

## Container Gardens

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**Overview:** Container gardens allow students to grow plants either in the school or outside, extending the growing season. This method also allows for quick and easy gardens at urban schools. Although this might be a “do-it-yourself” project, a variety of commercial products are also available, including watering systems, containers on wheels, themed seeds, and lesson supports.

**Targeted Grades: K and 3 Possible K-12**

**Standards:** Below are the CCSS connections and CT Social Studies Standards linked to the targeted NGSS standards. There are many other potential connections, based on your grade-level and curricular goals. Check your grade-specific standards for others

NGSS Standard(s)	CT Social Studies Standards
K-ESS2-2 Plants change the environment	<b>GEO K.4.</b> Characteristics of environment & effect on people’s lives
Common Core Math Standard(s)	Common Core ELA Standard(s)
K.CC.1-7 Counting and Cardinality K.MD.1-3 Measurement and Data	<b>SL.K.1-6</b> Speaking and Listening

There are many other potential connections, based on your grade-level and curricular goals. Check your grade-specific standards for others.

**Standards-Based Curricular Connections:** Container gardens may support curricular goals in many ways including, but not limited to, the example below. Container gardens provide an opportunity for students to plant seeds, care for their plants, and enjoy their produce.

- **K-ESS2-2:** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
  - Students can observe their plants grow from seeds to produce and note the method through which plants receive all that they need to thrive (water, air, and sunlight.)
    - Seedlings started indoors can extend the spring growing season before planting in containers. Plants in containers can be moved from outdoors in the fall, into the school in sunny areas, allowing for more school-year observations.

- Students can make observations, count containers, leaves, plants, and fruit, practicing their math skills. (K.CC.1-7)
- Students might compare measurable attributes of the plants and planters. (K.MD.1-3)
- Students can read/ listen to and discuss books about vegetables and gardens (SL.K.1-6)

NGSS Standard(s)	CT Social Studies Standards
3-LS1-1 Models of life stages	<b>GEO 3.8.</b> Characteristics of environment & effect on people’s lives
Common Core Math Standard(s)	Common Core ELA Standard(s)
<b>3.MD.2-4</b> Measurement and Data <b>3.MD.5-7</b> Measuring Area <b>3.MD.6</b> Perimeter	<b>RI.3.7:</b> Using information (drawings of progression of plants) to demonstrate understanding

- **Life Sciences: 3-LS1-1: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. (Changes organisms go through during their life form a pattern.)**
  - Students can conduct an experiment in which several differently vegetables or flowers are planted in their container gardens.
    - Students may document the growth of the different plants according to the four stages: birth, growth, reproduction, and death.
    - Students may make measurements (3.MD.2-4) and graph the size, and growth of seeds/plants/fruit throughout the growing season, and make comparisons between plants of the same and different kinds.
    - Students can use the growing containers to measure area (3.MD.5-7) and make comparisons of area and perimeter (3.MD.6) when containers are moved into different configurations.
    - Students can define the common points between the different plants at each stage to create a model of each stage. (e.g. all seeds have these features, etc.)
    - Students can use informational texts and diagrams (RI.3.7) to understand plant growth stages, and to create their own models.

**Science & Engineering Practices:** Developing and using models, Analyzing and interpreting data, Using mathematics and computational thinking

**Crosscutting Concepts:** Patterns; Scale, proportion and quantity; Structure and function; Stability and change

**Other Potential Connections:** The following list provides a general overview of other possible uses for the **Outdoor Classroom**.

**Social Studies** – Students learn how different plants grow in different environments. They will learn about various climates and the vegetation in those climates, as well as how plants are used in different cultures (GEO K.4) (GEO 3.8)

**Art** – Students can create drawings and paintings of plants and their growth for their models. They may use various art media to create their works of art.

**Engagement and Community Involvement** --Parents, families, and staff may take the garden home for summer care. Produce may be donated to local food pantries.

**Resources for Container Gardens:**

- Earth Box containers <http://www.earthbox.com>
- Grow-ums containers and seed packs <http://www.growums.com/>

An **Earth Box** is a large grow box with a water system. It also has wheels, to allow the box to be moved from the classroom to outdoors. The Academy of Aerospace and Engineering Elementary School has earth boxes in every classroom. Classes plant a variety of seeds and then care for the plants as they grow. Students gather recipes and use the produce that comes from the Earth Box to learn about healthy eating.



Photo by Dr. Jan Frank and Cheryl Reme

WAICS uses Grow-ums boxes and seeds in their classrooms to plant, grow, and harvest produce using a themed Growums garden kit.



Photo by Kathy Johnson and Sarah Dos Santos

*These suggestions are examples only, and may require adaptation. Check your grade-specific standards to determine whether or not the suggestions provided meet your individual curricular needs.*

*For more information, contact [ctgreenleaf@ctgreenschools.org](mailto:ctgreenleaf@ctgreenschools.org)*

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