NGSS – Alignment Chart for Lenapehoking Climate Curriculum

Lesson Name	Description	Next Gen Science Standards Alignment
1. Circle Time	Students recognize the importance of the circles in nature, especially in their ability to enhance communication, connection, and equal voice.	Standard: 3-LS4-4 Biological Evolution: Unity and Diversity **Disciplinary Core Ideas:** LS2.C: Ecosystem Dynamics, Functioning, and Resilience When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary) LS4.D: Biodiversity and Humans Populations live in a variety of habitats and change in those habitats affects the organisms living there. **Crosscutting Concepts** Systems and System Models A system can be described in terms of its components and their interactions.

2. Meaning of Home	Students explore definitions of “home” as a bioregion. We create space for students to share nature and food stories from their home/home countries.	3-ESS2-2 Earth's Systems Obtain and combine information to describe climates in different regions of the world. **Disciplinary Core Ideas:** **ESS2.D: Weather and Climate** Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. **Crosscutting Concepts:** Patterns of change can be used to make predictions.
3. Origin Stories	Students will learn a Lenape Creation Story and then reflect on the origin story of their schoolyard trees and their own lives. Students will create a tree ring autobiography capturing their own origins.	3-ESS2-2 Earth's Systems Obtain and combine information to describe climates in different regions of the world. **Disciplinary Core Ideas:** **ESS2.D: Weather and Climate** Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. **Crosscutting Concepts:** Patterns of change can be used to make predictions.

4. All Relatives on Haki	Students explore local species, the relationships between them, and highlight the wisdom we can learn from the plants and animals on Haki (Earth).	Standard: MS-LS2-5 Ecosystems: Interactions, Energy, and Dynamics **Disciplinary Core Ideas:** **LS4.D: Biodiversity and Humans** • Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. *(secondary)* **ETS1.B: Developing Possible Solutions** There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. *(* **Crosscutting Concepts** **Influence of Science, Engineering, and Technology on Society and the Natural World** • The use of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.
5. What's in a Name? Weedy Reciprocity	Students get curious about how naming and labeling might limit or influence our knowing. What do weeds have to teach us? We use weeds as a complicated example of reciprocity in nature. We examine our modern relationship to herbicides.	Standard: 3-LS4-4 Biological Evolution: Unity and Diversity **Disciplinary Core Ideas:** LS2.C: Ecosystem Dynamics, Functioning, and Resilience

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6. A Grammar of Animacy: To be a verb	Through reflection and movement, students will connect to the species in their garden as "action words", always changing.	Standard: MS-LS2-5 Ecosystems: Interactions, Energy, and Dynamics **Disciplinary Core Ideas:** **LS4.D: Biodiversity and Humans** • Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. *(secondary)* **ETS1.B: Developing Possible Solutions** There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. **Crosscutting Concepts**

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7. Let it Rain!	Students time travel to Mannahatta to explore how the trees, gardens and other green infrastructure in their playgrounds help restore healthier water systems in their city.	Standard: MS-LS2-5 Ecosystems: Interactions, Energy, and Dynamics **Disciplinary Core Ideas:** **LS4.D: Biodiversity and Humans** • Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. *(secondary)* **ETS1.B: Developing Possible Solutions** There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. *(* **Crosscutting Concepts** **Influence of Science, Engineering, and Technology on Society and the Natural World** • The use of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.

8. Public Land: No Borders on Haki	Students will explore and question the idea of land as property and reflect on our shared responsibility to care for the land.	Standard: MS-LS2-5 Ecosystems: Interactions, Energy, and Dynamics **Disciplinary Core Ideas:** **LS4.D: Biodiversity and Humans** • Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. *(secondary)* **ETS1.B: Developing Possible Solutions** There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. *(* **Crosscutting Concepts** **Influence of Science, Engineering, and Technology on Society and the Natural World** • The use of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.
9. Maps: Bear Paths to Broadway Maps	Students investigate the history of Lenapehoking by comparing historical and contemporary maps of the region. They will locate themselves and their schoolyard in the cultural and ecological history of their place.	**4-ESS3-2 Earth and Human Activity** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. **Crosscutting Concepts:** **Cause and Effect**

		Cause and effect relationships are routinely identified, tested, and used to explain change. Engineers improve existing technologies or develop new ones to increase their benefits, to decrease known risks, and to meet societal demands.
10. The Medicines: Healing with Nature	Students will reflect on the ways nature serves their physical and mental health. They'll also learn about a few medicinal Lenapehoking plants: the Staghorn sumac, the Cattail, the Sassafrass Tree, and the humble carrot.	**5-ESS3-1 Earth and Human Activity** **Disciplinary Core Ideas:** **ESS3.C: Human Impacts on Earth Systems** • Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments. **Crosscutting Concepts** **Systems and System Models** • A system can be described in terms of its components and their interactions.
11. Garden Mysteries: Native or Not?	Students solve garden mysteries, using their observation and sleuthing skills to explore the concepts "native", "invasive", or "cultivated" plants and the gray-areas in between.	Standard: MS-LS2-5 Ecosystems: Interactions, Energy, and Dynamics **Disciplinary Core Ideas:** **LS4.D: Biodiversity and Humans** • Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. *(secondary)* **ETS1.B: Developing Possible Solutions** There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. *(* **Crosscutting Concepts**

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12. To Be a Tree in the Singing Woods	Students explore tree identification and other ways of knowing a tree through music, art, and observation.	**2-ESS2-3 Earth's Systems** **Disciplinary Core Ideas:** **ESS2.C: The Roles of Water in Earth's Surface Processes** • Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. **Crosscutting Concepts** **Patterns** • Patterns in the natural world can be observed.
13. Homecoming	Students explore the stories of the climate-change fighting plants and animals returning home to Lenapehoking. We'll highlight oysters, beavers, and Sehsapsing (blue corn).	**5-ESS3-1 Earth and Human Activity** **Disciplinary Core Ideas:** **ESS3.C: Human Impacts on Earth Systems** Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments. **Crosscutting Concepts** **Systems and System Models** A system can be described in terms of its components and their interactions.
