Unit 3: Gardening and Growing Your Own Food

Content Area: **Gifted and Talented**
Course(s): **Gifted and Talented**
Time Period: **Week 21**
Length: **10 Weeks**
Status: **Published**

Unit Overview

In this unit, students will apply the knowledge they have gained about healthy eating and the way that various foods thrive in different environments of the world. They plan, plant, and maintain a garden at the school. Students research a variety of plants and gardening methods in order to plan out a successful garden. They investigate the effective use of soil, the plants that thrive in various environments, and the growth cycle of different plants.

Standards

HE.3-4.2.1.4.B.1	Explain how healthy eating provides energy, helps to maintain healthy weight, lowers risk of disease, and keeps body systems functioning effectively.
HE.3-4.2.1.4.B.2	Differentiate between healthy and unhealthy eating practices.
HE.3-4.2.1.4.B.3	Create a healthy meal based on nutritional content, value, calories, and cost.
SCI.3-4.5.1.4.A.1	Demonstrate understanding of the interrelationships among fundamental concepts in the physical, life, and Earth systems sciences.
SCI.3-4.5.1.4.A.3	Use scientific facts, measurements, observations, and patterns in nature to build and critique scientific arguments.
SCI.3-4.5.1.4.B.1	Design and follow simple plans using systematic observations to explore questions and predictions.
SCI.3-4.5.1.4.B.2	Measure, gather, evaluate, and share evidence using tools and technologies.
SCI.3-4.5.1.4.B.3	Formulate explanations from evidence.
SCI.3-4.5.1.4.B.4	Communicate and justify explanations with reasonable and logical arguments.
SCI.3-4.5.3.4.B.1	Identify sources of energy (food) in a variety of settings (farm, zoo, ocean, forest).

Essential Questions

- How does access to fresh produce effect a person's diet?
- Why do different plants thrive in different environments?
- How do you construct a successful garden?

Application of Knowledge and Skills...

Students will know that...

- different plants and vegetables need different environments to grow and thrive.
- some plants take longer to produce crops than others.
- understanding the type of soil and weather patterns of an area can help you maintain your garden.

Students will be able to...

- construct and maintain a garden.
- explain why they selected different crops to put into the garden.
- investigate the growing requirements for different plants and vegetables.
- plan a garden.

Assessments

- Final garden proposal Summative: Personal Project Students present their plans for the garden to the class, including displaying their map, justifications for the various plant choices, and a cost analysis for materials. Students present their projects on a computer or using poster board.
- Graphing the garden Formative: Personal Project Students measure out the size of the available space for gardening. They grid the space in 1ft x 1ft sections and plan where they want pathways and different plants and vegetables.
- How do plants grow? Diagnostic: Self Assessment Pre-assess students' knowledge of gardening by having them brainstorm what it takes to successfully grow plants. Discuss their personal experiences with gardening.
- How much space do you need? Formative: Personal Project Using the information from their plant research and the preliminary garden plans they created, students evaluate whether they allocated enough space for each of their plants. Students interact with classmates to question other plans or to defend their own plans.
- Materials Analysis Formative: Written Report Using their plans for the garden, students create a materials list detailing their needs to make their garden successful, including seeds, fertilizer, tools, etc.
- What do plants need to grow? Formative: Personal Project Assign each student in the class a different plant for which to research the growing requirements. As a class, determine the information that needs to be investigated including the best soil type, planting calendar, growth cycle, etc. Students present their research to the class so every student has an idea of the different plants available when they plan for their garden.

Activities

- Pre-assessment to determine prior knowledge of gardening.
- Brainstorm ideas to research on plants. What information is important?
- Research and present on a plant.
- Discuss how much space different plants need to grow.
- Measure and map out a grid for the garden.
- Consider and justify why each plant was chosen.
- Create a supply list for the garden.
- Present a plan for the garden.
- Ongoing activity: plant and maintain the garden.

Activities to Differentiate Instruction

- Assist students regarding sources for research.
- Provide a graphic organizer for research.
- Allow students to choose their own method for presentation based on their learning styles.

Integrated/Cross-Disciplinary Instruction

- Coordinate with other teachers in the school who may have integrated butterfly or other gardens into their curricula.
- Coordinate with the science teachers to link gardening to decomposition, soil, and the water cycle.

Resources

- Information on starting a garden: http://www.kidsgardening.org/article/getting-youth-garden-started#d
- Food Gardening Guide: http://www.garden.org/foodguide/browse
- Plant Guide: http://www.garden.org/plantguide/
- Gardening how to videos: http://www.garden.org/howtovideos/
- Kids gardening guide: http://www.kidsgardening.org/lesson-and-activity-ideas/term/49

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