Introduction

What are gardens? What kinds of gardens are there? Gardens can be any kind of space where plants are cultivated. They are typically human-created outdoor spaces, designed with trees, flowers, and other plants. Some are as large as a city park; some are as small as a window box. They can incorporate both natural and human-made materials. People from cultures and countries all over the world have created gardens as a part of their landscapes for thousands of years. Gardens can have many different uses. Some are made simply for beauty and relaxation, while others are planted primarily to provide food, to build communities, or for environmental benefits, such as rain gardens. Gardens are found in all types of places (urban, suburban, and rural) and in most climates. Hardiness zones refer to geographically defined areas in which certain types of plants are capable of growing. These areas are defined by climatic conditions, including a plant’s ability to withstand the minimum temperatures of the zone. Can you find your hardiness zone using this online map from the United States Department of Agriculture? How do the physical surroundings (climate, soil, geography) affect gardens?

Some of the most well known gardens are public spaces, such as Chicago Gardens, New York City’s Central Park, as well as the Smithsonian Gardens in Washington, DC. These gardens are often designed by landscape architects. Other types of gardens have a more personal identity, created by individuals, families, or groups of people. One such example can be found in the gardens of Beatrix Farrand (1872-1959) at Reef Point, her family’s home in Bar Harbor, Maine. Farrand designed many private gardens in her own unique style, inspired by Chinese, Italian, and other European gardens that she saw while traveling. As you will learn, every garden has a unique story or history behind it.

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The archetypal garden is much more than a botanical display, a work of art: it is a micro-landscape, and when we recognize it as such we begin to acquire that diversity of definitions of the garden that is so necessary if we are to recognize its universal significance.”


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American Garden Story: Design A Garden

**Length of activity:** 90-120 minutes

**Age:** 8-13

**Learning Goals:**

- Consider the history of garden design and develop critical thinking skills as students consider which styles they like or dislike, differences and similarities.
- Learn units of measurement and conversions between measurement systems.
- Develop writing, drawing and critical thinking skills.
- Communicate ideas to others visually and verbally.
- Understand how careers and jobs are connected to learning/education.

**National Education Standards:**

- **Science:** [NS.K-4.4](#) Earth and Space Science; [NS.K-4.6](#) Science in Personal and Social Perspectives.
- **Arts:** [NA-VA.K-4.1](#) Understanding and Applying Media, Techniques, and Processes; [NA-VA.K-4.3](#) Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas; [NA-VA.K-4.5](#) Reflecting Upon and Assessing the Characteristics and Merits of Their Work and the Work of Others; [NA-VA.5-8.6](#) Making Connections Between Visual Arts and Other Disciplines
- **Social Studies:** [NSS-C.5-8.5](#) Roles of the Citizen; [NSS-G.K-12.2](#) Places and Regions; [NSS-G.K-12.5](#) Environment and Society
- **Mathematics:** [NM-MEA.3-5.1](#) Understand Measurable Attributes of Objects and the Units, Systems, and Processes of Measurement
- **Language Arts:** [NL-ENG.K-12.4](#) Communication Skills; [NL-ENG.K-12.11](#) Participating in Society; [NL-ENG.K-12.12](#) Applying Language Skills

**What you’ll need:**

- Pencils or pens
- Colored pencils
- Thematic garden images and questions (attached)
- List of “Garden Terms” to find in the images
- 18 x 24-inch or 8.5 x 11-inch graph paper
- Rulers
- Examples of plan views and perspective views (attached)

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**Vocabulary**

- Client
- Design
- Garden
- Exotic plant
- History
- Landscape architect
- Native plant
- Parterre
- Perspective drawing
- Plan view
- Public space
- Scale drawing
- Rain garden
- Style
- Window box

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Activity:

1. Students should be divided into teams, each to be assigned to one of the following garden themes (e.g. “Gardens of Color”). Have each student choose a garden image and respond to its respective questions. Each response should be titled with the image number and date.

2. Optional as time allows: to introduce students to garden vocabulary, hand out the list of “Garden Terms” and ask students to find them in the images.

3. Have each team present their findings to the class.

4. Have students discuss which gardens they liked the best and why. What different garden themes are there? How do they connect to each other? What themes surprised students the most?

5. Point out how garden designs can vary depending on what time period the garden was created in, what it is used for, and who designed it. Also explain that gardens can be constructed from different materials, types of plants, and features (urns, statues, pathways, etc.).

6. Have students fill out the “Getting Started: Designing Your Garden” and “Telling Your Garden Story” sheets (attached) to begin their thinking and creative inquiry, which can be turned into an essay and/or presentation when the assignment is complete. Alternative option: Using the “Designing Your Garden” and “Telling Your Garden History” sheets, have students play the roles of client and landscape architect. Students should use their responses to design a garden that meets their client’s needs.

7. Have students look through magazines and newspapers and clip out garden pictures that appeal to them.

8. Explain the difference between a plan view and a perspective view using the attached sheets.

9. Handout graph paper to students. Have them translate their sketches to a scale drawing. Explain that students should also include contextual elements, e.g. surrounding buildings, streets, etc. Show students examples of plan views/maps (attached). Use plant templates available online or from arts and craft stores. To learn more about how to draw using perspective, see this activity.

10. Once their garden design is complete, have students present their stories to the class.

*Now that you’ve seen our gardens, we want to see yours! Expand upon this activity by learning about gardens, nature, and the environment where you live. See activities titled Searching for Inspiration and Gardens and Communities: Through the Lens. Available at www.gardens.si.edu
Garden Terms

Below are some common design elements and objects found in many gardens. Can you find any of these things in the garden images? How many of them can you find? What would you add to the list? Find or create definitions for your garden elements.

1. **Allée**: A French word that refers to a straight walk in a garden, lined by trees or hedges. The path is usually gravel, sand, or grass.
2. **Bench**: A comfortable place to sit and enjoy the garden!
3. **Birdbath**: A bowl-shaped sculpture with shallow water intended to attract birds.
4. **Courtyard garden**: A garden with surrounding walls or buildings.
5. **Fence**: A barrier designed to enclose or divide an area, often to keep animals out.
6. **Fountain**: A water feature using jets or streams, often with sculptural elements.
7. **Gate**: A piece of fence on hinges used to enter and exit a garden.
8. **Gazebo**: A small garden pavilion used as a place for people to gather and look at the garden.
9. **Hedge**: A line of tightly growing shrubs or trees, usually grown and trimmed to create a border between spaces.
10. **Mural**: A two-dimensional artwork, often painted on the side of a building.
11. **Parterre**: A French word meaning “on the ground,” it refers to symmetrical arrangements of flower beds in different shapes and sizes. For this reason, a parterre is often meant to be viewed from above.
12. **Patio**: A space, usually paved, within a garden used for sitting, dining, relaxing, etc.
13. **Planter**: A raised space for growing plants above ground level.
14. **Pond**: A body of water, smaller than a lake, often human-created.
15. **Rock garden**: A garden where plants are grown amongst rocks.
16. **Roof garden**: A garden grown on top of a building.
17. **Sculpture**: A three-dimensional artwork.
18. **Topiary**: The cutting and shaping of trees or hedges into various forms, often in geometrical shapes or to represent animals or other objects.
19. **Urn**: A large, decorative vase or pot, often used to display plants.
20. **Window Box**: A type of planter or mini-garden hung outside of windows to provide added decoration to a house or other building.
Section One:
Gardens of Color
“There is an austere elegance about a green garden; pink or yellow or red are frivolous except as accents, but the garden that appeals to the romantic, universal soul is the blue garden. That is why the Blue Garden of Mr. and Mrs. Arthur Curtiss James was the ultimate goal of so many Newport Pilgrims” (source: Smithsonian Gardens, Archives of American Gardens. Beacon Hill general note).

1. How many different shades of blue can you find in this photograph? Repetition is an important element in garden design. What elements repeat the color blue? How does the color make you feel?

2. What color flowers would you choose for your garden? Why?

3. *Do some research:* use the Internet or your local library to answer the following questions: What other famous blue gardens can you find? Does the color blue have symbolic significance? What insects are drawn to the color blue?

4. *Did you know?* Images, such as the glass lantern slide above, were originally in black in white. An artist used paint to provide color. Often, the colors used were not found in nature, but were usually appealing. Go online and see how many true blue flowers you can find.
When gardeners and landscape architects designed this garden, one of their goals was to attract butterflies to the area. They chose specific plants and flowers that butterflies are attracted to. This also created a space that is bright, colorful, and appeals to the human senses of sight and smell.

1. How many different colors can you find in this garden? How do the colors make you feel?

2. If you were designing a garden, would you want to attract insects and other animals? Why or why not? What else besides color would attract animals? Insects?

3. Draw a picture of your ideal flower. What color would it be? Why did you select the color? What types of animals or insects would be attracted to your flower?
Section Two:
Formal Gardens
Many formal gardens are designed by placing plants in arrangements of geometric shapes to create patterns. The Haupt Garden, located at the Smithsonian Institution in Washington, DC is a contemporary recreation of a Victorian-era garden, popular in the late nineteenth century (over 100 years ago!). This style conveys Victorian ideas of beauty in nature – luxurious, colorful, and refined. Did you know that this garden is actually a **roof top garden**? There’s a building underneath it! The soil depth here is barely two feet.

1. What is your definition of beauty in nature? Is it different from or similar to the Victorians’ definition? Why or why not?

2. Ask a family member or friend to tell you what they think defines a beautiful garden and why.

3. If you asked a student living in a different neighborhood, country, or culture, do you think they would have a similar or different answer?

4. **Do some research:** Find pictures of gardens from all over the world and look for similarities and differences. Why do you think they look so different? Consider the impact of climate in certain regions.

Formal gardens usually contain trimmed hedges, rectangular pathways, and sculptures.

1. What shapes can you find in the garden above? What objects are in the garden?

2. What kinds of shapes would you use to create a formal garden? How would you use them? Where would you place each shape in a garden design?

3. Many formal gardens, such as this one, feature bilateral symmetry – meaning it is the same on the right and left sides. Try drawing a line down the middle of the picture. Are the left and right sides exactly the same in this garden? Look carefully!

4. The opposite of bilateral symmetry is asymmetrical symmetry. What is the difference between the two styles? Do you like bilateral or asymmetrical symmetry better? Why?
Section Three: Gardens for Communities
Community gardens are created, cared for, and used by multiple people. They are gardens intended to benefit groups of people who live nearby. The garden in the photograph above was created in 1984 by residents at a nearby condominium development. Rather than just planting grass, this community created a space in which to gather and enjoy the outdoors.

1. If you were creating a garden for someone, who would it be for? Why?

2. Gardens are one place communities often gather. What are some other places where you can find groups of people? What types of communities are you a part of?

3. How would you get a group of people to help make a garden? How would the group agree on the type of garden to create, what to plant, and how to maintain the garden?

4. *Do some research:* Is there a community garden near your school, home or neighborhood? Who governs it? How do they decide who works in the garden? Do they have results to tell people what they can or cannot plant? Why do you think they have rules?
In the early twentieth century (1900-1950), urban parks were places where people could gather, stroll, look at nature, people watch, and have picnics.

1. When was the last time you visited a park? What did you do when you were there? Were there other people at the park? What were they doing?

2. What do we do in parks today that people might not have done 100 years ago? What are some things we do that are the same?

3. *Do some research:* Locate a park in your neighborhood, city or town. Then go to your local library to find out the history of this park.

4. If you were asked to create a new park, where would you put it? Why would you want it there? What would people do at your park?
Once a vacant lot, Jones Valley Urban Farm is now the centerpiece of this neighborhood in Birmingham, Alabama. The structure in the photograph above is a place for nearby residents to gather for conversation and share information about the garden and community.

1. Are there meeting places in your community?

2. How do meeting places – places to gather and share friendships, ideas, conversation, advice, food, etc. - help a community?

3. Where would you create a meeting place? What would you want in the meeting place to make it comfortable for other people? How would you keep your meeting place clean and safe?

These gardeners are taking a well-earned rest to enjoy their community garden after a day of hard work. Many gardens are used as places to gather with friends, have a conversation, and relax.

1. Does your town have a community garden? If so, what do people do there?

2. In what ways do you think activities occurring in this garden are different from those in the photograph of Reservoir Park? In what ways are they similar?

3. What would you do in your community garden? Would you go to socialize with friends, relax, or both?

4. To learn more about how to start a community garden, visit www.communitygarden.org. Make a list of the different types of community gardens registered here. What type of garden would look best and be enjoyed by the people in your neighborhood? Why?
At Glenwood Green Acres, residents transformed a former industrial site (notice the old warehouse in the background) into a useful space for the community to grow food and beautify the neighborhood. Now, residents have a space where they can gather and meet one another, in addition to growing food.

1. How might this garden be a good thing for the community?

2. What would be some of the challenges or obstacles faced when turning an empty lot into a garden?

3. *Do some research:* Pretend you are a resident of a city without a garden or park. How would you convince officials in your city that public gardens are a good thing to have? Try drafting a letter to your mayor urging for a garden or park in your neighborhood. What evidence would you use to support creating a new park?
Section Four: Gardens for Relaxation
Many people enjoy gardens and the outdoors for relaxation. At this garden, an outdoor “room” was created that blends into the nearby woods and provides visitors with a location for peaceful contemplation amidst nature.

1. This garden is described above as an outdoor “room.” Why do you think someone chose to describe it this way? What are the similarities between an outdoor room and an indoor room? What are the dissimilarities?

2. Where do you go to relax? What makes it relaxing?

3. Can you find the fish in the pond? What other creatures might like this pond? Why would you put a pond in a garden?

4. What would you do in this garden? Imagine you are there. Describe what it would be like. What do you smell? What do you see? What do you hear? How do you feel?
Some people find the sound of flowing water to be soothing and relaxing. For this reason, many gardens have fountains in them.

1. What are some other reasons a garden might have a fountain?

2. What other types of water features may be located in gardens?

3. In what type of climate is this garden located? What in this photograph leads you to believe this?

4. Do some research: what parts of the United States have abundant water supplies? Where in the United States is water supply a concern?
Section Five: Gardens for Food
Vegetable gardens are often found in backyards. People may grow food for their families and neighbors, or to sell at a local farmer’s market. Flowers, such as marigolds, are often planted in vegetable gardens as “companion plants” to draw in insects that are beneficial.

1. Does someone you know have a vegetable garden? What do they grow? Do they have problems with insects and animals eating their vegetables? If so, what do they do to deter these pests?

2. Have you ever been to a farmer’s market? What kinds of things were sold there? Do they offer organic products? What does organic mean?

3. On your next trip to the farmer’s market, interview a farmer or gardener that grows produce organically and conventionally. What are the differences and similarities?
Since the development of agriculture, humans have become skillful at grouping plants into “communities.” For example, American Indians invented the practice of growing corn, beans and squash together. European settlers learned this practice from Native peoples. Each plant is a “companion” or “sister” to the other because of the benefits they provide for the land, for human diets, and for each other. Beans produce nitrogen in the soil to feed the corn and squash. Corn provides a sturdy stalk for the beans to climb. Squash plants provide ground cover to keep down weeds and keep the ground moist.

1. Have you ever tried corn, beans or squash? Which of these three is your favorite?

2. In what ways do you think plant communities differ from human communities? How are they similar?

3. Do some research: What other plants grow well together? Why?
Once a dumping ground and truck storage facility, this site was transformed into plots for children’s gardens in 1902 by Fannie Griscom Parsons. In the early twentieth century, gardening was viewed as a wholesome, healthy and morally uplifting activity for urban youth, particularly immigrants to the United States. These types of gardens were used to grow vegetables for food and also provide a place for children to learn about nature through experience.

1. Why would people think gardening is a healthy activity?
2. What was happening in America in 1909? Would you have wanted to work in a garden like this back then?
3. What kind of clothes would you wear while working in a vegetable garden in 1909? How would that compare to clothes worn today?
4. What types of tools would you use to take care of a vegetable garden?
5. One season butter beans, peas, radishes, turnips, lettuce, corn, and buckwheat were grown in this garden. What vegetables would you grow? Do some research: What is buckwheat? Why would it be grown?
6. What is a healthy activity that you do? After you finish working on a physical project, how do you feel?

Vegetable gardens require a lot of labor. This gardener is transplanting seedlings from another location.

1. List the steps required to plant a vegetable garden. What would you plant or do to your garden in spring, summer, fall and winter? Draw a chart and list the plants according to season.

2. Create a chart that lists vegetables according to the season they are harvested. How long did it take from planting time to harvesting time?

3. Which season would require the least amount of work? The most? What are the jobs you would do on a monthly schedule?

4. Which season is your favorite? Is the vegetable you enjoy the most grown during this season?

5. Do some research: In your area, what is last frost date in the spring and first in the fall? How would the frost dates affect your schedule?

6. Do you have a favorite vegetable? In what area of the world did it originate? Find a recipe that uses this vegetable and use it to cook with your family!
Section Six:
Gardens for Art
Gardens are places where art and nature intertwine. For centuries, gardens have been places to display many types of artworks. Sculptures, such as the one in the photograph above, are often a favorite object for display in gardens.

1. Why do you think this sculpture of a caterpillar by artist Robert Breeden was chosen for this butterfly garden?

2. What kind of garden sculptures can you find around your neighborhood?

3. What kind of garden sculpture would you put in a garden? Why? What materials could you use to create the sculpture?

“Las Parcelas” is a Spanish term that refers to the unique combination of more than forty attractive plots, or parcels, at this community garden. It is located in a neighborhood where many of the residents are of Puerto Rican heritage. The garden beds contain vegetables, flowers, and herbs, but this garden is also home to a colorful mural you can see in the background. Gardens are often a home to outdoor artworks in addition to plants. This mural represents leaders of the community passing on cultural traditions to the younger generation.

1. If you were creating a mural, what kind of images would you include? Why?

2. Sketch a mural to put in your garden.

3. What special conditions does an artist creating an outdoor mural have to consider?

4. Interview an artist. What kinds of artworks do they make? Are any of them created to be outdoors?
Sometimes, the plants themselves become works of art. In the photograph above, gardeners created “Eleanor Elephant” from the plant called “bitter orange” (*Citrus aurantium*). Sculptures created by shaping trees and plants are called **topiaries**. Some are created simply using geometric shapes. Others are made to look like animals or sometimes human figures.

1. What kind of topiary would you create? Make a sketch of it in your journal.

2. How would you shape a plant into a circle like the elephant head? What tools would you need to create a topiary?

3. *Do some research:* Make a list of the different types of topiaries you find on the Internet. What kinds of plants are used for topiaries? Would some plants be easier than others to use?
Section Seven:
Gardens and Cities
In big cities like New York City, many people live in apartment buildings. Some are fortunate enough to have a small space in which to grow a garden, often located on the roof or balconies of the buildings. These gardens usually require planters and pots since they are not grown directly on ground soil.

1. How is this urban garden different from the one pictured on the postcard on the next page? Make a chart to compare and contrast the elements.

2. Who do you think uses it? How do you think they water the plants?

3. What problems or special considerations would a rooftop gardener have to consider?
This garden, seen in this image from a postcard, was created in the early twentieth century (1900-1950). During this time, cities in the United States were rapidly expanding with buildings and industry. Public parks and gardens were often built in cities to make them more enjoyable places to live. These parks were often used by people to escape from the buildings, industry, and busy life of cities.

1. Why do you think gardens were thought of as places to escape? From what were people during this period trying to get away? Do we still use gardens and parks as places to retreat today?

2. Is there a park like this where you live? If so, how is it similar or different? Who visits it?

3. Do you think cities still benefit from parks today?

4. Send us a postcard of a park or garden near you! Take a picture of a garden or park where you live and share it with us on our Flickr page (find it on www.gardens.si.edu) or by mail:

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www.gardens.si.edu
Getting Started: Designing Your Garden

Now that you have learned about different types of gardens and how they are used, it is time to design your own special garden!

1. Where will your garden be located? Some places you might consider: your backyard, a vacant lot, near your school, in a park, on a rooftop, etc.

2. Who will your garden be for? Things to consider: will it be your personal garden? A garden for a family member(s)? For your school? For pleasure? For your neighbors? For adults? For children?

3. Thinking about your response to question number 2, what kind of garden will you create? Will it be formal, with straight lines and paths, or will it have curves? Will you provide places for people to relax, eat, or play games? What themes will your garden incorporate?

4. What kinds of plants will you include in your garden? Will they be primarily for beauty or for food? Will they be native or exotic plants? Will your garden need plants that grow in the sun or shade? Moist soil or dry soil?

5. What other elements will be in your garden? Statues? Urns? Sculptures? Benches? Water features?
Telling Your Garden Story

After you have designed your garden, think about and respond to the following questions:

1. Imagine that a person fifty years from now has just found the plans for the garden you designed. What would you want this person to know about the garden and your reasons for creating it?

2. What location did you choose? Is the location important to your garden’s story? Why or why not?

3. Describe your garden’s design. Why does it look the way it does, according to you? (Remember, you are the expert on your garden!)

4. What kinds of plants or trees did you choose? How are they important to your garden?

5. What other elements did you choose to include in your garden? Why are they important to your garden’s story?
Plan View

To create designs, architects and landscape architects use two different methods of drawing: plan and perspective. A plan view or “bird’s eye” view is drawn as if you are looking down on the space directly from above. It is used to define the shape and size of a garden, as well as the overall arrangement of plants and other garden elements in relation to one another. The image below is one example of a plan view. Can you identify the different elements (such as trees, buildings, and walls) in this bird’s eye view?

Perspective View

In contrast, a **perspective view** is drawn using techniques that make it seem as if you are experiencing the space in three dimensions and gives impressions of the garden from particular views. How is the drawing below different from the one above?


Plan View and Perspective View

Do you see the difference? Which photograph is a plan view, and which is a perspective view? Which photograph is more helpful in understanding how the garden is designed?

Left: Blank Garden. Atlanta, Georgia. Carol Christensen, photographer. Garden Club of America Collection, Archives of American Gardens, Smithsonian Institution.