

Junior Gardener's Field Guide



Let's explore and learn about plants, insects and gardening with Outdoor Afro!





We can't live without plants—they generate oxygen that allows us to breathe and are a critical source of food and nourishment for the food chain. Working and spending time in the garden can help us create healthy environments by filtering pollution, creating habitat for pollinators like bees, butterflies and bugs, relieving stress and offering a fun source of physical exercise.

Sustainable gardening allows us to create healthier environments by protecting Mother Earth's natural resources. We can grow sustainable gardens by using less water (like recycled rain water!) and organic materials to help our plants thrive.

Learning about gardens is a valuable teaching tool for young children. The combination of hands-on learning and team-building exercises that come from working with others in the garden is a powerful source of experiential education. Gardening teaches where food comes from, encourages healthy eating, and fosters responsibility and patience.

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Note: These activities are designed for kids ages 2–5, but can be modified for younger and older kids.



Activity 1

Create a Container Garden!

Plant vegetables, fruits and herbs and watch your budding gardener grow!

LENGTH OF ACTIVITY		LEVEL OF ENGAGEMENT	Required by adult:	WHAT YOU'LL NEED	Containers <i>(3 - 5 gallon buckets or recycled plastic cartons)</i>
	30 mins. Ongoing		Level of prep required:		Seeds or starter plants <i>(the choice is yours!)</i>
					Potting soil
					Water
					Sunlight

WHAT YOUR CHILD IS LEARNING:

- Responsibility and cause/effect from caring for plants
- Self-confidence from achieving goals and enjoying the “fruits” of labor
- Encouragement of healthy eating by learning about where fresh food comes from
 - Early introduction to the Plant Life Cycle



Activity steps on next page.



What you do:

1

PICK YOUR GARDEN SPACE.

Love the idea of growing veggies, fruit, and herbs but lacking garden-space? No problem! If you have a small porch, balcony, rooftop, or even a light-filled window, you've got a situation that's ripe for container crops.

2

PICK YOUR PRODUCE.

Virtually anything that grows in the ground can also be grown in a pot. Great choices for young gardeners are those that are easy to plant (*lettuce and summer squash*) or grow quickly (*cherry tomatoes and sweet peppers*). If space is a concern, stick with a window herb garden (*basil, mint and dill*).

3

PICK OUT YOUR PLANTS.

You can create a garden by planting seeds or young starter seedlings. Smaller plants that stay compact are perfect for smaller 3-gallon buckets—such as herbs or lettuce. If you have a 5-gallon container, you can grow just about any type of annual vegetable because you have more space for the roots to grow.



THINK!

If you are planting a few different plants in one container, make sure they have the same sunlight and water requirements.

4

PICK YOUR CONTAINERS.

Look online or at your local nursery for buckets that are labeled “Food Grade Container” —or ask local restaurants or grocery stores if they have any extra buckets they could give you. Old coffee or soup cans are a great choice for small windowsill gardens. If your containers don't already have drainage holes, drill a few (5-10) ¼” holes in the bottom of your container.



BONUS! *You can decorate the outside of your container before you add soil with waterproof paints or markers—or by gluing on other decorations, such as beads or feathers.*





What you do:

5

PREP YOUR SOIL.

Use a light and fluffy, well-draining potting mix that absorbs water and also drains well. Wet your soil before placing it in your bucket. Then add the soil to your container.

6

GET PLANTING.

Add soil to about 1 inch below the rim, then follow the directions listed on the seed packet. If you are planting seedlings, add soil until reaching the size of the seedling pot plus about 1 inch to create enough space for watering.



7

WATER YOUR NEW GARDEN.

Gently water until you see water drain from the bottom of your container. Keep your plants properly hydrated after your initial watering. If the top inch of soil is dry to the touch, it's time to water.

8

PLACE YOUR CONTAINERS.

Place your garden in a spot to match your plants' sunlight needs. Give your plants as much sunlight as possible (*ideally six-plus hours a day*).

9

CHECK ON YOUR GARDEN.

Check your plants daily and look for changes and growth. Measure growth with a ruler and keep track of how tall they grow!



THINK!

Herbs like basil, oregano, pineapple sage, cilantro, thyme, chives, and parsley are especially great for windowsill gardens. Plant a collection of your favorites for a "Pizza Herb Garden." If your child is old enough, they can snip the herbs themselves to sprinkle on your pies—it's a great way to give that delivery pizza a gourmet lift!



Activity 2

Go on a Bug Hunt!

Observe and identify garden insects and learn about bug safety.

LENGTH OF ACTIVITY



Open
Ended

LEVEL OF ENGAGEMENT

Required by adult:



Level of prep required:



WHAT YOU'LL NEED

Your eyes and your ears!

Pen or crayon

Printed observation sheet or blank paper

Glass mason jar

(with air holes poked in the lid)

Bug net *(or another tool for scooping up bugs, such as a garden shovel or tweezers)*

Optional: magnifying glass, insect book

WHAT YOUR CHILD IS LEARNING:

- Observation of and appreciation for insects and nature
- Identification of different types of local insects, including insect safety!
- Vocabulary words related to insects and pollination
 - Questioning and reasoning skills
 - Introduction to ecosystem basics



Activity steps on next page.



What you do:

- 1** Gather your bug hunting tools (*bug net, mason jar, observation log and magnifying glass*).
- 2** Head outside to the garden—or to a local park, open space or wooded area—and start your search!
- 3** Get close to Mother Earth and observe her plants and soil...and the bugs crawling over them or buzzing around nearby. Look for bugs on stalks, under leaves, or carefully lift rocks.
- 4** Carefully use your net to catch the bugs and place them in a see-through jar. Watch your new friends for a few minutes before releasing it back into nature.
- 5** Use your magnifying glass to take a closer look at the details of the bugs, and if available, have an adult or big kid adventure buddy help you identify the bug with an insect book or via www.insectidentification.org.
- ?** Questions to ask as you watch the insects (*have an adult or big kid adventure buddy take notes about your observations in your observation log*):

- What do the bugs look like?
- What do the bugs sound like?
- How fast do the bugs move?
- Do the bugs have wings?
- What kind of bugs are these?
- Are these bugs garden pollinators?

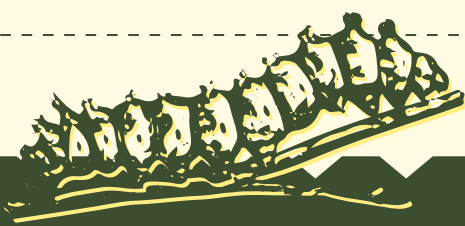





Activity 2


Observation log:


Have an adult or big kid adventure buddy help you write down your observations in the log below:





 **BONUS!** You can also draw or take a picture of what you see!

TIPS FOR INSPIRING JUNIOR ENTOMOLOGISTS:

 Make bug safety a priority! Explain which bugs are harmless and which require more careful exploration. Teach children to calmly move away from bees, wasps, and other stinging insects. (Bees and wasps sting defensively, and swatting can provoke a sting!). Flag warning of any other harmful local pests, like ticks, fire ants or brown recluse spiders.

 Show your child non-threatening insects to excite curiosity (and reduce fears). Insect Lore has terrific and inexpensive toys that show what butterflies, ladybugs, bees, and ants look like as they move through their life cycles.

 Read bug books to spark insect interest. Sweet books like [The Very Busy Spider](#) or [The Very Quiet Cricket](#) show the wonders of the insect world in a positive light.

 Model bug positivity. The source of many bug fears are.... adults. If you react with fear and stress when you see a fat bumblebee, your children will, too. While some bugs, such as wasps and yellow jackets, do merit caution, most are 100 percent harmless.



Common garden insect descriptions to help with identification:



BEES

Bees are adapted to collecting and carrying pollen, so they have fine hair for trapping pollen. Their hair makes it look like they are wearing tiny, fuzzy coats. Some bees' legs are also hairy and have a special shape to hold the pollen together in small pellets during flight. Their bodies are round compared to the more elongated wasp.

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WASPS

Wasps don't typically collect pollen. They just eat the nectar of flowers. Their hair is unbranched so they appear less fuzzy than bees. Their whole body can look smooth and shiny and they are usually more elongated (*cylinder-like*) than a bee's, even slender.



FLIES

Some flies look different from a common house fly—and are common in our gardens. In fact, they can easily be mistaken for bees (*or wasps*). Flies have only one pair of wings, and both bees and wasps have two pairs.

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BUTTERFLIES AND MOTHS

When resting on a flower, rock, etc., moths keep their wings flat open or folded around their body, while butterflies fold their wings up above their body when resting. That's an easy way to tell them apart, even from a distance. Also, moth bodies tend to be thicker than butterfly bodies.

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BETLES




Beetles have a head, thorax, abdomen and six legs. Their bodies are very solid and tough. Adult beetles have modified wings: the first pair is small and very hard, acting as a protective covering for the second pair. Many beetles can fly with their second pair of wings. Most adult beetles are brown or black, but some are very brightly colored. It's estimated that one out of every four animals on Earth is a beetle!



Activity 3

Make a Garden Sensory Bin!

Have fun planting and replanting over and over again in your sensory garden bin.

LENGTH OF ACTIVITY		LEVEL OF ENGAGEMENT	Required by adult:	WHAT YOU'LL NEED	Large container of choice <i>(plastic tub or wagon works great)</i>
	Open Ended		Level of prep required:		Potting soil or dirt <i>(fertilizer free!)</i>
			 		Watering cans <i>(or other water vessel)</i>
					Rocks and/or pebbles
					Fake (or real) plants and flowers <i>(paper flowers are a great alternative!)</i>
					Shovels or other gardening tools
					Other ideas! <i>Toy worms, small gardening tools, toy vegetables, spray bottle, dried beans, magnifying glass, plant tags, smaller pots</i>

WHAT YOUR CHILD IS LEARNING:

- Tactile and sensorial observation
- Fine motor skills as they manipulate the materials
- Hand-eye coordination as they pick up and place materials
- Imaginative and independent play as they pretend to garden
- Self control and practice with boundaries (e.g. - don't throw the soil!)



Activity steps on next page.



What you do:

1 Dump your soil or dirt into your container.

2 Add some rocks, flowers and other plants to the soil.

3 Dig into the soil with your shovels, pots and water and explore.

- *Examining the flowers*
- *Plant the flowers*

- *Dig and rake in the dirt*
- *Water the plants*

4 Make observations about your garden tub!

- *What do the materials and objects look like?*
- *How do they smell?*

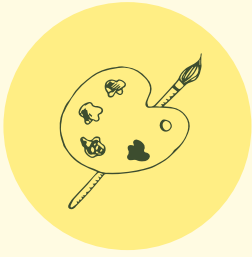
- *How do they feel?*
- *Do they make sounds?*



BONUS!

Add real worms and get up close to watch the garden creatures move around in the soil.





Activity 4

Grow a Work of Art!

Use your imagination to create pictures inspired by the flowers, insects and gardens in your neighborhood.

LENGTH OF ACTIVITY



10–15 mins.

LEVEL OF ENGAGEMENT

Required by adult:



Level of prep required:



WHAT YOU'LL NEED

Crayons, markers or colored pencils

Printed worksheet (see page 14) or blank paper

WHAT YOUR CHILD IS LEARNING:

- Creativity! How to create art that represents nature
 - Using color to create shapes and objects
- Fine motor skills as they manipulate the materials
- Introduction to garden-inspired vocabulary words



Activity steps on next page.



What you do: Create!

1

Have an adult or big kid adventure buddy print the garden coloring sheet.

Don't have access to a printer? No problem! Use a sheet of blank white paper to trace the scene.

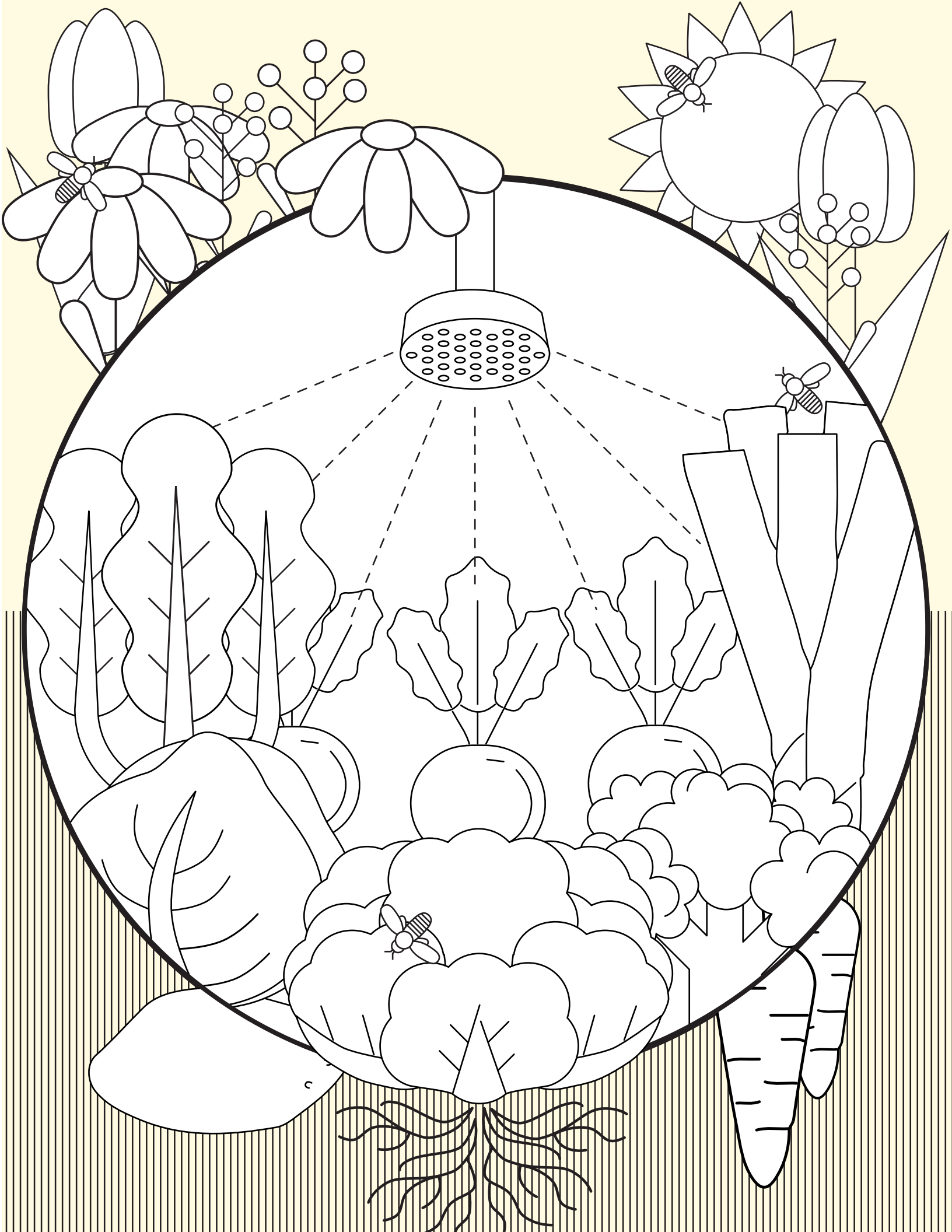
2

If your child is ready, have them draw a picture of a garden on a blank piece of paper.



Fun Facts About Garden Pollinators:

- Pollination is the process of transferring pollen from the male part of the plant, the anther, to the female part of the plant, the stigma, to fertilize the plant and make wonderful baby plants, called seedlings.
- Pollinators create biodiversity and are often keystone species, meaning that they are critical to an ecosystem. The work of pollinators ensures full harvests of crops and contributes to healthy plants everywhere.
- About 75% of all flowering plant species need the help of pollinators, such as bees, wasps, moths, butterflies, flies and beetles, to move their heavy pollen grains from plant to plant for fertilization.
- In addition to insects, as many as 1,500 other species such as birds and mammals serve as pollinators—including hummingbirds, perching birds, fruit bats, lemurs and more!



Garden & insect vocabulary words:



FLOWER

RAIN

SOIL

INSECT

VEGETABLE

POLLINATION

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*These activities were created in partnership with
Outdoor Afro and KinderCare Education.*

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Head to www.outdoorafro.com to learn more.

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