

IGS Curriculum: 5th Grade

Connections to Curriculum Frameworks and MVPS Power Standards: (including, but not limited to)

- Science:
 - PS 5.1 Can identify and explain the structure or function of parts of plants
 - MA ES 4. Explain and give examples of the ways in which soil is formed (the weathering of rock by water and wind and from the decomposition of plant and animal remains).
 - MA ES 5. Recognize and discuss the different properties of soil, including color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants.
 - PS 5.8 Conduct investigations to test predictions, compare results, make reasonable explanations for findings-record & communicate findings using graphs, charts, maps , models written response
 - • LS1.C: Organization for Matter and Energy Flow in Organisms: Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion.
 - • LS1.C: Organization for matter and Energy Flow in Organisms: Plant acquire their material for growth chiefly from air and water
 - • LS2.A: Interdependent Relationships in Ecosystems: The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.
 - • LS2.B: Cycles of Matter and Energy Transfer in Ecosystems: Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment.
 - • 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 environment.

- Social Studies:
 - PS 4 Understand, explain reasons for European exploration of New World
 - PS 5 Name important explorers and their routes, goals, and impact on other cultures
- Spanish/Foreign Language
 - PreK-12 Standard 4: Cultures. Students will demonstrate an understanding of the traditions, perspectives, practices, and products of the culture studied, including human commonalities as reflected in history, literature, and the visual and performing arts.

Connections to IGS Learning Goals:

- Appreciate the farming profession
- Know that everyone can grow food
- Understand the connection between healthy soil, healthy plants and healthy people

Essential Questions:

- What is soil?
- Where does soil come from?
- How does soil form?
- Where does food come from?
- What is food culture?
- How has food culture changed throughout history?

Fall (September – November):

Lessons:

- Soil and compost exploration in the garden
- Soil samples in a jar
- “Apple as the Earth” activity – calculating arable land on Earth
- Plant parts – seed saving
- Colonial Agriculture
 - Exploration and introduction of new crops
- Corn
 - Harvest corn in the school garden
 - Dry out corn
 - Husk, shell, clean corn

Field Trips:

- “Gleaning” at Morning Glory Farm, or other island farms
- “Colonial gardens and medicinal plants” at Native Earth Teaching Farm

Winter (December – March):

Lessons:

- Soil experiments
 - Samples from different areas of the island
 - Planting mediums: sand, clay, silt, compost, water
- Classroom/school compost challenge
 - Measure classroom waste
 - Create small scale compost system
- Exploring corn, and its place in our local and global community
 - Corn investigation in our food system
 - Tortilla Factory

Field Trips:

- “Aquaponics – growing food without soil” @ Thimble Farm Greenhouse

Spring (April – June):

Units/Lessons:

- Photosynthesis in the garden
- Bud to Fruit
 - Fruit/Flower dissection
 - Botany role plays
- Compost information booth
- Introduction to ancient grains
 - Plant grains
 - Tasting
- Plant “New World” garden bed

- Harvest a “Plant Parts” salad

Field Trips:

- “Compost/soil on a farm” @ the Allen Farm or Farm Institute
- “Ancient Grains” @ The FARM Institute – large scale grain production

