

The Extraordinary Gardener

Toolkit Activities

This toolkit is designed for use by teachers / librarians / after-school advisors / parents to enhance learning moments with children aged 4-8.

The Longwood Gardens Community Read is designed to encourage reading for pleasure and start a conversation. Focusing on literature about gardens, plants, and the natural world, we feature an exceptional book annually (paired with similarly themed younger readers' book) through a variety of programs, discussions, and lectures across all community partner organizations.

For more information about the Community Read, go to longwoodgardens.org/community-read.

The Extraordinary Gardener

By Sam Boughton



Overview / Synopsis

Joe is a boy just like any other, but with a bigger imagination. Joe lives in an ordinary apartment building in a rather ordinary city. His world is rather gray. But he spends his time imagining a wonderful, colorful world filled with exotic plants and unusual animals. One day, Joe decides to plant a seed on his balcony. He waits and waits, but nothing happens! Joe gives up and returns to his daily life, but when he least expects it, he sees that the seed has taken root and turned into the most beautiful tree.

Activities

- Window Gardening
- Garden Diorama
- Creating A Seed Library

Extend the Story

- Plant Life Cycle Activities
- Egg Carton Seed Trays
- Decorate Flower Pots
- Garden Songs and Videos

This toolkit was developed by the Longwood Gardens School and Youth team.



Activities Meet the Following Next Generation Science Standards:

2-LS4-1 Biological Evolution

Make observations of plants and animals to compare the diversity of life in different habitats.

K-ESS3-1 Earth and Human Activity

Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

Activities meet the following Common Core State Standards:

CCSS.ELA-Literacy.RL.K.10

Actively engage in group reading activities with purpose and understanding.

Activities meet the following PA STEELS Standards:

3.1.K.A

Use observations to describe patterns of what plants and animals (including humans) need to survive.

3.1.5.A

Support an argument that plants get the materials they need for growth chiefly from air and water.

3.1.2.A

Plan and conduct an investigation to determine if plants need sunlight and water to grow.



Window Gardening

Materials Needed

- Clear glass cups or plastic cups
- Cutting board
- 1 copy of Growth Tracker per student
- Knife
- Toothpicks
- Vegetables (Romaine Lettuce, Celery, Carrots, Garlic, Potatoes)
- Water
- Optional: Fruits, seeds, soil, pots

Directions

- Ask children to choose a vegetable to regrow or assign them a vegetable.
- Ask children to follow the directions based upon the vegetable they are working with.
- After children have completed setting up their vegetable to regrow, ask them to watch their vegetable daily and record any changes on their growth tracker.
- Have children make predictions on which vegetable regenerates the fastest, grows in the soil the quickest, etc.
- Children can also conduct further experiments by collecting seeds from various fruits (avocados, kiwis, apples, oranges, strawberries, etc.). After drying the seeds, the seeds can be planted in the soil to see which seeds grow.



Romaine Lettuce

- Place a head of romaine lettuce on a cutting board.
 - With the help of an adult, cut the lettuce about 3 inches from the base. Wash the leaves and create a tasty salad snack.
 - Take the cut lettuce base and place it in a clear cup.
 - Add about 2 inches of water to the cup.
 - Place the cup in a sunny window.
 - In a few days, new leaves of lettuce should start growing from the base.
 - Every few days, refresh the water in the cup.
 - Once the leaves are large enough, the romaine lettuce base can be planted in soil if desired.
- Leaves should be above the soil. Pick the new leaves and enjoy another salad!



Celery

- Place the celery on a cutting board.
- With the help of an adult, cut all the stalks from the celery.
- Take the cut base and place it in a clear cup.
- Add about 2 inches of water to the cup.
- Place the cup in a sunny window.
- In a few days, new leaves should start growing from the base. The leaves will thicken over time.
- Every few days, refresh the water in the cup.



- Once the leaves are large enough, the celery base can be planted in soil if desired. Leaves should be above the soil.

Carrots (or Turnips, Beets, Radishes, Parsnips, Green Onions, or Scallions)

- Place the carrot on a cutting board.
- With the help of an adult, cut the carrot about 1 inch from the base.
- Take the cut base and place it in a clear cup.
- Add water to cover half of the carrot base.
- Place the cup in a sunny window.
- Every few days, refresh the water in the cup.
- Once the leaves are growing, the carrot base can be planted in soil if desired. Leaves should be above the soil. The leaves of the plant are edible and can be used in a salad.



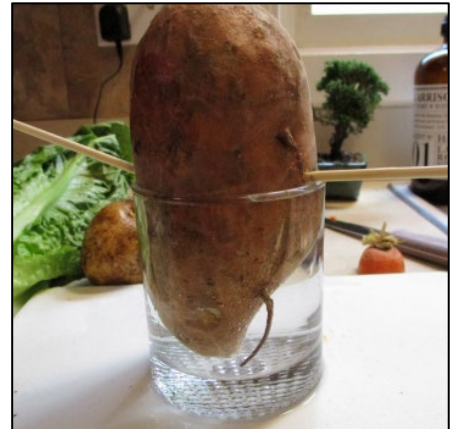
Garlic

- Take 1 clove of garlic from the bulb.
- Place the clove in a clear cup.
- Add just enough water to cover the base of the clove.
- Place the cup in a sunny window.
- Every few days, refresh the water in the cup.
- Once the sprout is growing, the garlic can be planted in soil if desired. The sprout should be above the soil.



Potatoes (or Sweet Potatoes)

- Find a potato that has eyes or small growths on the skin.
- Carefully place 3 toothpicks about 2 inches down from the top of the potato, spaced evenly apart around the potato.
- Place the potato in a glass cup with the larger end down. The toothpicks should hold the potato in place.
- Add water to the glass making sure the eyes or small growths of the potato are in the water.
- Place the cup in a sunny window.
- Every few days, refresh the water in the cup.
- Once enough roots are observed, the potato can be planted in soil if desired. The potato and roots should be fully covered with soil.



Fruits and Seeds

- Remove the seeds from the fruit.
- Let the seeds dry out for a few days.
- Plant seeds in soil.
- Add water to moisten the soil and set in a sunny window.
- Water every few days so that soil remains moist.
- Observe seeds and see if they begin to sprout.



Growth Tracker

Vegetable or Fruit: _____

Date	Observations



My Garden Diorama

Materials Needed

- 1 shoebox with lid
- Glue or tape
- Construction paper
- Scissors
- Crayons or markers
- Scrap material, cotton balls, modeling clay, sticks, and other craft materials or natural materials collected from outdoors

Directions

Preparing the Box

1. Have children prepare the box by placing the lid on the side of the box. This will become the base for the garden diorama.



2. Children will cut and glue a piece of green construction paper to cover the base of the diorama. This green paper will become the grass. Children may want to add more green paper to cover the bottom half of the inside of the box.



- Children will then cut and glue blue construction paper to cover the top half of the inside of the box. This blue will become the sky in the diorama.



Creating a Dream Garden

- Children can glue cotton ball clouds to the blue sky or add a sun cut out of yellow construction paper.
- Allow children to get creative using the other craft materials available.
- Ask children to think about a garden of their dreams. What would be planted in the garden? Encourage children to think about how to represent those things in their diorama.
- Here are some ideas children may want to add to the garden diorama.
 - Use brown modeling clay to create a garden bed. Add vegetables in the garden bed made with other colors of clay. Orange carrots, red radishes, green cucumbers, yellow squash, red tomatoes, or orange pumpkins are good choices.
 - Use tiny sticks to create a fence around the garden.
 - Add toothpicks to the back of your paper designs to make them stand upright.
 - Roll a piece of brown construction paper into a tube to create the base of a tree. Then add green leaves.
 - Use real flower petals to create flowers in your dream garden.
 - Think about wildlife that might visit the garden. Birds, bees, squirrels, and groundhogs love to visit gardens. Be creative!
 - Add people to the garden.
 - Use natural materials or upcycled items in the diorama.
- Have children create a name for their dream garden, then display it for others to enjoy.



Create a Personal Seed Collection

Creating a seed collection is fun and a great way to gather many different types of seeds for planting in the future.

Materials

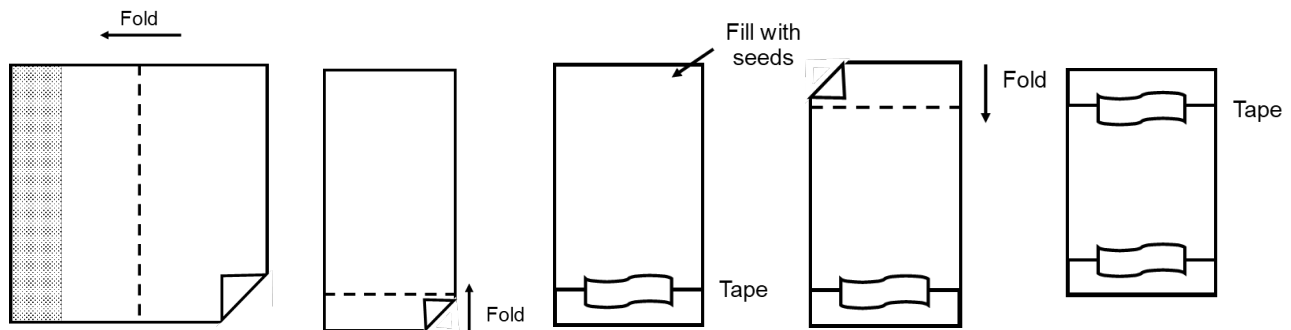
- Airtight plastic or glass containers of any size
 - Rice
 - Square post-it notes
 - Rolls of clear tape
 - Blank labels
 - White paper
 - Paper towels
 - Variety of seeds
 - Pens
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Getting Started

1. Collect your materials.
2. Prepare the containers to be sure they are clean and dry.
3. Place some rice at the bottom of each plastic or glass container to help control moisture.
4. Place a blank label on each airtight container. The container will keep collected seeds dry.
5. Write the child's name and the date on the label.



6. Prepare the seed packets or have children help you to create them:
 - a. Fold the square post-it in half and allow the sticky side to seal shut.
 - b. Fold the bottom edge over and tape the edge down.
 - c. After placing seeds into the paper packet, fold the top edge over and tape it down.
 - d. Place a blank label on each paper packet.



Collecting Seeds

7. Help children think of different places seeds can be found.
8. Invite children to harvest seeds from a garden or a kitchen.
9. If seeds are fresh from a piece of fruit and are not dry, be sure to place them on a paper towel to ensure they dry out before storing to prevent mold.
10. If using purchased or donated seeds check the expiration dates. Expired seeds may still grow, but there is no guarantee.

Packaging Seeds

11. Prepare a large name sign on white paper for each seed you are sharing with the children.
12. Lay the assorted seeds and name signs out on tables around the room. This will allow children to move around and have space to work on their collections.
13. Instruct the children to bring one empty paper packet to a table at a time.



14. Children will need to write the name of the seed on their label, then place 5–10 seeds into the packet.
15. Children should place each labeled seed packet into the airtight container with rice.
16. Continue this process until each child has a variety of seed packets to take home.

Storage

17. The airtight plastic or glass seed containers should be kept in a cool, dark, and dry place at home where temperatures don't vary a great deal. A cool closet or dry basement is ideal.

Planting Seeds

Planting seeds will depend upon your planting zone. Please check here for your local information: <https://planthardiness.ars.usda.gov/>

Most seeds can be planted indoors at any time during the year, where temperatures can be controlled.

Create a Seed Library

A community library is a perfect location for a seed library, where it can become an excellent community resource for anyone wanting to grow plants. The intent of a seed library is for home gardeners to borrow seeds from the library during planting time, save seeds from their harvest, and return some of those seeds back to the library for others to plant the next season. The fall is a great time of year to start a new seed library when seeds can be easily collected.

Resources to Start a Seed Library

<https://www.almanac.com/seed-libraries-public-libraries-are-growing>

<https://greencitizen.com/blog/seed-library/>

<https://publiclibrariesonline.org/2015/01/simple-steps-to-starting-a-seed-library/>



Extend the Story

Plant Life Cycle Activities

- Explore one of the many activities that showcase the plant life cycle—
<https://www.weareteachers.com/plant-life-cycle-activities/>
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Egg Carton Seed Trays

- Use egg cartons to start seeds—<https://www.gardeningknowhow.com/garden-how-to/propagation/seeds/egg-carton-seed-tray.htm>
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Decorate Flowerpots

- Paint flowerpots to help decorate your indoor or outdoor garden—
<https://www.firstdayofhome.com/easy-painted-flower-pots/>
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Garden Songs and Videos

- [The Garden Song](#)
- [One Seed](#)
- [Roots, Stem, Leaves, Flower](#)
- [And The Green Grass Grew](#)
- [Blue and Josh Plant A Flower](#)
- [How Plants Grow](#)
- [Sesame Street: Grover Talks About Plants](#)

