>)

³ <https://www.pbs.org/weta/thewest/program/episodes/one/whendogs.htm>

⁴"Learning Center," Nanticoke and Lenape Confederation, [PAGE], accessed December 07, 2020, <https://nanticokelenapemuseum.org/news/1380/creation-stories/>)

⁵ Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (Minneapolis: Milkweed Books 2013), 3-5

⁶ *ibid*, 205-215

⁷ lectures

⁸ National Geographic Society, "Citizen Science," National Geographic Society, October 09, 2012, [PAGE], accessed December 07, 2020,

<https://www.nationalgeographic.org/encyclopedia/citizen-science/>)

⁹ National Geographic Society, "National Geographic Learning Framework," National Geographic Society, [PAGE], accessed December 07, 2020,

<https://www.nationalgeographic.org/education/about/learning-framework/>)

¹⁰ "The Original People and Their Land: The Lenape, Pre-History to the 18th Century
H1.title .region-subtitle Span { Display: Block; Line-height: 1.1em; Font-size: 20px;
Margin-top: 5px; Margin-left: 0px; } Part of West Philadelphia Before the 20th Century
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¹¹ "7th Generation Principle," Seven Generations International Foundation, accessed December 07, 2020 <http://7genfoundation.org/7th-generation/>)

¹² Jon Cox, *Lenape Plant List with Comments*, PDF