



ABOUT CAN YOU DIG IT

Can You Dig It? is a three part program designed to connect youth and teens to gardening, farming, and our food system. *Can You Dig It?* includes three activities: Seed Starting, Planting & Growing, and Harvesting & Seed Collection

This educational resource is part of Grow: Johnson County’s youth empowerment programming that aims to reconnect youth with gardens, farms, ecosystems, and to create spaces for cooperative learning.

Please adapt and make appropriate adjustments and additions for your community’s needs.

To learn more about the program, **visit our website at www.growjohnsoncounty.org/canyoudigit**

LESSON A | TIMING IS EVERYTHING

Lesson A- Timing Is Everything

Essential Question: How do I prepare my transplants for planting in the garden?

Background and Starting Where You Are:

- a.) There is a lot of fun vocabulary to understand when plants are ready to move from indoors to outdoors! (See vocabulary section!)
- b.) Once your seedlings are at least a few inches tall, large enough and have 3 true leaves they can be hardened off in their pots before they are strong enough to be transplanted outdoors.

- Materials:**
- Transplants
 - Watering Can
 - Trowel
 - String for marking

- Vocabulary:** *(visit our website for definitions)*
- sustainable
 - transplants
 - true leaves
 - cotyledon
 - hardening off

Preparation for Education:

- a.) Identify a place outdoors where you will bring your transplants for hardening off.
- b.) Be sure to find a suitable location where plants are not in direct contact with the soil or wet grass. Preferably upright on a table or similar surface.
- c.) Check the weather to ensure good conditions for bringing your plants outdoors. Outdoor temps should reach at least 45 degrees before you begin the hardening-off process.
- d.) Begin hardening off a week prior to planting in the garden.

Activity:

Follow these steps to harden off plants:

- a.) Place your seedlings outside for an hour or two in mid- to late-afternoon, in a spot that will protect them from direct wind and sunlight.
- b.) Lengthen outdoor time for your plants bit by bit. Each day, leave your seedlings outside for an hour more than you did the previous one, gradually exposing them to more sunlight and

wind until they are able to spend an entire night outside. **Repeat this each day.**

- c.) A couple days before transplanting leave the plants outside all day and night.
- d.) Keep the soil moist at all times during the hardening-off period.

Guiding Question For Youth:

What are some ways gardens help us understand sustainability?

Dig Deeper:

10 easy seeds to direct sow:

- Peas: (tolerate cool season better than most plants)
- Roots: radish, garlic (wait to plant until fall)
- Greens: spinach, arugula, lettuce
- Herbs: cilantro, dill
- Flowers: zinnia, sunflowers

Caring for Your Plants:

Water

Seeds need water in order to grow. **Be sure to provide adequate moisture levels, especially while your seeds are germinating.**

Mange Weeds

Weeds should be removed throughout the season. **Weed removal is especially important**

when weeds are small. If young seedlings have to compete with weeds for resources they will struggle. Get weeds out as they appear so that your seedlings don't have to compete.

Mulch

Putting a thick layer of mulch (straw or chopped leaves) in areas of the garden that have not been planted. Not only will this prevent weed growth but it will prevent soil erosion. Once your seedlings have grown a few inches above the soil it is good to put a layer of mulch around them as well.

Thinning

Once your seedlings have a set or two of true leaves, its time to thin. Its important to thin when plants are small. Thinning is simply removing excess plants so that the rest of the plants are at the proper spacing (usually listed on the back of the seed packet) to mature.

Tips for Garden Design Success:

Tip! Planting your garden on a site that receives 6-8 hrs of sunlight is best!

Crops grown for their leafy greens (like kale, lettuce, and spinach) can usually tolerate some degree of shade and shade could be beneficial if you're growing them in the warm season. Crops grown for their roots (like carrots, beets, and radishes) can also tolerate a little shade. But crops grown for their fruit (like tomatoes, peppers, and watermelon) usually require full sun.

Tip! Always plant taller plants in the northernmost portion of the garden so they don't cast shade on other plants.

In addition to vegetables and fruits, plant a variety of flowers in your garden so that there is always something in bloom. This will attract pollinators to the garden which are essential to the function of the garden ecosystem.

For additional information, refer to these additional resources included in the *Can You Dig It* packet:

Resource F: LifeLab.org has wonderful school garden resources for educators, watch their YouTube video titled *CSYSG Seed Starting and Transplanting*

Why is this a helpful resource? You can learn more about garden seeding strategies like broadcasting, drilling, and furrowing methods.

Resource G: *Gardens for Learning: Planting Your School Garden*, pages 11-14

Why is this a helpful resource? This print out includes advice and tips specifically designed for school gardens

Resource H: Maximize your space through companion planting. Use the Companion Planting guide on page 472 of the *Growing Classroom Activity Guide* provided in your kit.

Why is this a helpful resource? This resource details why plants benefit from companion planting.



LESSON B | ROOT TO SOIL

Lesson B- Root to Soil

Essential Question: How can I successfully plant my transplants?

Background and Starting Where You Are:

It's time to tuck your transplants into the ground whether it's in a raised bed, a large garden, or a container. There are cultural practices in gardening that ensure health, beauty, and abundance in the garden.

One of the ways to ensure health is to practice crop rotation, if this isn't your first year gardening at this site. Many diseases are soil borne and can survive in the soil for many years. Organic systems rely on a modern, scientific understanding of ecology and soil science. They also depend on traditional methods of crop rotation to ensure soil fertility as well as weed, pest, and disease control.

Often plant diseases are specific to particular plant families so try not to plant a crop from the same family in the same spot year after year. If you planted tomatoes in the west corner of garden try not to plant crops from the nightshade family in that corner for a few years.

Materials:

Hardened off transplants
Trowels
Watering can
String for marking

Vocabulary: *(visit our website for definitions)*

cultural practices
rotation
plant families
diversity

Preparation for Education:

a.) Prepare the garden for planting.

Check your garden soil. It should be moist but not soaking wet.

b.) Make sure plants have been properly hardened off and are free of disease and pests before planting the garden.

c.) Mark out the garden with twine to break it up into beds or rows for your transplants. That way students have a clear idea of where to plant each crop.

Review:

1.) Transplant spacing requirements on the back of your seed packets.

2.) Review Some Common Plant Families and Their Crops:

- a.) Nightshades (Solanaceae) Tomatoes, Peppers, Eggplant, Potatoes, tomatillo.
- b.) Legumes (Fabaceae) Beans, Peas
- c.) Grasses (Poaceae) Oats, Rye, Wheat, Corn
- d.) Cucurbits (Cucurbitaceae) Cucumbers, Watermelon, Squash
- e.) Brassicas (Brassicaceae) Broccoli, Kale, Collards, Cabbage, Brussels Sprouts, Kohlrabi

d.) If possible, transplant on an overcast day to avoid intense sun, which can stress your seedlings.

Activity:

- a.) Dig a hole that's bigger than the plant's root ball and gently loosen the roots before setting the plant in the hole. This encourages strong root development.
- b.) Place the plant into the hole about the same depth that it grew in its pot. Be sure to cover its roots with loose soil. Tamp down the soil gently but firmly, if your climate is very dry.
- c.) Spread mulch around the plants to prevent moisture loss. Some great mulch options in the garden are straw and chopped up leaves.
- d.) Watering plants regularly will help plants become established in their new environment.

Guiding Question For Youth:

In what ways is diversity in the garden important?

Tips for Success:

Tip! Memorial Day is a consistent final frost date in Zone 5. (Check the USDA Hardiness Zone Map to get an idea of when you might begin this process in your region)

Tip! Try as we might, we always seem to leave some seedlings in their cells a little too long and they become root-bound. As we transplant those, we gently break up their roots, ever so slightly, encouraging them to explore the world outside their little box of roots once they're planted.

Tip! For frost-sensitive transplants like tomato, basil and zinnia, it's essential to transplant them after your final frost. Keep in mind that soil takes longer to warm than air, so resist transplanting warm season plants until nights are consistently above 50 F for optimum plant growth.

LESSON C | TUCKING IN YOUR SEEDS

Lesson C- Tucking In Your Seeds

Essential Question: How do we direct sow seeds outdoors in the garden?

Background and Starting Where You Are:

Directly sowing seeds in your garden is the easiest and quickest way to garden. Each crop has a certain time of year that it prefers to be planted based mainly on temperature (both air temperature and soil temperature). Refer to your seed packets to know when to plant preferred varieties.

Materials:

Seed Packets
Trowels
Watering can
String for marking

Vocabulary: *(visit our website for definitions)*

direct seeding (direct sow)
broadcasting
furrowing
drilling
thinning
nutrients

Preparation for Education:

- a.) Determine which crops will be direct seeded. If soil and air temperatures are right, it's time to start planting.
- b.) Placing a string along the length of the bed can help achieve straight lines and proper spacing.

Activity:

Step One: Collect your tools, seeds, and garden plan and head out to the garden.

Step Two: Check the seed packet to see how deep to plant and how far apart to space the seeds

Step Three: Show students direct sowing techniques then ask three students to demonstrate each of three techniques: broadcasting, furrowing, and drilling.

Step Four: Mark your seed beds! That way when seeds germinate and begin to grow, you can identify your crop versus a weed.

Guiding Question For Youth:

Why is diversity in the types of foods we eat important?

Ideas for Youth Action:

Amplify your voice by joining an organization working on food issues. Here are some local organizations:

Table to Table, www.table2table.org

Iowa City Free Lunch Program, <https://iowacityfreelunch.org>

Global Food Project, www.iccompassion.org/globalfoodproject

Field to Family, www.fieldtofamily.org

Connect with teachers and administrators and fellow allies at your school and start the conversation about local food, school gardens, and cafeteria composting. Advocate for these things! **Student demand is often where new ideas emerge and things start to happen.**

The organic movement encourages individuals to act on a local level, while thinking about how the local level affects the world.



Want to learn more? We're available to help! Interested in expanding this lesson into a field trip at our farm? Reach out to us at our website growjohnsoncounty.org/canyoudigit and fill out the interest form.