COMPOST KITCHEN

Summary: Students put together a variety of biodegradable materials in a "buffet" style, mix them together, and dump them into the compost. Through this process, they discover the 'Soil to Soil Cycle' and learn to appreciate the worms they are "feeding" through contributing to the compost bin or pile.

Standards Covered:

1. Quantity relations--the specified or indefinite amount of objects, people, and/or events, which can be measured or counted.
2. Size relations--"how big" or the extent, degree, magnitude, proportion, or dimension of objects, people, and/or events.
3. Temporal relations--how objects, people, and/or events are ordered/sequenced based upon units or periods of time.
4. Children demonstrate understanding of the attributes of objects, people, and/or events using color, quality, shape, and texture concepts and terms.
5. Sharing is encouraged during this activity for students will be using the same "ingredients" and supplies.
6. Classifying --the ability to group/sort animals, events, objects, people, sounds, etc., based upon various attributes.
7. One to one--the ability to pair a label/name, symbol, or action of one object, person, and/or event to another.
8. Segmenting and Blending--the ability to separate, split up, or disassemble a whole into portions or parts and/or put together, combine, mix, or assemble portions or parts into a whole.

Time Frame: 30 minutes -1 hour (recommend as a station among other activities where children can come and go).

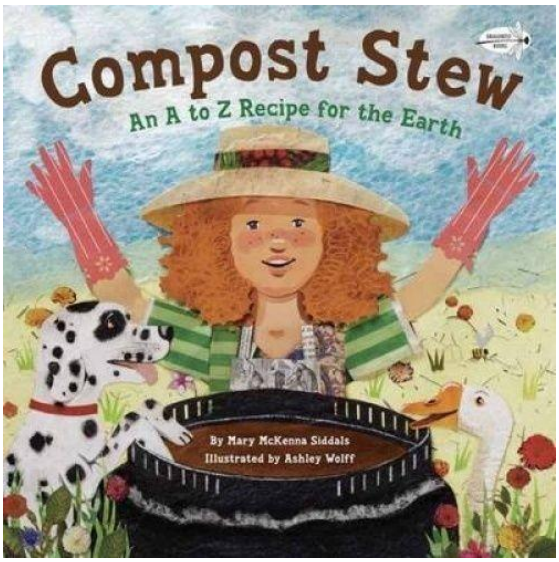
Season: Any, but preferably this activity should be done outdoors due to potential messiness

Ages: Pre-K, Kindergarten, 1st Grade

Materials Needed:

- A compost structure or bin (though not required--a bucket could be used and then be taken to a proper site later if a compost structure is not available on site).
- Kitchen supplies--various sizes of pots and pans, mixing spoons, spatulas, etc. (do not use glass materials!) Old, used, recycled or thrift store-bought items are recommended since they will be filled with dirt, water, and other organic matter.
- Spray bottles filled with water.
- Kid-friendly scissors or plastic knives (with supervision).
- Organic Materials- examples include sand, soil, egg shells, flowers, vegetables/vegetable scraps, sawdust, newspaper, cardboard, coffee grounds and any other compostable items. Younger children get excited about mixing colors and textures so the more options, the better!

Suggested read-aloud: Begin or end the lesson with a children's book celebrating composting or decomposing vegetables. We recommend:



Compost Stew by Mary Mckenna Siddals

Procedure:

1. Before the lesson begins, lay out all materials on a flat surface, each with their own containers, buffet style, within easy reach of the students.
2. Spread out pots, pans, spoons, and scissors/knives for students to choose from.
3. Demonstrate how students can choose what they add to their pot, encouraging a variety of textures, colors, and sizes. Show how to mix it together in a chef-like style, occasionally spraying with water. Remind students to sufficiently cut up a larger items by asking "how big is a worm's mouth, could they chew that?" Smaller pieces encourage decay and speed up the composting process.
4. Reinforce the concept that they are creating worm food and "pies" or "stews" continuously throughout the activity.
5. When finished, the students will "feed" the worms by pouring their creation into the designated compost bin/area.
6. Excess items left over after the activity may be saved for the next time this activity is done or added directly to the compost area.

SUNFLOWER SEED STARTS

Summary: Students will begin sunflower seeds in starter pots to later be planted in the school garden (or taken home). While doing so, students will learn about the sunflower life cycle, record observations, and count seeds.

Standards Covered:

1. Quantity relations--the specified or indefinite amount of objects, people, and/or events, which can be measured or counted.
2. Reliance--allows children to understand there are interdependencies and interconnectedness between objects, people, and/or events.
3. Creating--when children demonstrate the ability to design, produce, and/or construct new "things".
4. One to one--the ability to pair a label/name, symbol, or action of one object, person, and/or event to another.

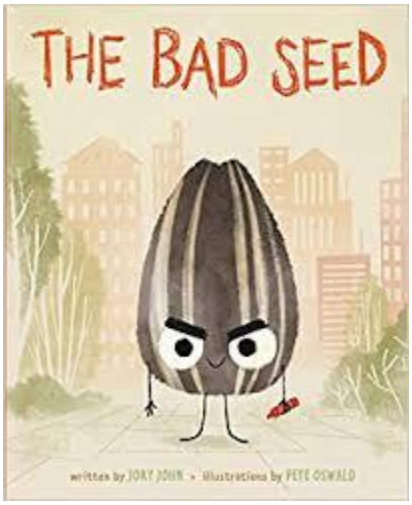
Time Frame: Activity: 30-40 minutes, Sprouting/follow up: 7 -10 days

Ages: PreK-3rd Grade

Season: Spring or summer is ideal as full sun and warmth is necessary if planning on transplanting outdoors. Though this lesson can be done inside the classroom year-round if you are not planning on the flowers reaching maturity.

Materials Needed:

- Cups, jars, or other small containers (Encourage students to collect and reuse containers commonly found at your school--yogurt cups, individual milk cartons, etc.)
- Sunflower Seeds
- Potting soil
- Popsicle sticks and sharpies (to label cups/ write names)
- Notebook or sketch pad to record progress over time and writing/drawing utensils



Suggested read-aloud: Begin or end the lesson with a children's book about planting, seeds, or sunflowers. We recommend:

The Bad Seed by Jory John

Procedure:

1. Begin with a lesson on sunflowers and/or how seeds sprout (see 2 worksheets below). https://www.almanac.com/plant/sunflowers is a great resource for creating a unique sunflower lesson.
2. Give every student a cup and have them label it with their names (either directly with markers or on a popsicle stick to be stuck into the soil after planting).
3. Have students add potting soil to their containers and a sunflower seed. Show how to plant the seed at the correct depth, discussing what might happen if the seed is planted too deep or too shallow.
4. Find a sunny area of the classroom or sheltered area outside to store the planters (weather permitting). Water the seeds regularly, though how much and how often is dependent on their placement and ambient air temperatures. Encourage students to "sprinkle, not soak."
5. Seeds will take 7-10 days to show signs of sprouting.
6. Have students record observations regularly in a notebook, drawing and/or writing about the progress and changes the seed has made, labeling new parts as they appear. Let students be creative with the timeline aspect and potentially create art for the classroom, hallways, or school garden kiosk if available.

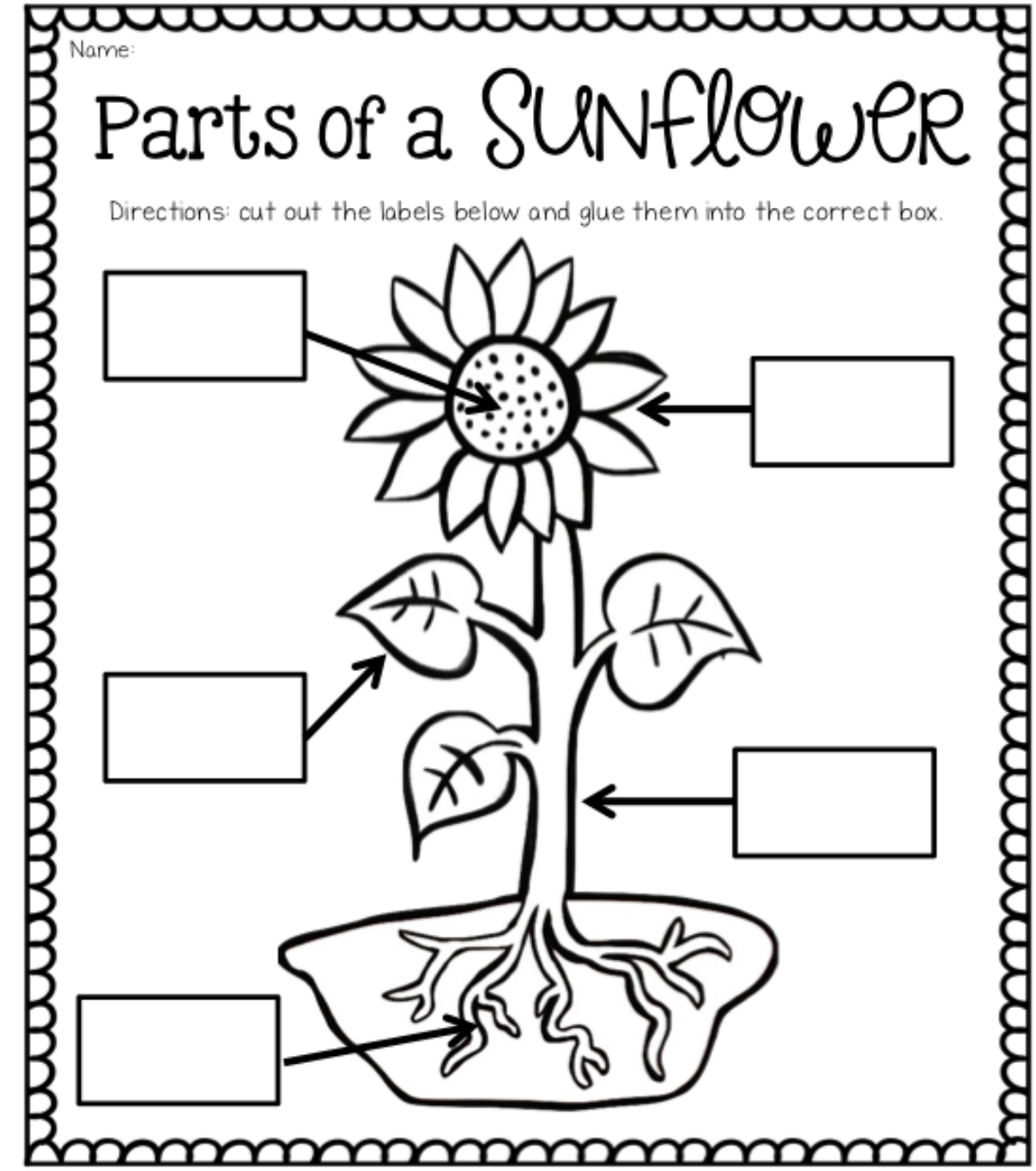
Transplanting Sunflower Starts to the School Garden:

Keep in mind the soil must be 55-60 degrees with no chance of frost before transplanting the sunflower starts outdoors. The last frost date varies depending on geographic location, however, after Mothers Day is a good reference date. Plant each sprout in full sun at least 6 inches apart, leaving plenty of room for growth, keeping in mid the exact distance will depend on which type of sunflower seed you are planting. Water regularly until established. Continue the regular journaling and observations throughout the flowers' life cycle. (Seeds will still sprout in the classroom during the winter season and can be an interesting lesson. However, prepare children and talk about how/why the chances of further survival and full growth are slim.)

Dig deeper

Designate separate cups for experimenting with different variables such as no soil, too much water, no sunlight, "watered" with cola, planted too deep, etc. (let them be creative with their own ideas!). Students can compare and contrast these with their own cup. This reinforces the concept that plants thrive with water, sunshine, and rich soil.

Optional Worksheets and/or Take Home Materials:



flower | seeds | stem | leaf | roots

Sunflower

Botanical Scientific Name: Helianthus
Plant Type: Flower
Sun Exposure: Full Sun
Color: Yellow
Soil pH: Alkaline Basic, Neutral

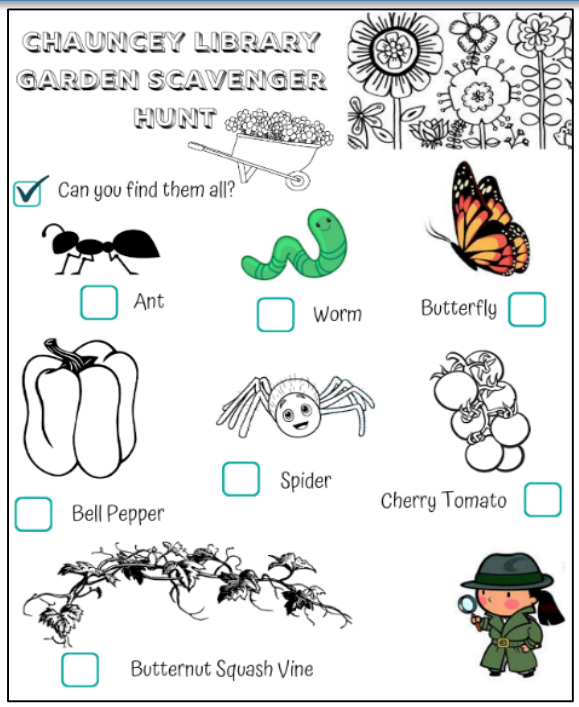
The sunflower is native to the America's and was used extensively by Native American Indians for food, as oil, in bread, medical ointments, dyes and paints.

Birds and butterflies are some of Sunflowers most frequent visitors!

The tallest sunflower on record is 30 feet and 1 inch tall!!

Sunflowers display a behavior called heliotropism. The flower buds and young blossoms will face east in the morning and follow the sun as the earth moves during the day.

SENSORY GARDEN SCAVENGER HUNT



Summary: Students will explore, hunt, and discover in the garden, seeking to find items from a list unique to your school garden or outdoor area.

Standards Covered:

1. One to one--the ability to pair a label/name, symbol, or action of one object, person, and/or event to another.

2. Symbolizing--the ability to use words, objects, people, pictures, icons, characters, or labels to take the place of and/or represent another event, idea, emotion, location, object, or person.

Time Frame: approx. 30 minutes (can vary greatly depending on the length and difficulty of the list).

Ages: PreK-4th Grade

Season: Any

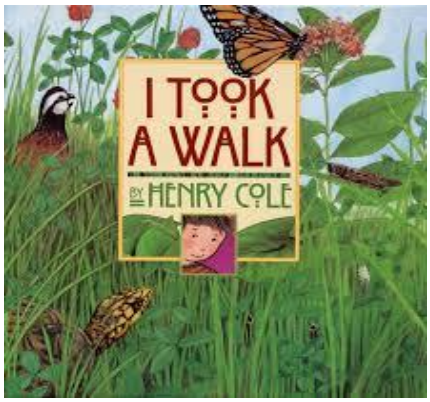
Materials Needed:

- Customized scavenger hunt specific to your School Garden (one copy per student or per pair/group)
- Clipboards
- Writing utensils
- Magnifying glasses (not required but fun for younger children)

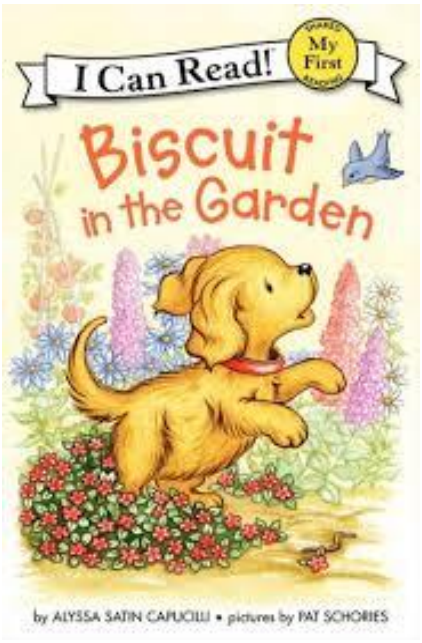
Procedure:

1. Prior to the lesson**,** create your scavenger hunt list. Be creative and build a multi-sensory experience by utilizing the following examples:
    - Scent- herbs, differences in smells between soil vs. mulch
    - Sound- Have students listen for bees buzzing or the wind blowing
    - Sight- Play with colors, numbers, and sizes in the garden. Have students search for specific fruits and vegetables growing
    - Touch- Have students describe things they can touch in the garden
2. Each student (or pair) is given a clipboard, scavenger hunt list, writing utensil, and magnifying glass.
3. Review the rules of the garden and remind students that this is not a race before sending them off to explore and check off the items on their list.

Suggested read-aloud: Begin or end the lesson with a book about nature walks, exploring a garden or new place, or following a map. We recommend:



I Took a Walk by Henry Cole



Biscuit in the Garden
by Alyssa Satin Capucill

Dig deeper: Modify for older students by adding vocabulary words such as, “soft”, “spiky”, and “smooth” around the garden on rocks or random objects. Challenge students to think of their own describing words while exploring the garden.