



## Greenhouse & Garden to Table Programs

Thanks to our partners:



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Columbine Elementary is offering a pilot Greenhouse & Garden to Table collaborative program thanks to our partners at the Grove Foundation and Growing Gardens, generous donations from our school's families and staff, and community partners including Whole Foods Market, Growing Spaces, Maxwell Family Fund, Skycastle, Morningstar Construction, FRS, and more.



- Our goals:**
- 1) Encourage children to seek, grow, prepare & eat nourishing, delicious, sustainably grown food.
  - 2) Empower them to make choices that have a positive influence on their personal health, family, community & environment.
  - 3) Create a more vibrant learning environment.

\*Questions? Please contact Garden & Greenhouse Parent Coordinators: MicahParkin@gmail.com/504-258-1247 or CurryRosato@gmail.com/303-829-9316

## 2014 Programs in the Garden...

**Please note:** These lessons are taught by Columbine teachers with materials and curriculum provided by **Grove Foundation**. **Teachers, please find materials and reserve your time in the garden here by Feb. 15:** [www.growefoundation.org](http://www.growefoundation.org) - User: Columbine. Password: columbine53. Click "Spring Lesson Outline" for lesson overview. Then click "Spring Teacher Signup" to write in your name, grade, date and time. Record volunteers on "Parent Lesson Volunteers" link. Thank you!

### Pre-K

**Spring: Little Pumpkin Seeds** - Involves students in planting seeds for fall pumpkin lessons.  
**Dates for lessons:** May 13-23. **Standard:** 2.1 Living things have characteristics and basic needs. 

**Fall: Exploring Pumpkins** - An investigation of the life cycle and parts of a plant.  
**Dates for lessons:** Sept. 15-26. **Standard:** 2.1 Living things have characteristics and basic needs.

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### Kindergarten

**Spring: Garden Shapes & Maps** - Uses the garden to explore shapes and maps.  
**Dates for lessons:** Apr. 21-May 2. **Standard:** 4.1 Shapes can be described by characteristics and position and created by composing and decomposing.

**Fall: Garden Scientists** - Students use their 5 senses to investigate plants in the garden.  
**Dates for lessons:** Sept. 8-19. **Standard:** 2.1 Organisms can be described and sorted by their physical characteristics.

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### 1st Grade

**Spring: Growing Lettuce** - Plant several varieties of lettuce for the school.  
**Dates for lessons:** Mar. 17-21 or Mar. 31-Apr. 2. **Standard:** 2.1 Offspring have characteristics that are similar to but not exactly like their parents' characteristics. 

**Fall: Seed Saving** - Students investigate the different parts of plants and the physical characteristics of seeds.  
**Dates for lessons:** Sept. 22-Oct. 3. **Standard:** 2.2 An organism is a living thing that has physical characteristics to help it survive.

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### 2nd Grade

**Spring: Local Food Harvesting** - Harvest all lettuce from the garden for a school wide salad day.  
**Dates for lessons:** May 5-16. **Standard:** 3.1 The scarcity of affects the choices of individuals and communities. 

**Fall: Insect Habitats** - Inspection of beneficial and harmful insects and bugs in the garden.  
**Dates for lessons:** Sept. 8-19. **Standard:** 2.1 Organisms depend on their habitat's nonliving parts to satisfy their needs.

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### 3rd Grade

**Spring: Planting for Market** - Plant Warm Season Crops.  
**Dates for lessons:** May 12-23. **Standard:** 4.2 Linear and area measurement are fundamentally different and require different units of measure.

**Fall: Garden to Market** - Harvesting, weighing, pricing and preparing crops for market.  
**Dates for lessons:** Aug. 27-Oct. 3. **Standard:** 3.1 Describe producers and consumers and how goods and services are exchanged.

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### 4th Grade

**Spring: Plants Need Water** - Study of 2 different growing habitats and the importance of water.  
**Dates for lessons:** Apr. 14-25. **Standard:** 2.1 There is interaction and interdependence between and among living and nonliving components of ecosystems. 

**Fall: Garden Nutrition** - Explore plant history and health benefits of vegetables growing in garden.  
**Dates for lessons:** Sept. 2-19. **Standard:** 2.1 Demonstrate the ability to set a goal in order to enhance personal nutrition status.

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### 5th Grade

**Spring: Climate, Weather & Food** - Study of water cycle, greenhouse effect and human impact on climate change.  
**Dates for lessons:** Apr. 2 -May 2. **Standard:** 3.3 Weather conditions change because of the uneven heating of Earth's surface by the Sun's energy. Weather changes are measured by differences in temperature, air pressure, wind and water in the atmosphere and type of precipitation. 

**Fall: Plant vs. Human Structures** - Analyze the relationship between structure and function in living systems.  
**Dates for lessons:** Oct. 14-24. **Standard:** 2.1 All organisms have structures and systems with separate functions.

# 2014 Programs in the Greenhouse...



**Please note:** These free lessons are taught by Growing Gardens' staff educators. **Teachers, please contact Growing Gardens to sign up:** [annie@growinggardens.org](mailto:annie@growinggardens.org)/(303) 443-9952, ext. 2.

**To reserve time in the greenhouse with your class, email:** [MicahParkin@gmail.com](mailto:MicahParkin@gmail.com) for access to our greenhouse calendar.

## Pre-K

**Spring: Plants, Their Basic Needs & Our Senses** - Students experience plants using their senses, and learn about what plants need to live.

**Available: Apr. 30-May 15** for PreK-K. **Standards:** Life Science: 1. Living things have characteristics and basic needs. 2. Living things develop predictable patterns.

**Fall: Plants and Their Edible Parts** - Students taste fresh produce from the greenhouse as they learn about the different parts of the plant. Students create a healthy fresh salad from greens and root crops grown in the greenhouse to enhance their nutrition education.

**Available: Sept. 1-15** for PreK-2. **Standards:** Physical and Personal Wellness: 1. Develop self-management skills and personal hygiene skills to promote healthy habits. Life Science: 1. Living things have characteristics and basic needs. 1. Living things develop predictable patterns.

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## Kindergarten



**Spring: Seeding** - Students learn what plants need in order to grow, and they plant seeds in the greenhouse.

**Available: Mar. 3-14** for K-1. **Standards:** Earth Systems Science: 1. The sun provides heat and light to the earth.

**Fall: All About Seeds** - Students learn about the parts of a seed, the life cycle of a plant, what plants need to grow, and experience different seeds and how they germinate. Students discuss which seeds would be best utilized in the greenhouse and plant seeds to take home and grow.

**Available: Sept. 23-Oct. 7** for grades 1-3. **Standards:** Life Science: 1. Organisms can be described and sorted by their physical characteristics.

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## 1st Grade

**Spring: Transplanting** - Students learn what plants need to grow, plant seedlings in the greenhouse, and transplant seedlings to be used for a school fundraiser.

**Available: Apr. 7-21** for K-1. **Standards:** Life Science: 1. An organism is a living thing that has physical characteristics that helps it survive.

**Fall option 1: Seed Saving** - Students learn about saving seeds for the next growing cycle and practice wet seed saving techniques. Seeds are saved from two types of fruit to plant again in the greenhouse. Students create seed labels with all of the information needed to have a successful seed germination rate.

**Available: Oct. 7-18. Standards:** Life Science: 1. Offspring have characteristics similar but not exactly like their parents' characteristics.

**Fall option 2: A Day in the Life of A Flower** - Students learn about the parts of a flower, pollination and a flower's role in the life cycle of a plant. Utilizing flowers grown in the greenhouse, students explore the relationship of pollinators and plants and discover various methods used for pollination in a greenhouse.

**Available: Oct. 1-11** for grades 1-2. **Standards:** Life Science: 2. An organism is a living thing that has physical characteristics that helps it survive.

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## 2nd Grade



**Spring: Insects: The Good, The Bad & The Ugly in the Greenhouse Environment** - Students learn insect anatomy, what insects' roles are in the environment, and go on a bug hunt in the greenhouse. Students catalog the insects found in the greenhouse and discuss their food, water and shelter source in the greenhouse. Students release beneficial insects or set traps for harmful insects in the greenhouse in order to learn about organic pest management.

**Available: Apr. 21-May 2. Standards:** Life Science: 1. Organisms depend on their habitat's non-living parts to satisfy their needs. 2. Each organism has different structures or behaviors that serve their specific functions.

**Fall: Honeybees, Pollination, and Our Food** - Students learn about the life cycle of the honeybee, pollination, and the honeybees' contribution to plant life and modern agriculture through hands-on interactions with beekeeping equipment. Students will hand pollinate in the greenhouse and explore the role of a pollinator in a closed system.

**Available: Sept. 2-12. Standards:** Life Science: 2. Each organism has different structures or behaviors that serve their specific functions.

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## 3rd Grade

**Spring: Colorado Soils Inside & Out** - Students experience different types of soils found in Colorado and how those soils affect plant growth. Using this knowledge, students amend the soil found in the greenhouse for ideal growing conditions for the plants in this system.

**Available: Feb. 18-Mar. 13** for grades 3-5. **Standards:** Earth Science: 1. Earth's soils can be broken down and/or combined into different materials such as rocks, minerals, rock cycle, formation of soil, and sand - some of which are usable resources for human activity.

**Fall: Gardening for Health** - Students explore the health benefits of eating local, organic produce from their greenhouse. They create fresh snacks from produce growing in the greenhouse and take home recipes to recreate these snacks at home.

**Available: Sept. 2-Oct. 10** for PreK-5. **Standards:** Physical and Personal Wellness: 1. Demonstrate the ability to make and communicate appropriate food choices.

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## 4th Grade



**Spring: Aquaponics** - Utilizing the growing space in the water tank, students investigate the use of aquaponics in growing healthy plants and fish in the Grow Dome. Students investigate nutrient cycling within the system to improve the health of the fish and plants and make recommendations for plant-fish combinations in the aquaponic system.

**Available: Mar. 3-Apr. 11. Standards:** Life Science: 3. Interaction and interdependence between and among living and non-living components of the ecosystem.

**Fall: Sustainability in the Greenhouse: Seasonal Transitions** - Students study the uses of greenhouses in Colorado to extend the growing season. Utilizing this information, students plan the greenhouse planting transitions from spring to summer, summer to fall, fall to winter and winter to spring.

**Available: Oct. 15-Nov. 15** for grades: 3-5. **Standards:** Physical Science: 1. Energy comes in multiple forms such as light, heat, sound, magnetic, and chemical. Life Science: 3. Interaction and interdependence between and among living and non-living components of the ecosystem.

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## 5th Grade



**Spring: Solar Design** - Students learn about using energy from the sun to heat and cool the greenhouse. Students put their solar energy design knowledge into practice by creating solar ovens to cook a nutritious snack harvested from the greenhouse.

**Available: May 5-23** for grades 4-5. **Standards:** Earth Science: 1. Earth and sun provide a diversity of renewable and non-renewable resources. 2. Weather conditions change because of uneven heating of the earth's surface by the sun's energy. Weather changes are measured by differences in temperature, air pressure wind and water in the atmosphere and type of precipitation.

**Fall: Greenhouse Growing Design & Planning** - Students learn organic gardening methods and create a garden design to use the space in the greenhouse efficiently and effectively. Students study needs of various plants and employ organic methods including companion planting, natural pest repellents and intensive gardening methods.

**Available: Oct. 15-Nov. 15** for grades 4-5. **Standards:** Life Science: 1. All organisms have structures and systems with separate functions. Earth Systems Science: 1. Earth and sun provide a diversity of renewable and non-renewable resources. 3. Weather conditions change because of uneven heating of the earth's surface by the sun's energy.