

The Power of Place – How Cities Connect People, Land & Resources

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Abstract

Environmental justice cannot be realized without a deep understanding of the history of a place, the geography of a place, and how the ecosystems function and interact with changing environments in this place.

This unit provides a deep dive into of how and why cities in general – and Philadelphia in specific - have preserved, restored, and created certain green spaces, and ignored others; have polluting factories located in some neighborhoods and not others. These decisions have been shaped by socio-cultural-political forces of race, class, and gender. The solutions to the problems humans face need to acknowledge and address these forces. This unit is an attempt to help student feel prepared to tackle big issues with a grounding in facts, information, skills and partners, and a deep understanding about how much place matters.

Students will gain experience with a range of research tools and communication strategies, and on the ever-present role of racist, classist and gender-based policies and practices that have created current conditions of land use, neighborhood investment/disinvestment. The unit goal is to discover how what we learn from the past; learn from the recent and current work of numerous partners and allies; and what can be done with effort and imagination to open-up new pathways for future conditions which

focus on shared visions of a just and sustainable future. This unit has a particular focus for intensive Career and Technical Education programs in Agriculture, Food and Natural Resources (AFNR), and therefore has far more objectives and activities than most teachers will have time to cover. Each objective is robust enough to be utilized in general and environmental science, history, and humanities classes.

Key Words

Environmental justice, urban agriculture, land use, land tenure, asset-based community development, mapping, story maps, gentrification, red-lining, neighborhood disinvestment, urban gardens, urban watersheds, foodsheds, community gardens, community based economic development, grassroots activism, land policy, urban planning, geography, urban geography.

Content Objectives

Introduction

This unit will both introduce and frame a year long Career and Technical Education program in Urban Agriculture, Food and Natural Resources Management, by grounding the work in the history and structural forces that set the stage for the current state of our environmental and socio-political climate.

Through the course of this unit students will deepen their understanding of the interconnection between race, and class and the current neighborhoods, ecosystems, and environmental health of Philadelphia, to gain perspective on how cities change over time to get to the current conditions “on the ground.” Students will learn about, learn from,

and practice using the tools of geographers, geologists, historians, urban planners, ecologists, ethnographers, and sociologists to explore the agriculture, food and natural resources components of specific *places* within our city in order to evaluate and respond to climate change and environmental justice issues.

Career and Technical Education is often taught in a task-oriented fashion, with lists of skills that students should be exposed to, practice and perhaps even master, depending on the pathway and outline of the program, and daily lessons that cover or practice a skill, followed by assessments or simulations that allow students to demonstrate mastery. Agriculture, Food and Natural Resources Management (AFNR) CTE Courses are an incredibly diverse subset of approved programs -and each individual course or program has a detailed skills and task list outlined and assigned an approved “CIP Code” (Classification of Instruction) which focus on a subset of the many possible skills, lessons, subjects, and career pathways that fall within these broad areas.

The U School is within the School District of Philadelphia’s *Innovation Network*. The U School determined that including a CTE program for high school seniors could be a good fit within this laboratory school, which uses a competency-based model that requires young people to demonstrate their learning through tangible performance tasks and attempts to be transparent in the expectations and to offer students numerous opportunities for independent and self-directed learning. The role of the educator in this process is to facilitate student engagement and to empower young people through challenging and scaffolded learning experiences. Most CTE programs aim to provide

students with opportunities to learn and practice specific skills and tasks, which can be thought of as competencies, which aligns well with the U School education model. In addition, Agriculture CTE programs are supported by some separate state and federal funding which can provide support for staffing, facilities and supplies in order to provide tangible hands-on opportunities for students and directed career exploration and post-secondary pathways. This new Urban Agriculture CTE program is unique within the district (and the state) in that it is a one-year intensive class for high school seniors. Most CTE pathways expect students to spend 1200 hours over 3 years, and a few programs require 750 hours over 2 years. At the U School we have a unique situation where high school seniors who have completed most of their required credits by the end of 11th grade are offered the opportunity to complete a CTE course in one intensive year. The students have an opportunity to engage deeply with current events, pressing and timely issues and ideas, and to work closely with practitioners, experts, and community members who work in a range of food, agriculture, horticulture, technology and natural resources organizations, projects, and programs. Our approved CTE program requires students to be exposed to, learn, practice, and master a wide range of practical skills and tasks that align with green career and post-secondary opportunities, alongside powerful ideas about community activism and changemaking through community-based service learning, paid internships and work-study programming excites students and staff. Our school motto is Love, Dream, Do. Our Agriculture, Food and Natural Resources (AFNR) class of high school seniors have 25 hours a week to learn about and Love nature through

food and gardening, to Dream about what impacts they can make on the future, and to have choices about what work we will Do together towards shared goals.

Problem Statement/Rationale

One of our goals with bringing an Urban Agriculture CTE program to the U School is to give students an opportunity to have intensive exploration of a range of environmental and food systems topics, interest them in sustainability and community engagement with important real-world issues such as climate change, community food security and environmental justice, while exposing them to green collar career pathways and post-secondary options. Another goal was to offer U School students the resources that CTE programs can provide for equipment, supplies, field trips, paid internships and industry connections. These resources allow students to work on exciting project based and problem based experiential learning, gain real world experience, and even earn while they learn.

The CTE model is generally treated as vocational skills training and is often formulaic in curricular offerings - meaning that lists of skills are taught and practiced, rather than offering units of study to explore, inquire about, and reflect on. Around the country, and in the rest of Pennsylvania AFNR CTE programs have historically focused on the sorts of skills and tasks that students, particularly students with rural roots, would utilize in what might be described as traditional agriculture career pathways such as large scale food production and processing, nutrient management on multi-acre farms and multi-state watershed management plans. It is not unusual for a course to include dairy

herd management skills, or industrial food safety and production lessons within an AFNR high school program. Most of the AFNR curricular resources and programs that exist do not center black and brown students (Brown, A. 2018), or practitioners, and ignore the historic and white supremacist underpinnings of much of the policy and current practices that underlie our US food system, natural resource protection priorities and agricultural practices. Somehow AFNR CTE programs have ignored exploring and explaining who first lived, foraged, and farmed in the USA and how the land - and wealth - of current landholders came to be. None of the many dozens of CTE program outlines that I have reviewed have a practice of underscoring the important role urban centers - cities - play in the many interconnected facets of agriculture, food and natural resources. Cities are vital to agriculture, natural resources, and food producers, even if that is not always so obvious. Cities formed around agricultural settlements, and farmers have always relied on city dwellers as key “eater/consumer/monetary” links in the food chain. This CTE program is an opportunity to connect young citizens of cities with more exposure to the natural world, a deeper understanding of how the world works - from an environmental, ecologic, and political perspective.

AFNR at the U School has students who are mostly engaging with these issues from the perspective of “city kids,” whose lived experience is in densely populated urban neighborhoods, rather than rural or suburban areas with yards, fields, and farmland. Our CTE program overall was envisioned to focus on these issues through the lens of the urban landscape -literally and figuratively. This author has taken the approved set of skills and tasks that were approved by the State Department of Agriculture and the

Philadelphia School District's CTE office, and is working to turn them into a series of units which have at their core a goal of exciting and motivating students to feel connected to the natural world, to feel connected to the past, and the future of all the people in the wider world producing food and the people in the world who have and are working actively on community food security, environmental justice, urban farming and gardening. Through a series of interconnected project-based units, hands-on work in a school based urban agriculture and food lab, and through field trips and service learning in the wider world, students will explore and connect, participate in asset-based community development projects and problem and project based learning while meeting their CTE competency benchmarks.

Our AFNR course has units that revolve around understanding and exploring ecosystem connections, interactions between humans and ecosystems, and the role of human behavior on the environment. The current reality is that in cities such as Philadelphia one's status - race, class, gender - determines to a large extent access to green space, nutritious affordable food, clean air, and water. How did that come to be? Why are 10% of Americans food insecure, and why are black and brown people twice as likely to be in that position?

Exploring the issues of how cities have concentrated wealth and poverty, and how these issues manifest in Food, Agriculture and particularly Natural Resources issues is essential to setting up a rationale for students to connect deeply why this work matters. The concept of environmental justice in cities, and specifically the role that race, class and gender plays and has played the varying impacts of pollution, investment,

disinvestment, and food deserts in Philadelphia is the major theme that runs through the yearlong class. These are the issues that also galvanize the many long term and emerging urban agriculture organizations, institutions, and movements, that are and will be AFNR partners and potential mentors, colleagues, partners, and employers of our AFNR students.

Land has been a fundamental requirement for growing food, even with the modern technological advances in controlled indoor agriculture. Inside or out, growing food takes up space, and requires a network of resources to grow, process, store, transport and produce. Land is under our feet, under our homes, under our roads, and is one of the most fundamental natural resources.

I believe that it is imperative for students to make the connections between land and the soil underfoot from a “how it was formed” geologic perspective,- from ice age sediment deposits through the Leni Lenape land use practices, to and through post-industrial migration, immigration, red-lining, zoning and gentrification and the current moment.

Students will have a firm grounding in how we got to today, and be prepared to explore where we are now, before embarking on the rest of a yearlong course which will hopefully culminate in a vision for a future - growing out of the roots of the past - that student will have knowledge and skills to continue to participate in changemaking.

I hope to put into context how and why cities in general - but Philadelphia in specific - have preserved, restored, created certain green spaces, and ignored others - why polluting factories are located in one neighborhood and not others. All these decisions

have all been shaped by cultural forces of race, class and gender, and all of the solutions to the biggest problems we face will need to acknowledge and address these cultural forces. Some of us feel rooted in community, and others of us are less able to be. I want my students to feel prepared to tackle big issues with the grounding in facts, information, skills and partners, and this TIP class is helping prepare me with specific resources, but more importantly with a context of how much place matters. Environmental justice can not be realized without a deep understanding of both the history of a place, the geography of a place, the socio-political contexts, and how ecosystems function and interact with changing environments.

I believe my students will be better motivated to focus on the science of the required CTE competencies, to learn about soil and land (in the context of agriculture and urban greening) if they have the context of history, sociology, and political science to truly understand the role of cities and their citizens in agricultural and natural resources endeavors. Understanding the role of race and class and gender in investments/disinvestments that have created current conditions are essential if we hope to open-up new pathways for future conditions. This unit has far more objectives than many teachers will have time to cover, but each objective is robust enough to be utilized in general and environmental science, history, and humanities classes.

Tip Seminar

In this seminar I introduced to the academic discipline of Geography, and learned that it is, in fact, the frame I was looking for to construct a unit that bridges people, places, and

socio-political influences. In my AFNR class we will now add the question of “where did something happen?” as this invites students to intentionally dig deeper into the *why* a place is functioning in a particular way at a particular time - and highlights that *PLACE* matters. This unit will be exploring the subject of land and resources in cities through the concepts of geography: location, distance, scale, place, and space -and so students will become familiar with the discipline of geography, and its many faceted approach to what Dr. Sanders referred to as “reading the world.”

Our second module explored how cities function as metaphor and inspiration for musicians, authors, filmmakers, and other artists. Integrating art, poetry, literature, and contemporary music into my overall program could help engage my students to see that the work of urban agriculture and environmental justice is not confined to science, but needs the artists as translators, mediators, and advocates. This work will influence me to make plans to coordinate with the English and Humanities team at school to overlap some of these ideas, texts, and project support. I will specifically recommend students in English 4 read the book by Octavia Butler, *Parable of the Sower*, which imagines a future of ecological and societal collapse with an African American protagonist. This text would connect students directly through the art of literature to the interdisciplinary subjects’ students will be studying in their AFNR program. Even without cross-disciplinary coordination, this unit will provide options for students to craft artistic story maps, which can include text, images and use creativity to explain complicated concepts.

Many of the remaining modules were grounded in readings, resources and discussions of race, gender and class/caste and the intersectionality of these issues in the context of city life. These are topics that are at the heart of the entire program I teach, and this unit, and so our seminar class discussions, presentations and materials expanded the resources I can draw on in discussions, and for curated resources for student use.

The resources from our Frameworks for Analysis on Race around Critical Race Theory and Racialized Urban Governance, specifically Rothstein's *Color of Law* chapters about racialized policies in housing such as red-lining, and the presentation by about Urban Renewal in West Philadelphia by Dr. Edward Epstein, were essential to deepening my understanding of both the general issue, but specifically the Philadelphia-centric stories that I was previously unaware surrounding the demolition of The Black Bottom - which happened in my lifetime, but is not in my memory. Some of these resources will be shared with students or made available in the curated list of resources they can draw on for their unit end projects.

Readings in the module on Frameworks for Analysis on Class, particularly *Nickel and Dimed* by Barbara Ehrenreich, and *Caste* by Isabel Wilkerson, are particularly important as sources to help students understand the daunting systemic aspects of breaking out of a social class or caste system - particularly in a society that pushes a false narrative of meritocracy. That these researchers and authors have dedicated years of their lives to detail the intricacies of the working class and the deep racialized stratification inherent in our society means that sharing excerpts of these texts, along with

information about the influence these texts are having may offer students hope that while systemic, and deep, these issues are not intractable - and are not ignored by experts. My unit is not particularly focused on changemakers but will be leading to several units that introduce students to advocates and organization who are influenced by many of the thinkers we learned about in our TIP seminar, and so giving students some exposure to these ideas and resources may plant a seed to prepare them for upcoming opportunities to put what they are learning about into changemaking.

The modules on gentrification and public spaces/commons were particularly relevant to the unit I am writing, and to the course I am teaching in general, as most of the urban agriculture and environmental justice work in Philadelphia has to with the intersection of policy questions around public space, public and private investments, real estate, and infrastructure. There are numerous resources introduced in these modules such as the YouTube video *Gentrification Defined* (link in resources section below) which I will provide to students as an introduction to our lesson on this topic. Students will also learn about the discipline of ethnography, and read excerpts from both Alice Goffman's *On the Run: Fugitive Life in an American City*, and a both a video interview shared in our TIP seminar about Elijah Anderson's work on the topic of the Cosmopolitan Canopy, but also an Atlantic Magazine article about his earlier work *The Code of the Streets*. These sources will help students to understand what the job of an ethnographer is, but also to learn how an academic view some aspects of city life that will be familiar to students through alternative lenses. As we work together during this unit to

explore neighborhoods, and the people with stories to share about these neighborhoods, these experts offer insights into both the city and the tools to explore the city. Elijah Anderson's work references numerous spaces that students may be familiar with and offers language and a way of considering how we move through different spaces in different ways. Given that one of the goals of my unit is for students to explore parts of the city that have ecologic, environmental and economic importance, and that some of these places may be unfamiliar, and may feel unwelcoming, I appreciate the opportunity to use these resources to have discussions about Anderson's concept of *social convergence*, alongside critiques of this work, to elicit *real talk* about how students feel about expectations for code-switching and their own experiences of the places that Anderson and Goffman describes in their books.

This unit will follow a unit called The Power of Connections: Ecology, Energy Transfer and Habitat - and overlap and run concurrently with two units: *The Power of Data- Environmental Justice Investigations: Collecting Information and Mapping of Air, Water & Other Pollutants in Philadelphia* AND *The Power of People- Individuals & Movements: Food, Agriculture & The Environment*.

Teaching Strategies

These teaching strategies employed to engage students in this work might be as important as the content to be covered. Giroux argues that teachers must be transformative intellectuals "using forms of pedagogy that treat students as critical agents; make knowledge problematic; ... and make the case for struggling for a qualitatively better

world for all people.” (Giroux, 2004, p 211). He suggests that teachers need to “give students an active voice in their learning experiences ...not the isolated student, but individuals and groups in their various cultural, class, racial, historical and gender settings, along with the particularity of their diverse problems, hopes and dreams.” (Giroux, 2004, p. 211).

This unit will dig into several issues, that even on the surface are challenging to consider. Students are aware of deep societal inequities, without necessarily having a framework for contextualizing the systemic forces that have created the current status quo. If I can create a classroom environment which introduces tools and strategies for learning and applying knowledge to support student agency, student engagement, and skills of participatory deliberative democracy, and honest reflection in our classroom - then this unit can both help students uncover connections within the wider school community, and within the wider world while simultaneously modeling collaborative change-making even around this challenging topics.

This CTE class meets 25 hours a week, in long blocks of time. This unit will come early in the year, we will be just getting to know each other, establishing group norms, and exploring a variety of habits of mind and strategies for collaboration and collective work. Many of the skills and tasks students are meant to learn throughout the year require regular consistent observations, regular consistent hands-on practice, experimentation, and numerous “in the field” experiences. There is also a long list of *tools of the trade* that students need to gain familiarity and practice with- from actual

tools such as spades and rakes, hand lenses, microscopes, chainsaws, pumps and filters - as well as software, sensors, and mapping and design technology.

In order to create this desired learning environment, I will employ teaching strategies that are a blend of project, problem and place-based learning which can be called

Ecological Learning.

Ecological Learning is defined “as a means to engender among students a sense of affiliation with their home communities and regions, develop problem-solving skills and the ability to collaborate with others, cultivate a sense of responsibility for the natural environment and the people it supports, and instill a recognition of their own capacity to be positive change-makers and leaders. In the traditional approach to learning, teachers view themselves as experts who give and distribute information and knowledge. With an ecosystem perspective, teachers role model interactive learning behaviors. The teacher facilitates learning by sharing skills of how to access resources, information, and knowledge. The role of the teacher in these two models may be viewed at opposite ends of a continuum. The traditional role is very prescribed and set as a lecturer and convey information, while the ecological model requires great flexibility in teaching style and even restraint as the "expert" who distributes information. Thus, the learners are encouraged to seek information on their own. In the ecological model, the teacher's role is multidimensional and requires a repertoire of facilitative teaching behaviors. For teacher and learners, flexibility is an asset, since the learning environment is constantly changing and adapting” (Bristor, West, 1996, p. 212).

The practices of ecological learning align almost all of units within the course I teach, from food growing to urban forests to pollinator habitat rain gardens to social justice movements. Each student exists in her niche, and the whole group functions as an ecosystem of interacting organisms which is more resilient when diverse and cooperative.

A Comparison of the Traditional and Ecological Approach to Learning

Concepts	Traditional Model	Ecosystem Model
Concept of Teaching	Teacher is expert Give/distribute information/knowledge	Teacher is facilitator Models interactive learning Participate to facilitate distribution of information/knowledge
Concept of Learning	Conform/one way to learn/do things the "right" way Learning is competitive Cognitive/intellectual development emphasized Information focused	Many ways to do things Teacher is a role model Learning comes through readiness and participating Total personal development emphasized Life focused Application focused
Concept of Meaning	Comes through being the best Has a narrow focus Is linear Is defined	Comes through participating and cooperating Comes through connections and interactions Is circular/holistic Is constructed
Concept of the Environment	Fixed classroom design Judgmental Embedded in competition or competitive learning Homoeostatic-entropic	Flexible classroom design Supportive Embedded in trust Mutually respectful Dynamic interactions
Methods of Teaching	Pedagogical Lecture format Content is most important Unidirectional	Androgical Broad flexible format Teacher-learner modeling Peer interaction Process is as important as content Bidirectional
Learning Activities	Transmittal techniques-notetaking Assigned tasks/projects Evaluation through formal testing Teacher assessments	Inquiry techniques Independent tasks/projects Cooperative learning Shared application activities Shared feedback

Our class will define and then explore various neighborhoods through this Ecological Learning approach. We will walk, hike, and take a variety of guided field trips - scaffolded with field guide-like content organizers. We will utilize the guiding questions: Where are we? What is here? What do we observe? What does this

signify? Who lived on this land before us? How did they get here, and why aren't they here now? Students will collaborate with each other, with me, and with outside partners, to choose specific (curated) places to investigate, describe and map using the tools of various disciplines with the goal of unearthing the intersecting socio-political, ecological, and historical - i.e. structural influences that have shaped the spaces we inhabit.

Classroom & Field Trip Activities

Objective: Students will learn about the form and function of various maps, and learn to create and adapt maps for explaining, analyzing, and communicating about food, agriculture and environmental issues, and the interconnections between race and class.

Activities:

- *Neighborhood and AFNR Asset Assessments*
- *Putting Ourselves and AFNR On the Map*- map making lessons and practice. Hand drawn, overlays, google “my maps.” Students will each create a hand drawn map of a “space” (TBD) and create both a paper map and a google map of their home neighborhood with AFNR assets (gardens, green spaces, open spaces, water/streams, food stores, playgrounds, safe spaces etc.)

Objective:

Explain How Various Maps of Philadelphia Are Used to Tell Stories (Tree Maps, Urban Heat Island Map, Garden Map, Watershed Map).

Activities:

- Students will add data to maps made in above activities. Data from individual maps will become part base layer of our AFNR class 2021-22 Story Map. Group will determine what should be on the base layer, and what other layers we need.. Group will determine paper vs. google or both. Group will determine/collaborate on Scale, dimension, icons etc.

Objective:

Students will be able to define a variety of disciplines (geographers, geologists, historians, urban planners, ecologists, ethnographers and sociologists) and the tools each might use to explore the agriculture, food and natural resources components of specific **places** within our city.

Activities:

- Historian/Geographer: Tom Sugrue video. Maybe recorded interview with Rickie Sanders? Phila Geo History - layering over three sites - our school, a vacant lot near our school, and a “student choice” address.
- Introduce - Lenni Lenape: <https://nlltribe.com/our-history/>
- <https://indigenous215.net/about/> Native American Story Map-
- [Land Grab U - journalism/history/visual literacy](#)
- Ethnographer: Code of The Streets/Cosmopolitan Canopy -
- Practice multiple methods of studying a “place” - ecological, ethnographic, historical, geographic, economic, anthropology, archeological - Simple story map project with student choice locations and small groups rotating to share perspectives on that site from different disciplines. Assessment - Choose a

site: Create a list of questions and answers from the perspective of a geographer, historian, ecologist, and student choice of other discipline.

Objective:

Students will deepen their understanding of the interconnection between race, class, (&gender) and the current neighborhoods, ecosystems and environmental health of Philadelphia.

Activities:

- Redlining Mapping Intro (history)
- Meet & Learn From Community Activists
- Watch *What is Gentrification* YouTube Video
- Redlining In The Neighborhood Interview Project (ethnography)
- Redlining Map Project Overlay with Current Urban Heat Island & Tree Map
- Environmental Justice Readings
- Interview an older civic/environmental activist on Environmental Justice Topic

Objectives:

Students will be ready to use these developing skills in various real-world projects such as; vacant lot site assessments, grant-writing, testimony to city council, neighborhood eco-restoration plans, proposals for urban greening projects.

Students will have experience using tools to describe, define, aggregate, and present environmental justice issues in our city. These tools include: data and story maps; mental maps (theories and explanations); and mapped connections between places, people and partnerships.

Activities:

- Students will work on their culminating unit project - on their own or in collaboration.

Unit Culminating Student Project Options:

Create A Field Guide specific PLACES in Philadelphia which unearths the story - historic, socio-political, geologic - that explains what it is part of the environmental justice MAP at different times- what is growing? Who lives there? What are ecological conditions? What are socio-political conditions? Rubric will be provided.

Environmental Justice Focused- ABCD (Asset Based Community Development Group MAP-with Key Agriculture, Food & Natural Resources Elements from various time periods - physical map with layers (maybe with contours - streams that are covered, parks, history - stories of a family or community or individual from various eras - and stories -interviews/podcast style - poems, narratives, from the perspective of the animals, the trees (Penn Treaty Elm?, Rock in the Wissahickon, Creek in Pennypack...

Create a Story Map of a significant PLACE to tell the story of this place over time (long geological time or some key time frame TBD) - layer images, videos, audio clips, writings

Create a Timeline of a Significant Place with AFNR components

Create a 3D Model of a Significant Place -with AFNR components

Review this Article [What Does An Ecological Civilization Look Like?](#)

Write Your Own Story to Compare & Contrast (use Review Rubric for Guidance)

Same neighborhood over time

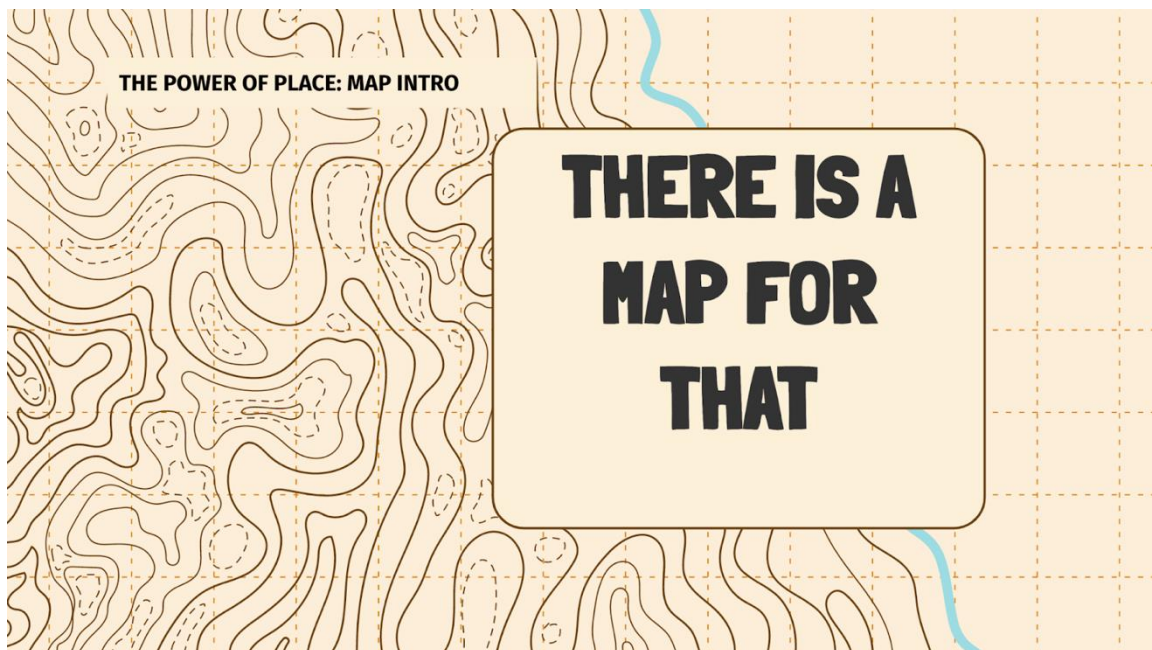
Different neighborhoods over time

Different neighborhoods right now

Lesson Plans and Materials:

The primary material I provide students what I call *Interactive or Digital Notebooks*. I organize and consolidate units into a form that can be taught to both students who attend school regularly, and those who choose to work independently or less regularly. In our school's competency-based model, a student may opt to work independently, in a flexible way. This is done both by organizing assignments, schedule resources in a google classroom - even when we are not teaching virtually - and by providing an interactive digital notebook for each key assignment and trip. These notebooks aggregate curated resources, images, links and assignments for a particular set of lessons in a google slide deck that students are assigned their own copy of (in google classroom) so that they can complete, turn in iterations of their work for comments (using google slides comment tools) until they have completed the work. The work the student adds - images & links to their work, as well as text they add to the notebook, then serves as a repository of resources for later capstone projects.

Click each image for an example of a digital notebook that would be used in this unit – which includes resources and assessments. Underlined text on each slide is a link to a resource, activity or assignment.



In Class Activity Guideposts:

I have noticed over my years of teaching that many high school students need prompting, support and regular practice to generate and formulate questions and to be prepared to engage in lively class discussions. In an effort to cultivate a teaching and culture of questioning I will provide my students with graphic organizers in the form of the aforementioned digital notebooks and paper field notebooks -and provide question starts that come from various sources related to geography, and ecology:

The basic questions I plan to use include:

“where is it?”, “why is it there?” and “what is the consequence of it being there”?

Discussion subtopics and sample questions that would be more lesson specific are included below.

- Location/Place/Scale
 - Where are we right now?
 - How can we tell where we are exactly located?
 - What details matter?
 - How would you describe where we are?
 - What natural resources are here/there?
 - What are the boundaries of “here” - local, neighborhood, city?
 - Who determined these boundaries and when?
- Human / Environment Interaction
 - How are humans using this environment now?
 - How do you know/imagine humans have interacted with this environment over time, and why?
- Movement/Change

- What examples of movement of people do we see -in this place? this neighborhood, your neighborhood, this city, this country, this world?
- How does change affect different aspects of this PLACE?
- Has immigration impacted this place? When? How?
- How do the ways people get around (transportation) impact this place?
- Geo & Bio-regions
 - What geo/bio region are we in?
 - How did this region form - and change (geology)?
 - What regions are nearby that we interconnect with? How?
 - What physical characteristics describe this region? Topography, soil, watershed, rivers etc.

I also plan to rely on [Project Zero: Homepage](#) for ideas and resources in class strategies to generate class dialogue and less “teacher talk.” The two key Project Zero strategies that align with the ecological teaching/place based learning I am trying to cultivate are: ***Circle of Viewpoints*** (Project Zero) This will be used specifically to look at an issue or PLACE from the perspective of different disciplines (see above). Activities include brainstorming lists of different perspectives. Choosing one perspective to explore, using these sentence-starters:

- I am thinking of ... the topic ... from the viewpoint of ... the viewpoint
- I think ... describe the topic from your viewpoint. Be an actor—take on the character of your viewpoint
- A question I have from this viewpoint is ... ask a question from this viewpoint

The other Project Zero tool I will use is called ***Projecting Across Time***. Students will map what you think or already know (mind mapping). What do you know about the topic? Reach back in time. How has the topic played out in different forms / contexts /

places over the last 10 years? The last 100 years? The last 1000 years? Then reach forward in time. How do you think the topic will play out 10 years into the future? 100 years? 1000 years? Map (express in a visual format – such as a timeline or mind map or chart) how your thinking about the topic has changed. How do you view the topic now?

Assessments

Throughout these unit worksheets and interactive notebooks students complete multiple formative assessments and will turn in the interactive notebook through google classroom for teacher comments, feedback and support. Students will also demonstrate understanding of concepts and ideas through participation in group activities and through completion of various “choice projects” that are outlined within the interactive notebooks. During the first week when we are exploring the theoretical frameworks for the project students will complete a daily activity that allows them to practice the analytical skills covered that day. When we transition to the part of the unit that is more focused on independent research students will have to submit regular checkpoints to show their progress several times a week. This will allow me to support and redirect specific students as needed.

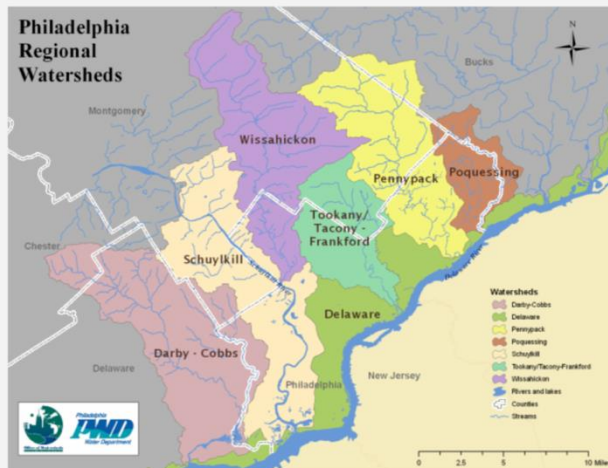
The amalgamation of choice projects will serve as a portfolio for the student at the end of the unit, and each student will present to the whole group what they learned, accomplished and still wonder. Students will have created a range of maps, and overlays on maps, and a gallery walk and presentation to the wider school community and a report back will be part of the end of quarter school-wide town hall. As individuals and small

groups students will dig into some aspects of these interconnected issues. As a whole group we will benefit from the individual contributions to the bigger picture.

Additional Examples of Student Facing Materials

DIG DEEPER INTO WHERE WE ARE -

[complete this more detailed neighborhood assessment](#)



RESOURCES FOR THIS ASSIGNMENT

[Zero Waste initiatives | Office of Sustainability](#)

[Heat Vulnerability Index highlights City hot spots | Department of Public Health](#)

[Find Your Watershed | PhillyWatersheds.org](#)

[PhilaGeoHistory Maps Viewer](#)

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Guided Field Trips: [Field Trip Guided Notes](#) .

[The Power of Place: Logging Community Assets](#)

[Link to Put Yourself on the Map Lesson Plan](#)

[Places in My Story - Google Form](#)

RESOURCES

Resources for Gathering Information & Making Story Maps:

1. Two Esri Story Maps about Redlining in Philadelphia. These story maps use a combination of maps and text to present the issue of redlining – where red lines on actual maps were used to prevent African Americans from getting mortgages, building wealth, which led to many of the underinvested in neighborhoods we have today. This is a story of systemic racism told with maps.

[Philadelphia Redlining Map Story- Policy Mapping](#)

2. Westchester University in Pennsylvania has used an interactive story map to show the sustainability initiative happening throughout campus. Students can scroll or click through to see various vantages of places on campus and their sustainability impacts.

[Story Map - Office of Sustainability](#)

3. A story maps which is trying to point out efforts to ensure equity in Philadelphia's efforts to curb blight. [Philadelphia Curbing Blight - Equity- Justice](#)

4. A Story Map which shows how maps can be used to plan environmentally sound projects: [Green Stormwater Tool using GIS mapping](#)

5. A Website that collected and reported back various community based stories about the environment, community action and history. This is a resources for learning about West Philadelphia, and also an example of how communities can learn about and share about issues that matter to them. [West Philadelphia Collaborative History - Explore by Theme: Green Spaces and the Environment](#)

6. The Coalition for Affordable Communities report and recommendations relating to Land Justice: Land Justice Report from Philadelphia Affordable Communities

7. A Resources for Activities to Create Community Maps from an organization founded by Jane Goodall – the primatologist and environmentalist.

<https://www.rootsandshoots.org/resources/community-mapping-101-2/>

8. from The New York Times: [How to Make an Illustrated Map in 8 Steps \(Published 2020\)](#)

9. WHYY article on what is happening in Philadelphia Urban Farming using Maps
[Philly urban farms mapped by neighborhood](#)
10. From Creek to Sewer – a look at some of the many changing natural resources that occur as cities grow. [Phila Underlying Creeks Maps](#)
11. Project Learning Tree [Mapping Through Time Activity/Resources](#)
12. A beautiful example of a story map using poetry and images to share ideas about place, connections and history. [Living Nations- Native American Story Map](#)
13. This link provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation’s counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information. [NRCS-USDA Web Soil Survey Mapping Tool](#)
14. Extensive Information about the inventory, scope and history of Natural Resource in Philadelphia County.
http://www.naturalheritage.state.pa.us/CNAI_PDFs/Philadelphia_County_NHI_2008_WEB.pdf
15. Maps of the Philadelphia Water & Sewer Shed (these sorts of maps can often be found through local conservation district or watershed stewardship groups) <https://phl-water.maps.arcgis.com/apps/webappviewer/index.html?id=c5d43ba5291441dabbee5573a3f981d2>

Additional Resources for Students & Educators: Urban Agriculture/Environmental Justice/Land/Reparations/Historical Context & More

1. [Philadelphia Land Bank Strategic Plan Draft](#)
2. A short video that explains gentrification in Philadelphia. [Gentrification Defined Video](#)
3. This site has a number of very important resources for exploring the issues and current state of urban gardening and urban agriculture, race, class, land access and land tenure. Look for the Timeline of BIPOC land issues - centered in Philadelphia. Created as part

of the Philadelphia Urban Agriculture Strategic Planning Process [Growing from the Roots - Phila Urban Ag Strategic Plan\(ing process\)](#)

4. The National Black Food Justice Alliance [Black Food Justice - Rationale/Strategy](#)

5. Resource for Various Issues around Land, Land Access and Community Legal Resources [Grounded In Phila - part of Garden Justice Legal Initiative](#)

6. [Soul Fire Farm Reparation Map - black/indigenous farms](#)

7. Article about Reparations vis a vis Land for Black Americans

[Some Historical Context about Land/Equity Issues in Philadelphia](#)

[NY Times - Pollution is Killing Black Americans - Philadelphia](#)

Including Anti-Racist Lens in Work on Philadelphia Urban Agriculture Strategic Plan

9. A short video explaining how the Great Migration of African Americans from Southern States to cities including Philadelphia changed neighborhoods, and the exclusionary white supremacist polices that arose in that era which still impact our city neighborhoods today. [Tom Sugrue excerpt from The Philadelphia Experiment –](#)

10. An article that looks at the history of urban farming from Mesopotmaia through early 1990's. [Urban Farming Isn't New](#)

11. Article About How History Overlooks First Peoples- [specifically Leni Lenape in Philadelphia](#)

12. Various Newsela articles for students: (on-line source of news/article - various reading levels and options for read-alouds and changing literacy levels to meet student's abiltiies/needs/preferences)

[White Flight](#)

[Kerner Commission](#)

[Jim Crow & Great Migration](#)

[Article from Nature.Org about How Nature Matters in Cities](#)

13. The Strategic Plan for Philadelphia has detailed information about every neighborhood. <https://www.phila.gov/programs/the-comprehensive-plan/>

14. PODCAST: [To the Best of Our Knowledge - May 15 2021](#) Stories that include: History of African American Farming and Land -Farming While Black, Black Communities Food and Farming

Resources for Educators

1. Project Zero: A range of useful research-based teaching strategies and routines to implement for a variety of classroom and field trip lessons. <http://www.pz.harvard.edu/>

2. Article about the value of using Asset Based Community Development to increase student engagement and to decrease deficit thinking around community engagement and service learning activities. [School Communities - ABCD](#)

3. [A Story Map about Geography](#) -which is part of a web-site that provides Resources to use GSI to Make Your Own Story Maps.

4. Resource for those wishing to learn more about place based education. [Quick Start](#)

[Guide to Place Based Education Strategies & Practices](#) –

5. Two articles to help frame the idea that urban spaces are not only FULL of nature, but that understanding urban ecology is essential to ecological thinking, teaching & learning.

[Nature.org Article on The Importance of Nature in Cities](#)

[Does Nature Need Cities? Pollinators Reveal a Role for Cities in Wildlife Conservation](#)

6. This comprehensive report about urban forestry in Philadelphia evaluated through and environmental justice lens. Useful definitions and descriptions of terms and strategies for engaging with greening in many urban environments – though Philadelphia-centric. [Environmental Justice Analysis of Tree Philly -Urban Heat Island - and Other Important Topics](#)

7. Here are my ideas to help you plan your own field trips: [Taking Field Trips Suggestions](#)

Appendix:

Competencies from CTE AFNR 1.999

703: Identify local, regional, and global air and water conservation issues and conservation measures being employed in the region.

706: Analyze the ways in which human needs and environmental considerations interrelate.

806. Understand the economic impacts" of the ecosystem services of green spaces and urban forests

1101. Discuss the environmental impacts of agricultural activities on soil, water and aerial systems with an environmental justice lens; paying attention to racism and the effects of poverty.

1003: Understand how natural resources are used in agriculture with a focus on environmental justice.

1102: Discuss the three E's of sustainability (environment, economic & equity) and the importance of each. Understand the relevance in urban v. rural settings.

2101: Determine site planning strategies & functions of blue print reading as related to ag and the food marketing industry.

2103: Explain & practice mapping strategies for food and agriculture site and business analysis

2005: Discuss issues of urban retail "food deserts" and community food security; Discuss alternative retail pathways: CSA, buying clubs, food coops

Social Justice Standards:

- Diversity 8 DI.9-12.8 I respectfully express curiosity about the history and lived experiences of others and exchange ideas and beliefs in an open-minded way.
- Diversity 9 DI.9-12.9 I relate to and build connections with other people by showing them empathy, respect and understanding, regardless of our similarities or differences.

- Diversity 10 DI.9-12.10 I understand that diversity includes the impact of unequal power relations on the development of group identities and cultures.
- Action 20 AC.9-12.20 I will join with diverse people to plan and carry out collective action against exclusion, prejudice and discrimination, and we will be thoughtful and creative in our actions in order to achieve our goals.
- Justice 14 JU.9-12.14 I am aware of the advantages and disadvantages I have in society because of my membership in different identity groups, and I know how this has affected my life.

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