

Grade 4

Arts and Crafts Standards

Activity	South Carolina State Visual and Performing Arts Standard
Create paintings and drawings of garden plants	Standard VA4-1
Paint a class garden mural to hang in the hallway for parents' night	Standard VA4-1
Make a seed mosaic	Standard VA4-1
Create a color wheel collage using pictures from old seed catalogs	Standard VA4-1
Make prints using paint and stamps made from various plant parts	Standard VA4-1
Draw your dream garden	Standard VA4-1
Build clay or tissue paper models of flowers	Standard VA4-1
Use leaves to make crayon rubbings or fossils in clay	Standard VA4-1
Paint a classroom mural using samples of different soils as the medium	Standard VA4-1
Design labels for plants to mark plantings	Standard VA4-1
Design T-shirts for your garden program	Standard VA4-1
Design a logo for your garden	Standard VA4-1
Paint rocks to use as garden borders	Standard VA4-1
Put together a photo essay of the garden	Standard VA4-1
Design and build a garden project: birdhouse, birdbath, birdfeeder, solar oven, garden sculpture, cold frame, weather station, etc	Standard VA4-1

English/Language Arts Standards

Activity	South Carolina Academic Standard for English Language Arts
Keep daily garden journals documenting observations, weather conditions, and classroom activities	Writing Standard 4-4 Writing Standard 4-5
Write, compile, and illustrate a collection of garden poems and stories	Writing Standard 4-4 Writing Standard 4-5
Study and learn how to use seed catalogs	Reading Standard 4-2 Researching Standard 4-6

Write and compile a class gardening book with gardening skills and advice	Writing Standard 4-4 Writing Standard 4-5
Contact and write to a pen pal in another school garden program	Writing Standard 4-4 Writing Standard 4-5
Read the daily newspaper and bring in any articles related to gardening, food, farming, nutrition, hunger, etc.	Reading Standard 4-2 Researching Standard 4-6
Research the growing habits of the school garden plants using the Internet and reference material	Researching Standard 4-6
Write letters to local merchants explaining the school gardening program and asking for donations	Writing Standard 4-4 Writing Standard 4-5
Write thank you notes to volunteers and garden sponsors	Writing Standard 4-4 Writing Standard 4-5
Brainstorm different adjectives to describe each plant in your garden	Writing Standard 4-5
Study a new vocabulary that relates to plants and gardens	Reading Standard 4-3
Publish a class newsletter with student articles about the garden and distribute it to other classrooms and parents	Writing Standard 4-4 Writing Standard 4-5
Write step-by-step instructions for common garden activities	Writing Standard 4-4 Writing Standard 4-5
Follow written instructions to perform a garden task like planting seeds	Reading Standard 4-2
Read books and stories about plants and gardens	Reading Standard 4-1 Reading Standard 4-2
Write a research paper on a favorite plant, including source citations	Writing Standard 4-4 Writing Standard 4-5 Researching Standard 4-6
Prepare and deliver a presentation about the garden for other students, teachers, and parents	Writing Standard 4-4 Writing Standard 4-5
Learn about the origins of scientific plant names	Researching Standard 4-6
Read a garden magazine article highlighting a plant and distinguish between the facts and opinions presented by the writer	Reading Standard 4-2
Research the nutritional value of your favorite garden vegetable and then write a script for a 60 second advertisement designed to get more people to grow and eat it	Writing Standard 4-4 Writing Standard 4-5 Researching Standard 4-6

Health and Nutrition Standards

Activity	South Carolina Academic Standards for Health and Safety Education
Compare the importance of nutrients in the health of humans and plants	Standard N-4.1
Study the nutritional value of the various crops in your garden	Standard N-4.5
Discuss the difference in nutritional value of various plant parts	Standard N-4.1
Grow a salad garden and give students a chance to sample the harvest with a salad party	Standard N-4.5
Invite a grocery store employee to talk to the class about where their products come from	Standard P-4.2
Visit a local farm	Standard P-4.2
Create brochures with information on daily food intake recommendations	Standard N-4.1
Plan a day's menu that includes all components of a balanced diet	Standard N-4.1, N-4.6, N-4.7
Keep food journals that highlight how many fruits and vegetables are eaten and describe any new produce tried	Standard N-4.5, N-4.6
Invite chefs from the community to do cooking demonstrations for students and parents	Standard N-4.8
Invite a registered dietitian to visit classrooms and discuss healthy food choices and healthy preparation methods in connection with MyPyramid.gov	Standard N-4.1, P-4.3, P-4.5, N-4.5, P-4.6, N-4.6
Use MyPyramid.gov to help you choose a healthy diet	Standard N-4.1, P-4.3, P-4.4, N-4.6
Come up with tasty recipes that use lots of fruits and vegetables and little fat or sugar	Standard N-4.5, N-4.7
Compare the nutritional content of different colors of a specific variety of vegetables grown	Standard N-4.1, N-4.7
Identify cultural dishes and their preparation methods	Standard P-4.2
Host an international day and provide samplings of fruits and vegetables from those cultures	Standard P-4.2
Visit a local farmers' market or start a	Standard P-4.2

school farmers' market	
Grow and use fresh herbs to flavor your dishes with natural ingredients and decrease the use of salt in recipes	Standard N-4.5, N-4.7
Create a school announcement promoting fruits and vegetables	Standard P-4.2, P-4.4, N-4.8

Mathematics Standards

Activity	South Carolina Academic Standard for Mathematics
Measure the growth rates of plants and display results on different types of graphs	Measurement Standard 4-5 Data Analysis and Probability Standard 4-6
Make predictions regarding future growth	Algebra Standard 3-3 Data Analysis and Probability Standard 4-6
Use standard and nonstandard units of measurement	Measurement 4-5
Design a sun dial	Mathematical Processes Standard 4-1
Tally cricket chirps to estimate temperature	Mathematical Processes Standard 4-1
Host a bean race	Mathematical Processes Standard 4-1
Plant a number of beans at the base of a trellis and track their growth on a chart	Measurement 4-5 Data Analysis and Probability Standard 4-6
Determine the rate of growth and award the fastest plant a blue ribbon	Algebra Standard 4-3
Using information from seed catalogs, predict dates of germination and maturity	Mathematical Processes Standard 4-1
Plan backward from a desired harvest date to determine when each crop should be planted	Mathematical Processes Standard 4-1
Measure your garden parameters and calculate the area	Geometry Standard 4-4 Measurement Standard 4-5
Use graph paper to make a map to scale of your garden	Mathematical Processes Standard 4-1 Data Analysis and Probability Standard 4-6
Calculate amounts of fertilizer to use per quart and per liter of water	Geometry Standard 4-4 Measurement Standard 4-5
Chart temperatures of the air and soil in your garden in Fahrenheit and centigrad	Measurement Standard 4-5 Data Analysis and Probability Standard 4-6
Determine the weight and volume of	Measurement Standard 4-5

soil mix when wet and dry	
Determine the volume of soil in a rectangular window box	Measurement Standard 4-5
Investigate vegetable prices in a supermarket	Mathematical Processes Standard 4-1
Track the amount of produce harvested in your garden and use the market prices to determine the value of your harvest	Mathematical Processes Standard 4-1 Measurement Standard 4-5
Count the number of seeds planted and the number of seeds that sprout and calculate the germination rate	Mathematical Processes Standard 4-1 Measurement Standard 4-5 Data Analysis and Probability Standard 4-6
Calculate serving sizes of different fruits and vegetables using common cooking supplies	Measurement Standard 4-5
Measure the height of a group of plants and determine the mean, median and mode	Mathematical Processes Standard 4-1 Measurement Standard 4-5
Make a recipe that uses fruits and vegetables from the garden and requires various measuring techniques	Mathematical Processes Standard 4-1 Measurement Standard 4-5

Music/Drama Standards

Activity	South Carolina State Visual and Performing Arts Standards
Make musical instruments from gourds and learn to play them	Standard MG4-1
Create and perform a garden-inspired dance expressing the growth of a seed or the opening of a flower bud	Standard D4-1, Standard D4-2, Standard D4-3, Standard D4-7
Pantomime various gardening tasks (transplanting, fertilizing, sowing seeds, pollinating)	Standard T4-2, Standard T4-6
Learn a collection of songs that relate to food, gardens, and the environment	Standard MG4-1, Standard MG4-6
Listen to the music of composers inspired by nature	Standard MG4-4, Standard MG4-6
Create a skit about food safety	Standard T4-1, Standard T4-6
Using a movie camera with single-frame capability, make a time-lapse film of a plant growing	
Write parodies of well-known songs, turning them into a gardening song	Standard MG4-1, Standard MG4-2, Standard MG4-6

Hold a harvest festival square dance	Standard D4-5
Take a garden-themed piece of children's literature and do readers theater with it	Standard T4-2

Science Standards

Earth Science	
Activity	South Carolina Science Academic Standard
Create a garden weather station. Record daily measurements and compare conditions with plant growth	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2 Weather Standard 4-4
Compare and contrast the properties of different types of soils (density, air space, presence of living organisms, composition, texture, smell, appearance)	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2
Simulate soil erosion in your classroom garden	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2
Observe the difference in soil loss when water is splashed on a tilted, planted pot and on a tilted unplanted pot	Scientific Inquiry Standard 4-1
Study local geology and put together a display of the soil and rock types found in your area	Scientific Inquiry Standard 4-1
Life Science	
Distinguish and describe differences and similarities between living and non-living things	Scientific Inquiry Standard 4-1
Observe the life cycles of plants using fast-growing plants in your classroom	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2
Study the various conditions that different plants need in order to grow	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2
Compare the things people need to the things plants need	Scientific Inquiry Standard 4-1
Create experiments investigating what happens when plants are exposed to different amounts of light, water, space, and nutrients	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2

Investigate the functions of different plant structures (cotyledons, roots, stems, leaves, flowers, fruits and seeds)	Scientific Inquiry Standard 4-1 Organisms and their Environment 4-2
Dissect flowers and seeds and create experiments to investigate how light, heat, and moisture affect germination	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2
Explain to students that some characteristics are inherited and others are caused by the environment	Organisms and their Environment Standard 4-2
Discuss photosynthesis	Organisms and their Environment Standard 4-2 Properties of Light and Energy Standard 4-5
Discuss how plants adapt for survival	Organisms and their Environment Standard 4-2
Research adaptations of seeds for dispersal and adaptations of flowers for attracting pollinators	Organisms and their Environment Standard 4-2
Observe pollinators in the garden	Scientific Inquiry Standard 4-1
Investigate the impact of environmental changes on plants	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2
Study wildlife and insects along with their habitats	Organisms and their Environment Standard 4-2
Investigate food chains and webs	Organisms and their Environment Standard 4-2
Demonstrate how plants are the primary source of energy for all food chains	Organisms and their Environment Standard 4-2
Raise and then release beneficial insects into the garden	Scientific Inquiry Standard 4-1
Physical Science	
Use litmus paper or a test kit to test the pH of different soils. Investigate how plants response to soils with different pH levels	Scientific Inquiry Standard 4-1
Simulate the water cycle in the indoor garden by covering it with a dome of clear plastic	Scientific Inquiry Standard 4-1 Weather Standard 4-4
Cover pots with cellophane of different colors to screen out all but one wavelength of light from plants and observe plant growth	Scientific Inquiry Standard 4-1 Organisms and their Environment Standard 4-2 Properties of Light and Electricity Standard 4-5
Observe how energy changes to matter	Scientific Inquiry Standard 4-1

during photosynthesis	
-----------------------	--

Social Studies Standards

Activity	South Carolina Social Studies Academic Standard
Research and report on cultural or ethnic differences in food consumption and agricultural production	Standard 4-2, Standard 4-3
Research agricultural history and create a timeline of important events	Standard 4-2, Standard 4-5
Research the use of various uses of herbs and spices in different cultures	Standard 4-2
Study the contribution of Native American foods and other cultures' foods to our history and diet and grow samples in the school garden	Standard 4-2
Research and populate the garden with decorations representative of other cultures	Standard 4-2
Discover where classroom plants originated, the impact they've had on our diets, and how today's varieties differ from the original plants	Standard 4-2
Locate the origins of classroom plants on a map and then trace their movement around the world	Standard 4-1, Standard 4-2
Use the Thanksgiving holiday to explore meals throughout history and the different crops grown and harvested at that time of the year	Standard 4-2
As a class, develop garden rules and then vote on them	Standard 4-4

Other fun garden activities:

- Identify the parts of the plant represented by common fruits and vegetables
- Study adaptations of plant parts that make them good food sources
- Sprout various seeds for eating
- Conduct a blindfolded taste test using classroom-grown vegetables and supermarket vegetables
- Experiment with food preservation techniques, such as drying, freezing and canning

- Coordinate a cooking lesson in your school's kitchen using the produce your class has grown
- Ask cafeteria managers to share safe food handling information and provide tours of school kitchens
- Create a classroom or school recipe book that features produce grown in school gardens
- Graph the Vitamin A content in the lighter colored greens and in the darker greens
- Research and compare fruits and vegetables with various origins
- Visit some local farms and interview farmers about choice of crops. Growing practices, marketing and farm history
- Contact, report on or volunteer services at a local food bank, gleaning project, and food cooperative
- Research the history of classroom garden plants
- Complete a site analysis of the school garden and create a garden map noting important features, including a north arrow
- Trace the path of a fruit or vegetable from the field to the table
- Use the classroom garden to complement a study of the influence of climate on food production
- Interview experienced community members, local farmers, or senior citizens about their gardening/farming experiences
- Research and report on how other cultures use and control insects