

Anderson Parks Starting Seeds & Gardening Packet



**Anderson
Park District**

This workbook belongs to:



Anderson Park District

Dear Anderson Park Fans,

This packet is a little different from the previous ones. This time, we invite you to explore your own backyard with the Family Outdoor Adventure Starting Seeds & Gardening Packet. The goal of this workbook is to encourage children and families to get outside together. The focus of this packet is primarily on vegetable gardening and will start to explore where food comes from.

March is a good time to start planning a garden and get ready to start some seeds indoors. Your garden can be whatever you would like it to be and could be grown in containers. A flower garden for pollinators could be grown in addition or instead of vegetables. If you are planning a flower garden, try to choose mostly native plants for the pollinators. Check out these lists from the Cincinnati Zoo and Botanical Gardens. <https://cincinnati-zoo.org/horticulture/plant-for-pollinators/resources/>. Also consider planting and creating a habitat for wildlife that can earn a certification by the National Wildlife Federation. <https://www.nwf.org/Garden-for-Wildlife/Certify> Visit Juilfs Park and W. M. Johnson Hills Park for inspiration and to see the pollinator gardens.

The activities in this packet are appropriate for age 4 years old and up and are designed to engage your child in learning about seeds and plants while having fun, using your imagination and being active. Enjoy! Spring is just around the corner!

We hope you can explore as a family, especially since younger children may need assistance completing some of the activities. A map of all the Anderson Parks is included; we encourage you to visit a park that is new to you. Don't forget to document your adventure through pictures and share them with us on social media, @AndersonParkDistrict.

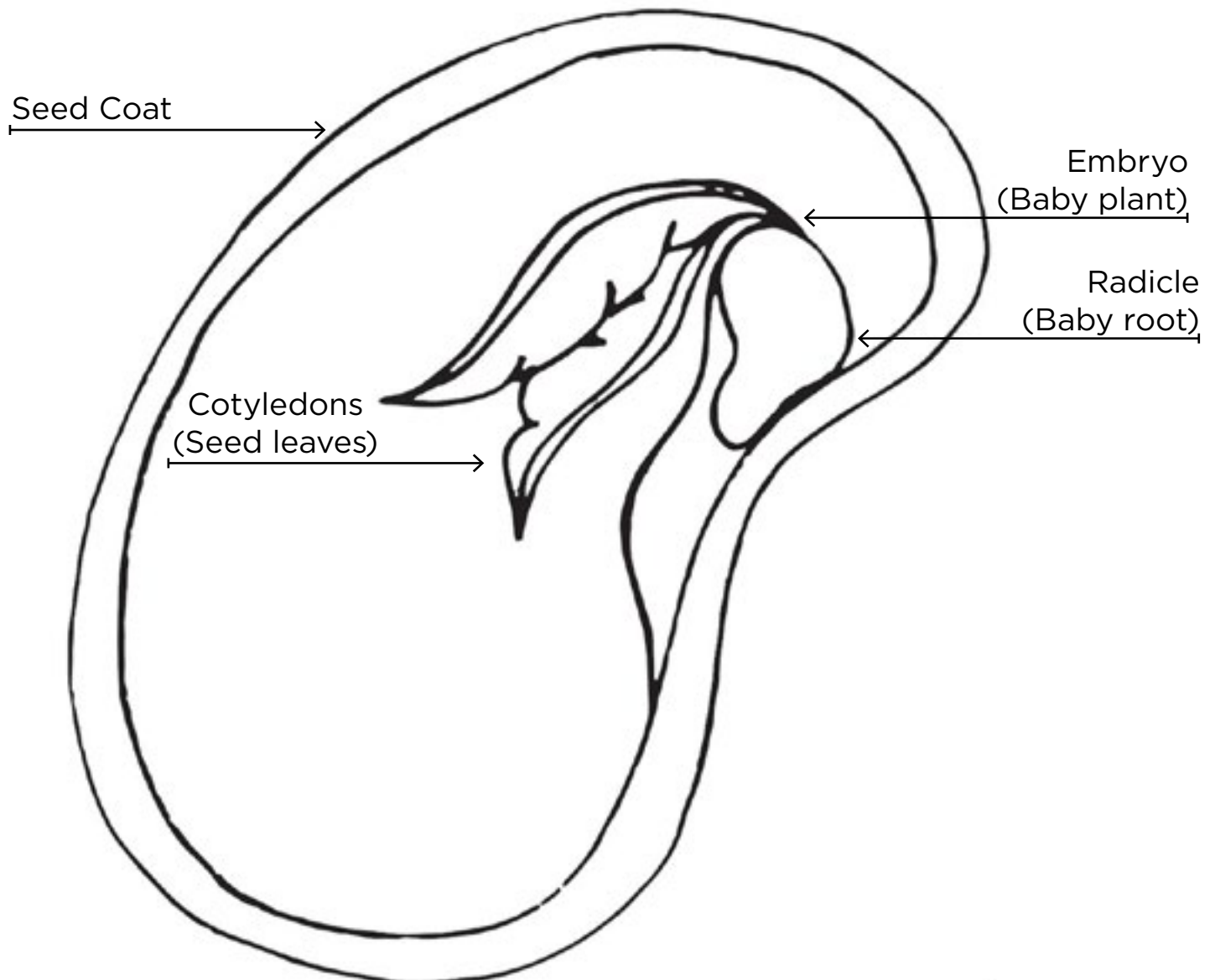
Your Friends at the Anderson Park District



Parts of a Seed

(Bean Seed)

This is called a dicot since there are two leaves.
Some plants only have one leaf and are called monocots.



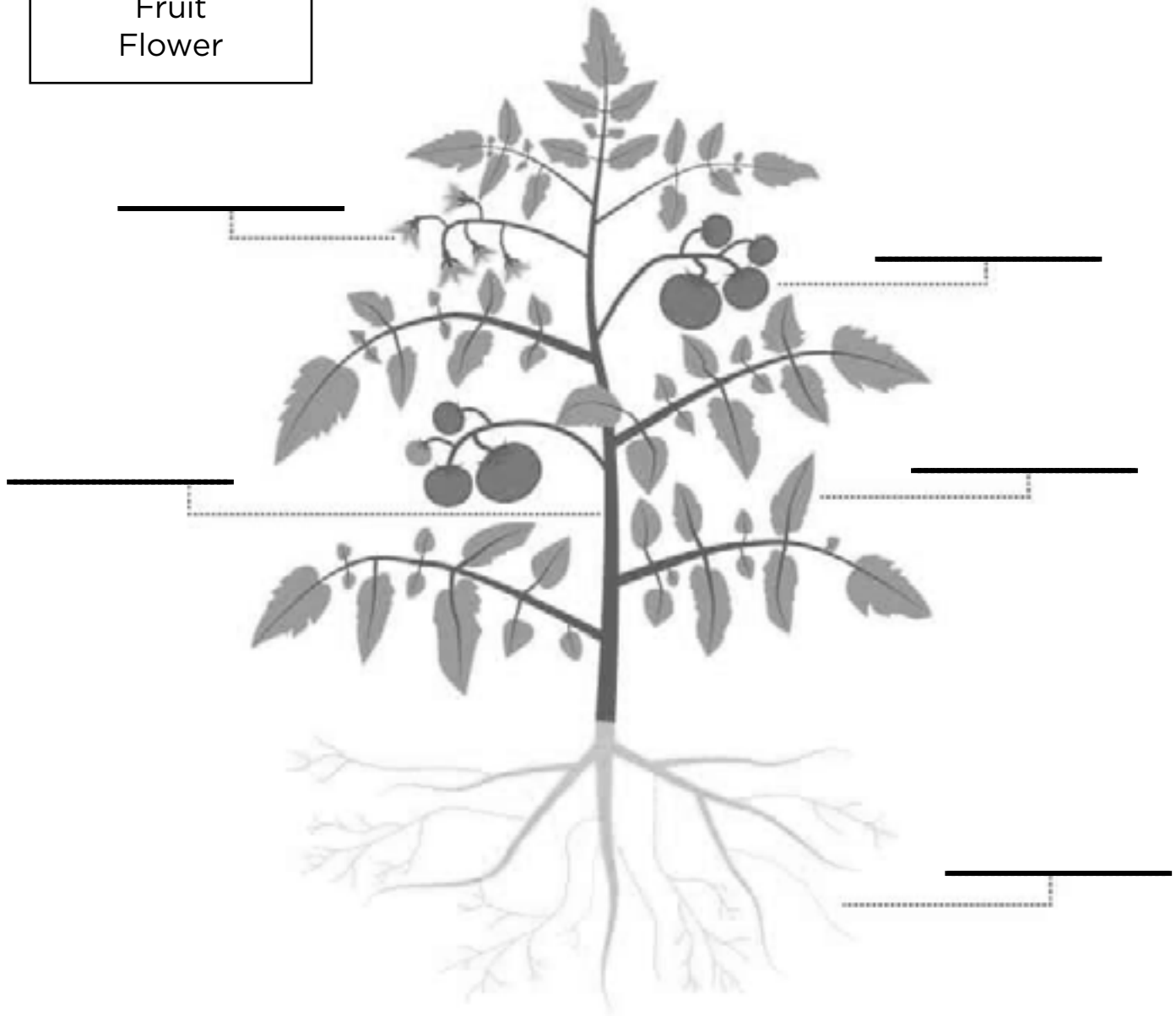
Visit this page for a fun interactive way to explore the parts of a seed:
web.extension.illinois.edu/gpe/case3/c3facts2.html

Parts of a Plant

Label the parts using words from the word bank.

Word Bank

Leaf
Stem
Roots
Fruit
Flower



Visit this page for a fun interactive way to explore the parts of a plant:

<https://web.extension.illinois.edu/gpe/case1/c1facts2a.html>

Word Search

Find these words in the puzzle.

VEGETABLE

SEED

FRUIT

FLOWER

POLLINATE

SOIL

ROOT

WATER

GERMINATE

STEM

SUN

PLANT

F R O O T Q B R N S S F R Q P
P O L L I N A T E O S G U Q C
X V F V F D I E I W R D C C Q
J T Y N E R D L R D O E E Q O
W M T B F X U U J W D L T P N
C C F P N J Y I E X X D F A Y
X P B U S R G L T R P V I Z W
N E W T Q L B E F L S Z Y X F
A Q A M I A Z Y R B P C V P X
C Z E F T N U S R M I Y B T F
Z T R E B D B M Q T I L L Y V
S P G Q A T N A L P R N N Q Q
M E Z B A C Z J Z M C R A T L
V N V X V H J Z V Y G N U T A
W H M F R M X T R P X F H N E

Pass the Plants, Please

Now that you know the basic parts of a plant, think about how people and other animals eat parts of many different plants. Plants play a big part in our daily diets.

What are some plants that you eat?

Not all foods we eat are obviously from plants. Think about tortilla chips. They are made from ground corn and corn is a plant. Where does maple syrup come from? _____

Name some other plant foods that you eat that are not obviously plants:

Complete the Veggie Plate activity on the following page. Use these words to label the parts of the pictured plants that we eat (some may be used more than once):

- seed
- underground stem
- aboveground stem
- fruit
- leaf
- flower
- stalk
- root

For safety's sake: Please note that not all plants are edible and not all parts of an edible plant are edible! Sometimes, we may eat one part of a plant while another part may be poisonous. Also, wildlife may eat some plants or plant parts that may be poisonous to humans. Do not eat something just because you know that the wildlife eat it.

Enjoy the recipes provided on the Project Learning Tree Teacher Page. The ingredients that come from trees and other plants are in italics.



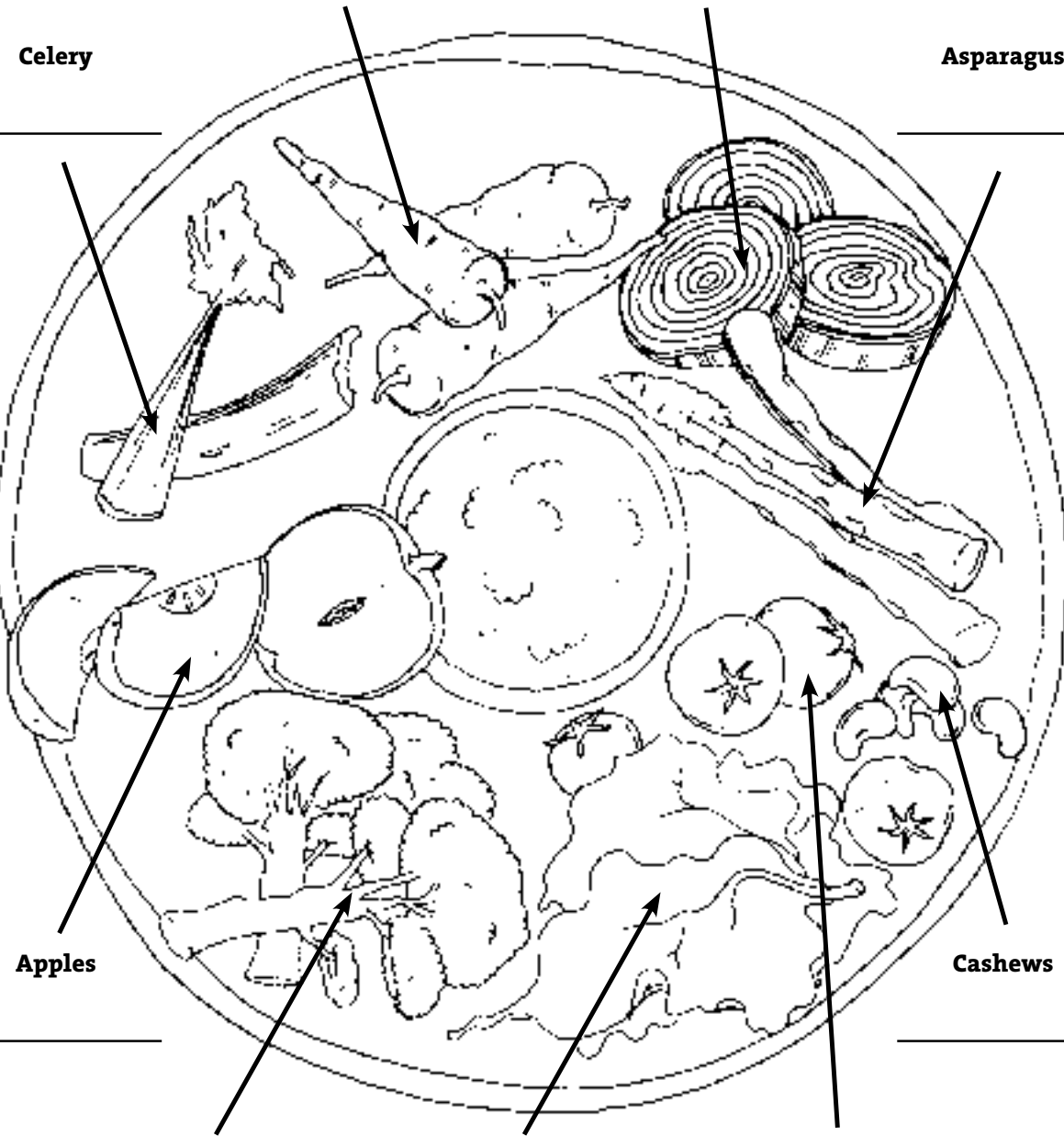
Veggie Plate

Carrots

Onions

Celery

Asparagus



Apples

Cashews

Broccoli

Spinach

Cherry Tomatoes



Recipes

Maple 'n' Walnut Spread

(Makes enough spread for about 25 people.)

- 8-oz. package of cream cheese, softened
- 1/2 cup chopped *dates*
- 1 1/2 cups nondairy whipped topping
- 1/4 cup *maple syrup*
- 1 cup finely chopped *apple*
- enough bagel halves for everyone in your group
- 1 cup chopped *walnuts*

Combine cream cheese, whipped topping, and syrup in a large bowl. Add apple, walnuts, and dates. Stir until well mixed. Spread onto bagel halves and serve.

Guacamole

(Makes about 2 1/2 cups.)

- 1/4 cup sour cream
- 2 soft, ripe *avocados*
- 1/2 teaspoon *chili powder*
- 2 tablespoons *lemon juice*
- dash *paprika* and *black pepper*
- 2 small *tomatoes*, chopped
- 1/4 cup *black olives*, chopped (optional)
- 2 cloves *garlic*, minced
- 1 teaspoon salt
- corn chips*

Mash the avocados in a small bowl. Thoroughly mix in the lemon juice. Chop the tomato and add it to the mixture. Blend in the garlic, salt, sour cream, black pepper, and chili powder. Sprinkle with paprika and serve with corn chips.

Hummus

(Makes about 4 cups.)

- 3 cups cooked *chick peas* (also called garbanzo beans)
- 1/2 to 3/4 cup *tahini* (*sesame seed paste*)
- 3 cloves *garlic*, minced
- 1 teaspoon salt
- black pepper* to taste
- 3 tablespoons *tamari* (*soy sauce*)
- cayenne pepper* to taste
- 1/4 cup *lemon juice*

Put all ingredients in a food processor or blender on a high setting and mix until ingredients are smooth and well blended. Serve with pita (pocket) bread.

Tree Treats

(Makes three to four dozen treats.)

- 1 cup dried *apricots*
- 1/2 teaspoon ground *cloves*
- 1 cup dried *figs*
- 1 teaspoon *cinnamon*
- 1 cup dried, pitted *prunes*
- 1 small package shredded *coconut*
- 2/3 cup *almonds*

Grind the apricots, figs, prunes, and almonds in a food grinder or processor. Stir in the spices. Mold the mixture into little balls and then roll the balls in the shredded coconut.

Sunflower Seed Cakes

(Adapted from an Iroquois recipe from about the time of the first Thanksgiving.)

- 2 cups shelled *raw sunflower seeds*
- 6 tablespoons *cornmeal*
- 1 1/4 cups water
- vegetable oil* or butter for frying
- 3/4 teaspoon salt

Put the sunflower seeds and water into a large pot. Bring the mixture to a boil and then simmer for an hour, stirring occasionally. Remove from heat and blend in the cornmeal, one tablespoon at a time. This will make a stiff, sticky dough. Add salt and pat into 3-inch by 1/2-inch cakes. Heat the oil or butter in a frying pan until hot. (If you don't have access to a stove at school, an electric frying pan can be used.) Add the cakes and brown on either side. Drain on paper towels, and serve with berry jam or cranberry sauce. (You could also make the batter the night before and refrigerate it until frying it the next day at school.)



Planning Your Garden

Now that you have been introduced to the basic parts of a seed and plant, let's start planning the garden. One of the first steps in planning your garden is to decide what you would like to grow. You could keep it small. You can garden in containers, raised beds or an area in your yard. Sometimes gardening is a trial and error process. Have fun with it!

You could pick a theme garden (ingredients for a favorite meal, butterflies/pollinators, etc.) or grow your family's favorite foods. Use your imagination; the possibilities are endless! Here are a few ideas for theme gardens:

Salsa Garden:

Tomatoes
Garlic
Cilantro
Onion
Jalapeno Peppers



Salad Garden:

Lettuce/Spinach
Carrots
Radishes
Cucumbers
Various Herbs for Dressings



Pizza Garden:

Check out this link for a fun planting idea and simple instructions-

<https://www.hgtv.com/outdoors/gardens/garden-styles-and-types/grow-a-pizza-garden>

Tomatoes
Bell/Jalapeno Peppers
Rosemary
Basil
Oregano
Chives or onions
Spinach



Once you decide what you would like to grow, check this interactive planting calendar from kidsgardening.org <https://kidsgardening.org/digging-deeper-interactive-spring-planting-calendar/> to see when you should start your seeds and plant your garden. This is included in the packet with the permission of kidsgardening.org.

According to the weather.gov site, the average last spring frost date for our area is April 17. Check out their page: <https://www.weather.gov/iln/springfrost-freeze>

You should also consider when you would like to harvest your vegetables and fruits. Do you want to try to have the ingredients ready around the same time? You could calculate backwards from the harvest dates and check your seed packets for the germination time.

Seed Starting Calendar



Create Your Spring Planting Calendar

Use your **Average Last Spring Frost Date** to determine approximate planting and harvesting times.

Don't know your average last frost date? Ask a gardening neighbor or your local Cooperative Extension Service's Master Gardener Program.

Enter your average last spring frost date: (type the date in the box at right using this format: mm/dd/yy and hit Enter)		04/17/21				
Crop*	Days to Maturity <i>(change # for your variety)</i>	Start seeds indoors	Transplant seedlings outdoors	Direct sow 1st Planting	2nd Planting	Start harvesting
Seeds for starred crops can be started indoors or planted directly outdoors						
Beans	45			04/17/21	05/01/21	06/01/21
Beets	50			04/03/21	04/17/21	05/23/21
Broccoli*	60	03/06/21	04/03/21	04/03/21	04/17/21	06/02/21
Carrots	60			04/03/21	04/17/21	06/02/21
Corn	90			04/17/21	05/01/21	07/16/21
Cucumbers*	70	03/20/21	04/17/21	04/17/21		06/26/21
Eggplant	75	02/20/21	04/17/21			07/01/21
Greens						
arugula	30			03/20/21	04/03/21	04/19/21
lettuce	45			03/27/21	04/10/21	05/11/21
baby greens	30			03/27/21	04/03/21	04/26/21
collards	80	03/20/21	04/10/21	03/20/21		06/08/21
kale	70	03/20/21	04/10/21	03/20/21		05/29/21
spinach	45			03/20/21	04/03/21	05/04/21
Swiss chard	55			04/03/21	04/17/21	05/28/21
Melons	80	03/20/21	04/24/21	04/17/21		07/06/21
Okra	65	03/20/21	04/17/21	04/17/21		06/21/21
Peas	55			03/20/21	04/03/21	05/14/21
Peppers	80	02/20/21	04/17/21			07/06/20
Pumpkins	90	03/20/21	04/24/21	04/24/21		07/23/21
Radishes	30			03/20/21	04/03/21	04/19/21
Squash						
summer squash	60	03/20/21	04/24/21	04/24/21		06/23/21
winter squash	80	03/20/21	04/24/21	04/24/21		07/13/21
zucchini	70	03/20/21	04/24/21	04/24/21		07/03/21
Tomatoes	70	03/06/21	04/17/21			06/17/21

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My Garden Plan Worksheet

Will I grow my garden in a container or in the ground? _____

Does my garden have a theme? _____ If so, what is it? _____

Plants I would like to grow:

Will I start my plants from seeds or plant seedlings grown by someone else?

Refer to the Spring Planting Calendar to complete this section.

Plants/Seeds	Date to Start Seeds Indoors	Date to Transplant Seedlings	Direct Sow First Planting	Second Planting	Start Harvesting

Starting Seeds Indoors

See this link for additional information from Kidsgardening.org:
<https://kidsgardening.org/gardening-basics-indoor-seed-starting-qa/>

Each type of seed has slightly different growing requirements, but the basics are the same:

1. Use shallow containers (2 to 3 inches deep) with drainage holes. You can purchase seed starting supplies or use something as simple as an egg carton or yogurt containers with holes punched in the bottoms for drainage. It is easiest to monitor moisture in containers that are no more than a few inches deep -- and they require less potting medium!
2. Use a lightweight soilless potting mix. These mixes are made primarily of ground peat moss and have been sterilized, so they are less apt to contain weed seeds, fungi, and bacteria that may hamper growth than garden soil. These mixes also provide good drainage, providing both the aeration and moisture seedlings need. Avoid using garden soil, as it won't provide sufficient aeration and can introduce disease-causing organisms.
3. Moisten the potting mix before placing it in containers. If you can squeeze a handful of the mix and water comes out, it is too wet and you'll need to add more of the dry mix. The ideal moisture level feels like a well-wrung sponge.
4. Fill the containers with moistened potting mix to about ½ to 1 inch below the rim of the container. Rap the container against the countertop to settle the mix.
5. Follow the recommended planting depth on the seed packet when sowing seeds. This is generally 1-1/2 to 2 times the width of the seed. However some seeds need light to germinate and must be "surface sown" meaning they should be simply pressed into the surface of the potting mix and not be covered at all; the seed packet will note if this is the case.
6. Water seeds after planting using the mist setting on a spray bottle to avoid dislodging seeds with a strong stream of water. Check daily to make sure the mix is even moist, but not soggy. Seeds must stay moist in order to germinate properly.
7. If the air in your room is very dry, you can maintain adequate moisture for germination by creating a tent over the pots or flats with clear plastic wrap. Prop the plastic wrap off the surface of the planting mix using popsicle sticks or other 'posts' so seedlings don't stick to it. Remove any coverings gradually as germination begins.
8. Most seeds germinate best in warm conditions. Although average room temperature (70°F) is generally adequate for most seed germination, you'll get faster and more consistent germination if you place newly seeded containers in a warm spot (70 to 80 degrees F) or on top of a heat mat (available from garden stores). With the right conditions, most garden seeds should germinate in 7 to 14 days (unless otherwise noted on the seed packet). Once seeds have germinated and produced their first set of true leaves (the very first you see are called seed leaves, and all that grow after that are true leaves), move containers of seedlings off the heat mats.
9. Good light is essential. Once you see the first signs of germination, move the seed trays to a light-filled area. Seedlings need full sun from a south- or west-facing window or, even better, fluorescent lights positioned 2 to 3 inches above the foliage. Use a timer to keep fluorescent lights on for 12 to 16 hours a day. Suspend the light fixtures so that you can move them up as your plants grow, keeping them a consistent height above the tops of the seedlings. Leggy or pale green seedlings are an indication that plants need more light. If your seedlings are growing on a windowsill, rotate containers regularly to keep plants from reaching toward the light source.
10. Keep the soil moist but never wet, as this encourages rot. At first, lightly mist the soil. Once seedlings emerge, place the containers in a tray and water from the bottom to encourage deep root development. Check daily and do not let the soil mix dry out.
11. Wait to fertilize until the seedlings' true leaves (the second set) appear. Then use a weak solution of a high-phosphorus fertilizer (e.g., 5-10-5), which will help the seedlings develop a strong root system.
12. When seedlings have one to three sets of true leaves and are a couple of inches tall, transplant them to a deeper container for growing on until planting time.

Lego Planter

Gardening and starting seeds is fun but to get extra excited about it, consider these ideas for building LEGO® planters. Keep in mind that they will need something set under them to catch water.

<https://www.balconydecoration.com/lego-planter-simple-child-friendly-decoration/>

<https://www.hellowonderful.co/post/mini-diy-lego-planters-fun-planting-project-for-kids/>

Materials Needed:

- LEGO blocks
- Soil
- Seeds or plants

Instructions:

1. Determine the size you need for your planter. If you are using a plant from an existing pot, it may help to place the pot on top of the base blocks and use it as a guide.
2. Build the base and sides of the planter with the blocks. Be creative or make it simple; have fun.
3. Add soil and plant or seeds (or you can use an existing potted plant in the planter and build around it).
4. Care for the seeds and plants as you would if they were in an ordinary pot or planter.



photo from www.balconydecoration.com (see link above)

Garden Basics

You have your garden planned and seeds started or seedlings purchased.
Now what?

If you are considering a raised bed garden, square foot gardening is a way that you can be creative. According to the Square Foot Gardening Foundation (<https://squarefootgardening.org/2017/07/our-method/>), compared to single row gardening, square foot gardening is estimated to cost 50% less, uses 20% less space, 10% less water and only 2% of the work. Also, there are not many weeds and no heavy tools, digging or rototilling are necessary.

Simple Steps:

1. Choose your location. It should have good drainage and receive 6-8 hours of direct sun per day.
2. Build your garden box. You could start with 4 feet by 4 feet untreated cedar, pine or fir. Or you can use brick, cement blocks, vinyl or recycled plastic.
3. Fill with a mix of soil in equal volumes:
 - 1/3 Coarse grade Vermiculite
 - 1/3 Sphagnum Peat Moss or Coconut Coir
 - 1/3 Blended Organic Compost
4. Make grids using anything you have around the house-string, Venetian blinds, wood, etc.
5. Check out <https://simplysmartgardening.com/square-foot-garden-spacing/> for an easy to understand chart system explaining spacing and number of various plants to plant per square foot. For instance, you would only plant 1 tomato or sunflower plant in each square foot section. You could plant 9 spinach plants in each square foot section.
6. Enjoy your garden! For information on safe harvesting, visit: <https://kidsgardening.org/gardening-basics-safe-harvesting/>
7. Consider saving seeds from your plants and harvest and for the next growing season. This is good information:
 - <https://kidsgardening.org/gardening-basics-saving-seeds/>
 - <https://kidsgardening.org/garden-activities-save-your-seeds/>

Seed Saving Chart

Easy Annual Vegetables and Flowers

Plant	When to gather seed	Processing
beans and peas (self-pollinating)	Leave in pods on plant until they rattle.	Remove seeds from pods and spread them out to dry.
pepper (self- or insect-pollinated)	Gather from a mature pepper (if possible, one that is fully red).	Scrape out seeds and spread them out to dry. They're ready to store when they break rather than bend.
tomato (self-pollinating)	Harvest when fruits are fully ripe. Seeds have a gelatinous coating to prevent them from sprouting inside the fruit. Squeeze seeds into a bowl when tomatoes are fully ripe.	Ferment mixture by adding water and letting it stand at room temperature for 3 to 4 days, stirring a few times a day to prevent mold. The good seeds will sink to the bottom and can be spread out to dry.
eggplant (self- or insect-pollinated)	Leave fruit on vine until it's hard, dull, and off-colored.	Cut the fruit in half and pull flesh away from seed area. Wash and rinse seeds before spreading them out to dry. If seeds are hard to remove, grate or blend the bottom part of the fruit (with the ripest seeds), put the pulp in a bowl of water, and squeeze the gratings with your fingers. Good seeds will sink to the bottom.
cucumbers (insect-pollinated)	Seed is ready once fruits have turned golden/orange and are getting mushy.	Cut fruit in half, scrape seeds into a bowl, and remove their slimy coating by rubbing them in a sieve with water. Rinse before spreading out to dry. (Some recommend using the same treatment as listed for tomatoes.)
summer squash (insect-pollinated)	Seed is ready once fruits are hard (cannot dent with a fingernail). This may be after frost.	Cut open and scrape seeds into a bowl; wash and rinse them before spreading them out to dry.
watermelon (insect-pollinated)	Harvest seeds from ripe fruit.	Before drying, rinse seeds in a strainer using a drop of dish soap to remove sugar.
lettuce (self-pollinating)	Gather seeds once the plant sends up a stalk and half of the flowers have turned white with fluff. (If you wait too long, the seeds may fly away.)	Rub out and separate seeds from seedheads. Shake the seeds up and down on a tray or screen and gently blow away the lighter chaff.
annual flowers (calendula, cleome, cosmos, impatiens, marigold, morning glory, sunflower, sweet pea, zinnia)	Gather seeds once these flowers have wilted and seed capsules or pods appear dry.	Separate chaff by hand or by shaking on screen, as above.

Chart and information from

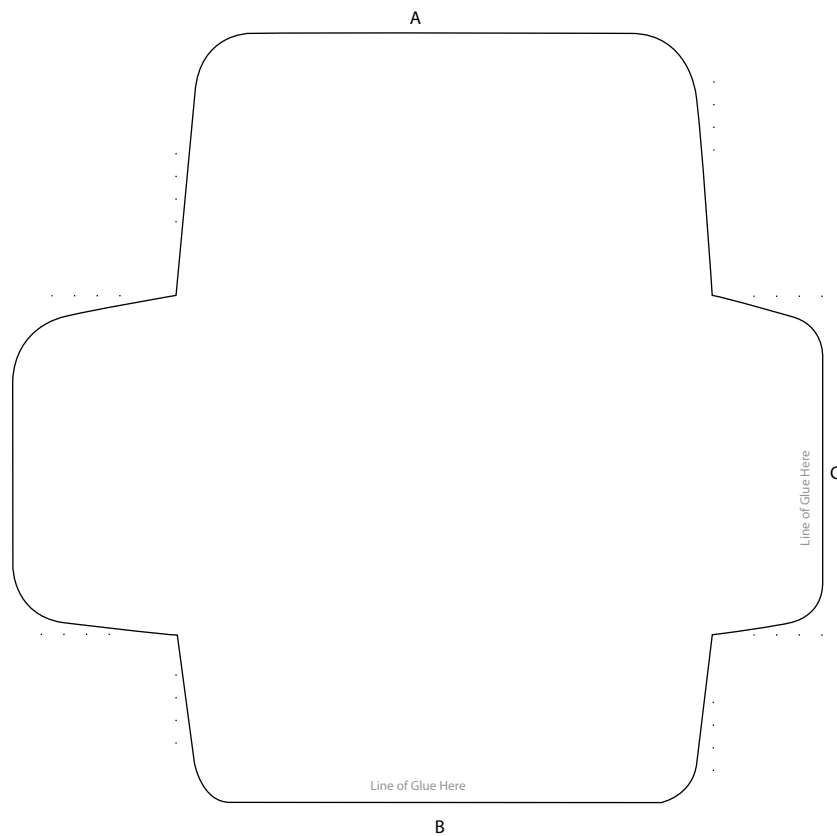
<https://kidsgardening.org/wp-content/uploads/2018/08/Seed-Saving-Chart.pdf>

Create A Seed Saving Envelope Activity

Print the template on paper appropriate for your printer. Enlarge if you would like.

Instructions:

1. Score lightly along the dotted lines.
2. Cutout along solid lines.
3. Fold along scored edges.
4. Place a line of glue where indicated.
5. Fold B over A and seal.
6. Fold C over A & B and seal.
7. The remaining flap is the top enclosure.
8. Decorate and label with the plant name and date harvested.



Activity adapted from You Grow Girl

http://www.yougrowgirl.com/wp-content/uploads/envelope_small.pdf

Create a Card Game Activity

This is a great way to use seed catalogs and seed packets when you are finished with them:

- Create cards by cutting out flower/vegetable photos from the catalog or cut the front picture from the seed packet.
- Memory Game: If you have two pictures that are the same (or use the front and back portion of the seed packet), you can create a memory game. Have several pairs and turn them all picture side down. Turn over one card at a time and try to find the other card with the same flower or vegetable. If you guessed wrong, turn the card face down again and keep trying to find the matching card. Once the pair is found, remove it from the playing area. Keep searching for pairs until all matching pairs are found.
- Use your imagination. What card games can you create?

Resources

The topic of gardening includes so many other topics! These are some websites that have great information:

For all things gardening: kidsgardening.org

In addition to sites listed on the Garden Basics page:

Square Foot Gardening:

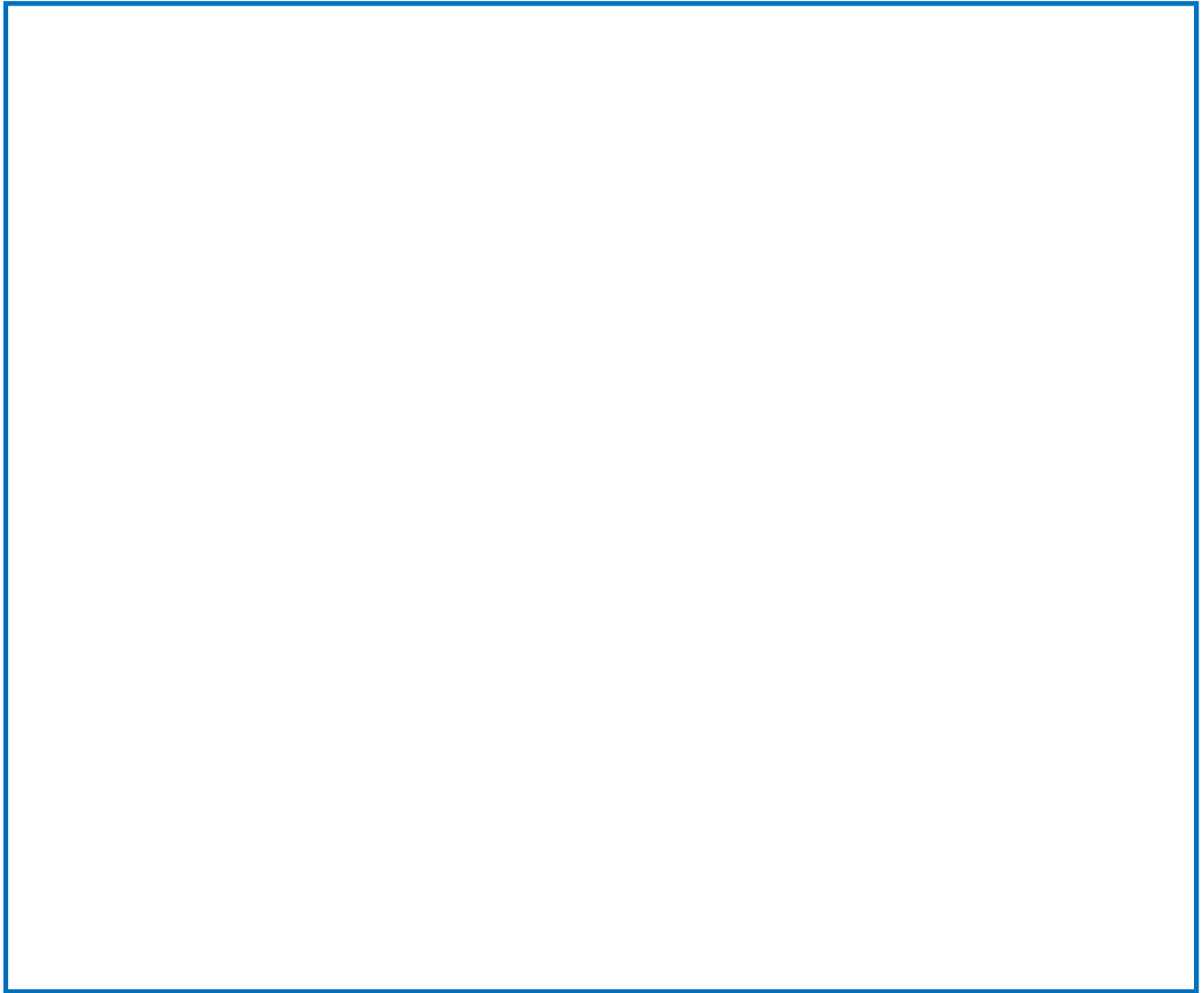
<https://kidsgardening.org/wp-content/uploads/2020/05/Square-Foot-Gardening.pdf>

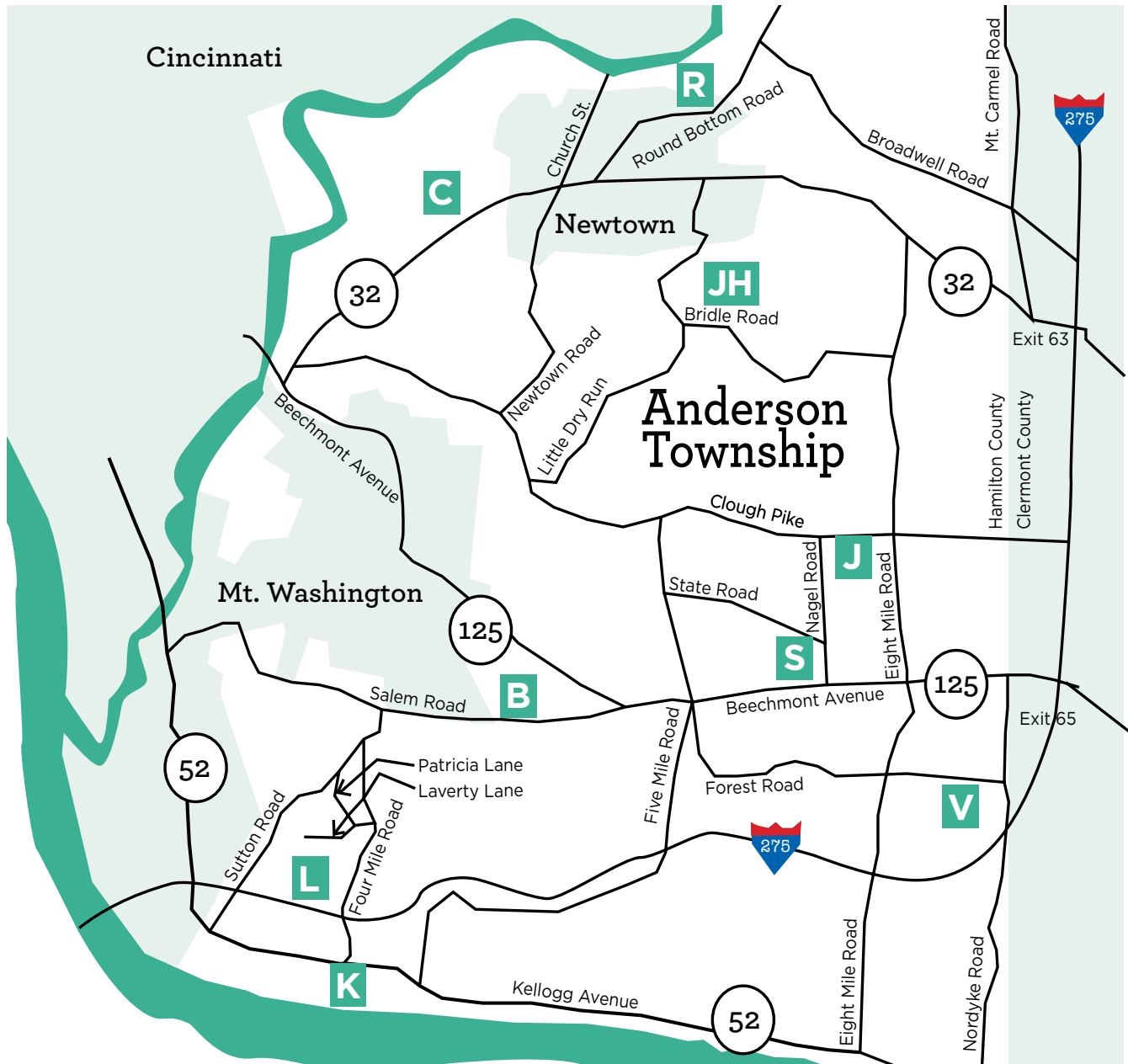
If you plan to plant an in-ground garden and want to check your soil fertility before you start planting, please see the Hamilton County Soil and Water Conservation District's page to obtain a kit:

<https://www.hcswcd.org/soil-fertility.html>

Journal

Draw and write about your favorite part of this Family Outdoor Adventure.





- B** **Beech Acres Park**
6910 Salem Road
- Anderson Parks RecPlex**
6915 Beechmont Ave.
- C** **Clear Creek Park**
6200 Batavia Road (S.R. 32)
- JH** **W. M. Johnson Hills Park**
7950 Bridle Road
- J** **Juilfs Park**
8249 Clough Pike
- Juilfs Park (south parking lot)**
8200 Patton Ave.

- K** **Kellogg Park and Dog Field**
6701 Kellogg Ave.
- L** **Laverty Park**
839 Laverty Lane
- R** **Riverside Park**
3969 Round Bottom Road
- S** **State and Nagel Park**
8031 State Road
- V** **Veterans Park**
8531 Forest Road