Inquiry Project Design Plan

Teacher/Designer Names: Maria Otero-Martin	
Name of Project: What Mayan, Aztec, and Incan Civilizations can teach us about Responding and Living in Our Environment.	**Grade Level: 5**
Est Launch Date: Mid November 2022	**Est Duration (in weeks): 2**
Disciplines Involved: Social Studies, ELA, Math, Science	
Problem Statement : We are affected unequally by the environment where we live. In order for human settlements to survive in new places, it was always necessary for them to be able to adapt to their environment.	

STAGE 1: DESIRED RESULTS

Big Idea: Peoples Adapt to the Environment

Enduring Understandings:	**Essential Question(s):** (MEANT TO BE SHARED WITH STUDENTS)
• The environment challenges people to find the best possible adaptation for them to live. • These choices are handed down through generations and form a culture/civilization. • What happens if people don't find or chose the best possible adaptations for their housing? •	• How does our response to environmental challenges shape our living conditions?

Established Goals (Standards, Performance Indicators, Learning Goals

Science Standards:
5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

Biology- Trees give shade and can be used to minimize the impact of the sun in an urban environment.
Note to self - What about underground safe areas? For example, the Mesa Verde Cliff Dwellers built into the cliff and rock not only for protection but also for shade.

Social Studies Standards: NYS K-8 Social Studies Framework
5.1 - Early Peoples of the Americas: The first humans in the Western Hemisphere modified their physical environment as well as adapted to their environment. Their interactions with their environment led to various innovations and to the development of

Inquiry Project Design Plan

unique cultures.

5.1 a Various forms of scientific evidence suggest that humans came to North America approximately 25,000 to 14,000 years ago and spread southward to South America.

Students will examine the various theories of the migration routes by which the first humans may have arrived, including the Bering land bridge, using maps and archaeological evidence

5.1 b
Human populations that settled along rivers, in rainforests, along oceans, in deserts, on plains, in mountains, and in cold climates adapted to and made use of the resources and environment around them in developing distinct ways of life.

5.1 Early peoples living together in settlements developed shared cultures with customs, beliefs, values, and languages that give identity to the group. These early peoples also developed patterns of organization and governance to manage their societies.

Students will examine maps that show the variety of different Native American∗ groups located in the Western Hemisphere, noting that there are many different culture groups in many different types of physical, climate, and vegetative regions.

Students will select one Native American culture group from the United States, one from Canada, and one from the Caribbean region and compare and contrast them by examining how each of these groups adapted to and used the environment and its resources to meet their basic needs, and by examining elements of their culture, including customs, beliefs, values, languages, and patterns of organization and governance.

5.2 COMPLEX SOCIETIES AND CIVILIZATIONS: Between 1100 B.C.E. and 1500 C.E, complex societies and civilizations developed in the Western Hemisphere. Although these complex societies and civilizations have certain defining characteristics in common, each is also known for unique cultural achievements and contributions. (Standards: 2, 3; Themes: ID, TCC, GEO, GOV)

5.2a Civilizations share certain common characteristics of religion, job specialization, cities, government, language and writing systems, technology, and social hierarchy.

Students will locate the complex societies and civilizations of the Mayas, Aztecs, and Incas on a map, and students will determine when these societies and civilizations occurred.

Students will investigate the characteristics of the Mayas, Aztecs, and Incas, noting similarities and differences.

5.2b Complex societies and civilizations adapted to and modified their environment to meet the needs of their people.

Students will compare how the Mayas, Aztecs, and Incas adapted to and modified their environment to meet the needs of the people, examining the clothing, farming, shelter, and transportation systems for each.

5.2c Political states can take different forms, such as city-states and empires. A city-state is comprised of a city with a government that controls the surrounding territory, while an empire is a political organization developed when a single, supreme authority conquers other geographic and/or cultural regions beyond its initial settlements.

Inquiry Project Design Plan

Students will compare and contrast political states of the Maya and the Aztec, noting the territories that they controlled, the type of rule each had, and how the ruler attempted to unify the people.

Mathematics Standards:
Students will understand negative numbers in order to interpret CBE dates on a timeline.

Students will be able to compare the size of numbers as they compare population sizes (Aztec, Maya, Inca) with present day population centers (NYC, Yonkers).

Students will apply area, perimeter and volume to create maps, diagrams or structures.

ELA Standards:

Students will speak to inform and present historical information regarding the Aztec, Inca and Mayan civilizations.

Students will use varied points of view in their presentation (spoken, written).

Technology Standards:

NYS Computer Science:
4.Computational Thinking - An algorithm is a sequence of steps designed to accomplish a specific task. Algorithms can be translated into programs, or code, to provide instructions for computing devices. Algorithms are central to programming. Programming is the process of designing and developing code to perform a specific task.

1. Modeling and Simulation - Modeling is the process of representing a system to allow one to observe, understand, or simulate it. Models can be used to simulate real world phenomena that are not easy to observe or reproduce, and often generate simulated data that can further understanding of the system or make predictions.

Social Justice Standards:

12. Students will recognize unfairness on the individual level (e.g., biased speech) and injustice at the institutional or systemic level (e.g., discrimination).

14. Students will recognize that power and privilege influence relationships on interpersonal, intergroup and institutional levels and consider how they have been affected by those dynamics.

16. Students will express empathy when people are excluded or mistreated because of their identities and concern when they themselves experience bias.

Other (Art, SEL, etc):

NA

Inquiry Project Design Plan

Links to Standards/Reference Frameworks: NGSS, NGSS by DCI Nat'l C3 SS Framework, NYS K-8 SS Standards, Common Core, ISTE, Learning for Justice Social Justice Standards, CASEL SEL Framework, NYS CS and Digital Fluency	
Students will know (SWK):	**Students will be able to do (SWBAT):**
Number sense to hundreds of millions. **Understand negative numbers on number line and absolute value.**	**Calculate values on number line from BCE to CE absolute value.** **How to read/apply chronological dating system (BCE/CE) of a timeline.** **Compare/contrast population size (number sense)** **Apply deductive reasoning (top-down reasoning), : Start with a logical premise and base a conclusion from that premise.\ For example: all dogs have ears, Golden Retrievers are dogs, therefore they have ears.** **Apply inductive reasoning: To draw a causal link between a premise and a hypothesis: e.g. - In summer, there are ducks on our pond, therefore, summer will bring ducks to our pond.**

STAGE 2: EVIDENCE & ASSESSMENTS:

Performance Task Narrative:

Goal: *Provide a statement of the task. Establish the goal, problem, challenge, or obstacle in the task.*

You have been learning about the choices that the Mayan, Aztec and Incan peoples made as they created their housing and settlements. How do we link the decision-making process of the Mayan, Aztec and Incan peoples when they created their housing to the way that we create our housing?

What will probably come up is that we have no control over our housing, but if we did, what would we do to make it as beneficial as possible for all people?

Students would be creating a product which demonstrates possibilities in altering their

Inquiry Project Design Plan

environment in order for it to be more beneficial to them and meet their needs.

Role:
Define the role of the students in the task. State the job of the students for the task.

In their groups, students would brainstorm/think/talk about how the housing of these ancient peoples was adequate for their environment and needs. They would then ask the question, is our housing in our present environment, adequate for our needs?

Need to make data-informed decisions.

Moderator/Organizer

Artists

Researchers

Writers

Designers

Architects

Environmental Scientists

Data Analyst

Audience: *Identify the target audience within the context of the scenario.*

Other 5th grade students, some administrators and parents.
Proposal to a housing expert.
Proposal (written) and presentation to the City of Yonkers Planning Board

Situation: *Set the context of the scenario. Define the narrative.*

We have been looking at how the Mayan, Aztec and Incan peoples created their housing and their cities. They had to respond to challenges in their environment such as .....

We are thinking about how we live. Some of the problems of our environment are .....

Product(s): *Clarify what the students will create and why they will create it.*

- Students will create a model of how they have changed an environment to better suit their needs. I see possible models being: how to change our classroom/building to make it more tolerable to the high temperatures we are experiencing (minimizing the obvious use of air-conditioning).
- *Another model could be their neighborhoods, which are mostly heat islands. How could they be modified to bring down the temperature?*

Standards (criteria for success): *Provide students with a clear picture of success. Identify specific standards for success.*

Inquiry Project Design Plan

Proposal *Presentation*
Other Evidence/Assessments: