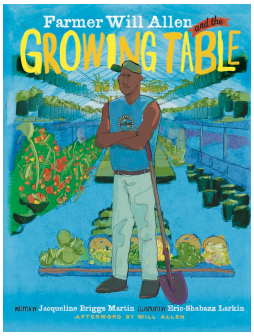
New York Agriculture in the Classroom

Exploring Vermicomposting

Modified from the lesson "Vermicomposting" on the National Agriculture in the Classroom Curriculum Matrix.



Time:
40 minutes

Alternative:
If a volunteer reader is not able to visit a classroom, a recording of the book is available to show your classroom.

Join NYS Assemblymember Jaime Williams of Brooklyn to hear her reading of this year's book.

Vermicomposting:
Chief Worm Wrangler Bill Richmond of the Adirondack Worm Farm opens his commercial worm farm for our program.

Watch our video sharing his story and showing his compost operation to learn more about vermicomposting.

View our online resources by holding your phone's camera over the code below or visit agclassroom.org/ny.

Program Notes

Agricultural Literacy Week 2022 celebrates that agriculture is a unifying factor in communities across our state. Whether farming in unique urban spaces or rural landscapes, food brings people together. Read the story of Farmer Will Allen and help students understand that a love for growing food and stewardship for our soil and natural resources can be found everywhere.

- Introduce yourself and your connection to agriculture. Read the book *Farmer Will Allen and the Growing Table.*
- After reading the book, transition into the below activity.
- It is important to remember that the worm taxis should be returned to County Coordinator, and not left with the classroom.

Materials

- Worm Taxi (travel container with worms)
- 1 Pair of Gloves
- 1 White Placemat per 2 Students

Activity Procedures

Interest Approach (5 minutes)

1. Ask students what the word *recycling* means.

2. What happens to leaves in the forest in autumn? (*They fall to the ground.)* Why don't the leaves pile up higher and higher? (*They break down/decompose and become part of the soil.*)

3. Explain that food can be recycled in the same way leaves are recycled in the environment. Food can be recycled into a special soil that can give plants the nutrients they need, and the secret to creating the special soil is worms. Red wiggler worms helped Farmer Will Allen transform the soil in his community farm.

Worm Environment (10 minutes)

1. Open the worm taxi and show the elements of a healthy environment for the red wigglers. Show the paper and cardboard bedding, compost, soil, food scraps; share that water is important, and show the lid with holes for sufficient air for the worms.

2. Ask students what they think worms would like to eat. (*Food scraps from fruit, vegetables, and grains; coffee grounds and filters, fallen leaves, eggshells, lawn clippings. Meat and dairy are not recommended*.)

3. Share that the worms eat everything in the bin (paper included!). The nutrients from the food the worms eat create the product that comes out of the back end of the worms, the castings (poop!) are healthy for plants to grow strong.

Worm Investigations (10 minutes)

1. Explain that in a moment the students will have a chance to explore and interact with the worms. Remind them that the worms are alive, and it is important to treat them gently and with respect.

2. Pair the students at their workstations or desks and hand out one white placemat per every two students. Using the gloves, gently transfer a small handful of the contents of your Worm Taxi (include some bedding, soil, food, and worms) to each placemat.

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Lesson & Extension Activities

Activity Procedures, continued:

3. Instruct the students to watch the worms for one minute and observe their behavior.
    a. Which end is the head, and which is the tail? What is your justification?
    b. Pick up the worm gently and describe the texture of the worm, what does it feel like?
    c. Place a barrier in front of the worm (pencil, pile of soil, crumbled piece of paper) and watch how they respond to the barrier.

4. Collect the worms back into the Worm Taxi.

Conclusion (3 minutes)

- What are 2 examples of foods we can feed to worms instead of throwing away?
- When worms eat the food in their environment, what do they produce? (*Nutrient-rich castings*)
- What are 2 of the basic needs of red wiggler worms? (*Food, water, temperature*)

Worm Taxi Return

Volunteer readers should return the Worm Taxi back to the County Coordinator and the main vermicomposting bin. The worm taxis should not be left with the classroom teacher unless they are committed to starting and managing a tote- or bucket-based worm bin and understand the responsibility of taking care of the vermicompost system.

Classroom Vermicompost Resources

Worms are a great addition to a classroom environment, and additionally, they produce a great nutrient-dense addition to your school garden.

Two full lesson plans for grades K-2 and 3-5, along with full instructions for building a classroom worm bin. Move through additional observational experiments with the worms, recording stimuli responses, and environmental conditions.

Follow the QR code below to access the lessons.

National Agriculture in the Classroom Conference

New York Agriculture in the Classroom is the proud host site of the National Agriculture in the Classroom Conference to be held in Saratoga Springs from June 28-July 1, 2022.

Earn up to 28 hours of CTLE credit for your full participation in the premier professional development conference for teaching through a lens of food and agriculture.

Scholarships are available and due April 15, 2022, on agclassroom.org/ny.