



Lesson 5: Soil Needs Friends

Grade Level: 2nd grade

Time: 1 hour

Subjects: ELA, Science

Overview: This lesson is Lesson 5 of 5 in *The Soil Neighborhood* unit within the Growing Readers micro-curriculum, based on a series of books written by Kansas author Dan Yunk. Lesson 5 serves as a culminating hands-on science and literacy lesson focused on reinforcing the concept that soil needs friends to stay healthy through direct modeling, observation, discussion, and comparison of information from multiple sources. Students build understanding by creating and observing a cover crop monster model that represents how plant roots support soil health, while engaging in structured discussions that connect ideas from the text, a hands-on model, and a video about cover crops. This lesson reinforces comprehension, vocabulary development, oral language, and informative writing aligned to second-grade expectations, supporting a deeper understanding of soil–plant relationships and intentionally bridging student learning to the next unit, *Celebrate Wheat*, which explores how healthy soil supports crop growth and agricultural production in Kansas.

Skillset: Soil health, soil “friends,” cover crops, observation and modeling, vocabulary development, reading comprehension, text-based questioning, comparing information from multiple sources, oral language and discussion, and informative writing.

Kansas Academic Standards:

Kansas ELA Standards

RI.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

RI.2.4 Determine the meaning of words and phrases in a text relevant to a Grade 2 topic or subject area.

RI.2.8 Describe how reasons support specific points the author makes in a text.

W.2.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Science Standards

2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.

K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

National Agriculture Literacy Outcomes:

Agriculture and the Environment

T1.K-2 d. Provide examples of how weather patterns affect plant and animal growth for food.

Plants and Animals for Food, Fiber, and Energy

T2.K-2 a. Explain how farmers/ranchers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop

- e. Identify the importance of natural resources (e.g., sun, soil, water, minerals) in farming

Objectives:

Science Objectives

Students will be able to:

- identify soil “friends” (organisms) discussed in the book and describe how they help plants grow and survive
- explain how living and nonliving components of soil work together to support plant growth.
- make observations, and gather information about how farmers help soil using real-world practices such as cover crops.
- use a physical model (cover crop monster) to explain how plant roots help soil stay healthy and stable.

English Language Arts Objectives:

Students will be able to:

- ask and answer who, what, where, when, why, and how questions to demonstrate understanding of key details in the text.
- describe connections between ideas in the text and steps in the cover crop activity.
- determine the meaning of soil-related vocabulary using context and illustrations.
- identify reasons the author gives for why soil is important.
- compare information from the text with the cover crop monster activity, identifying similarities and differences in how soil helpers are represented.
- write an informative piece that introduces the topic, uses facts and definitions to explain how soil needs friends, and includes a concluding statement.

Materials Needed not Provided

Soil (1 cup per student). We recommend asking your school maintenance or local farm supply store.



Materials Needed

- Book: *The Soil Neighborhood* by Dan Yunk
- Nylon socks
- Potting soil
- Grass seed
- Plastic cups (for holding socks while filling)
- Mini elastic bands
- Thumb tacks
- Glue
- Googly Eyes
- Condiment cups
- Sealable bags (optional for sending home)
- Drawing/writing paper for W.K.2
- Chart paper and markers

Lesson Procedures

1. Book Orientation and Re-Reading
 - a. Explain to students: *“Soil is full of life! Underground, there are tiny creatures, plant roots, and materials that help soil stay healthy. These are the soil’s friends. They help make the soil a good place for plants to grow. We’ve read The Soil Neighborhood before. Today, we are rereading the book to learn more about the friends that live in soil.”*
 - b. Prompt: *“As we reread, let’s pay attention to all the soil helpers and think about how they help the soil stay healthy.”*
2. Vocabulary and Comprehension. No mention of cover crops or erosion in the book discussion; keep this strictly tied to the text.
 - a. As you re-read the text, pause to review and discuss the following vocabulary words using both text evidence and illustrations:
 - Soil
 - Neighborhood
 - Neighbors (Clay, Rocky, Sandy, earthworms)
 - Root
 - Minerals
 - Bacteria
 - b. Ask students:
 - *“Who are the helpers that live in the soil neighborhood?”*
 - *“What jobs do the soil neighbors do to help the soil?”*
 - *“Where do the soil helpers live and work?”*
 - *“Why does the author explain that soil is important for plants?”*
 - *“How do the soil neighbors help plants grow and stay healthy?”*
 - c. Prompt students to use details from the text and illustrations when answering questions:
 - *“What in the picture helps you know that?”*
 - *“What did the author say that helps answer this question?”*
3. Introducing Cover Crops (Kansas Connections). Explain to students: *“Our book showed us the helpers already living in the soil. Farmers can help by planting special plants called cover crops. Even though our book doesn’t talk about cover crops, today we are going to learn about them because they help take care of the soil, just like the*

soil friends in the story. In Kansas, we get a lot of wind and sometimes not very much rain. This condition can make it hard for the soil to stay healthy. That's why Kansas farmers work to protect their soil. Farmers use things in the soil neighborhood, like worms and roots, and they also plant cover crops to give the soil even more help. Cover crops are plants that grow when other crops are not growing. Their roots help hold soil in place and keep it strong."

- a. Direct students: *"Let's watch a quick video to understand what a cover crop is and why it is an important friend to soil."*
Watch the YouTube video: "What are cover crops?"
[What Are Cover Crops?](#)
- b. Ask students: *"How might adding plants help the soil, just like the helpers in the book?"* (Teacher may need to prompt with additional guiding questions. Possible student answers: roots help hold soil, plants feed the soil like the bacteria family, chewing up the roots; plants help keep the soil moist.)
- c. **Activity Procedures:**
 1. **Cover Crop Monster**
 - a. Explain to students: *"Now that we understand how important cover crops are to soil, we are going to make a model that shows how plants help the soil. This little model is called a cover crop monster. The monster will grow green hair because the seeds inside will sprout roots and stems. We are going to help the soil just like the farmers do!"*
 2. Prepare the Sock
 - a. The teacher holds up a nylon sock. *"First, we are going to stretch our sock over the top of our cup. The cup will help keep the sock open."*
 - b. Teacher models: *"Watch me stretch it over the cup. Now it looks like a little bucket."*
 - c. Students repeat.
 3. Add the Seeds
 - a. Explain to students: *"Next, we are going to add our seeds. These are the seeds that will grow hair on your monster. These seeds act like helpers to the soil, just like the friends in The Soil Neighborhood!"* The teacher models putting one tablespoon of seeds into the sock. Teacher prompts: *"Everyone, add your seeds gently to your sock."* (Wait for students to finish.)
 4. Add the Soil
 - a. Explain to students: *"Now we are going to give our seeds a home! Soil gives seeds food, water, and a place to grow. This soil is the same as the soil or dirt that plants need outside."* The teacher models scooping soil with a spoon or a cup. *"As you put soil in, fill it until your sock is about the size of a baseball."* The teacher moves around to support students.
 5. Mix the Soil and Seeds

- a. Direct students: *“Now we are going to mix our soil and seeds so the seeds can grow all through the ball. Use your fingers to squish and mix.”* (The teacher models gently pressing the sock).
 - b. Ask students: *“How does it feel? Is it squishy? Lumpy? Smooth?”*
6. Tie the Sock Closed
 - a. Direct students: *“Now we need to close our monster’s head! When I tie the knot, it keeps the soil safe inside so the seeds can grow.”* (Teacher models tying a knot in the sock). Students tie their knots or get help.
7. Create the Monster’s Face
 - a. Direct students: *“Now the fun part, let’s make a face! You can use rubber bands to make a nose or a mouth. Then we’ll add eyes so your monster can watch its hair grow.”* (Teacher models adding rubber bands for facial features and googly eyes to thumbtacks, then placing them).
 - b. Remind students: *“Be careful not to use too much glue. Raise your hand if you need help.”*
8. Seat the Monster in Its Cup
 - a. Direct students: *“Place your monster in the little condiment cup. The cup will help keep it standing while it grows.”* (Model placing the monster upright.)
9. Watering & Care Instructions
 - a. Explain to students: *“Our monsters are going to stay right here in the classroom. We will check on them every day, as scientists do. We will watch for changes, like the soil getting wet, roots growing, or green hair popping out! We will water them together when they need it. The soil should stay moist, not too wet.”*
 - b. Ask students: *“What do you predict will happen first: the roots growing or the stems coming out of the top? Do you think farmers check their cover crops after they plant the seeds to see how they are growing?”* (Allow answers)

Lesson Procedures Continued

1. Summarize
 - a. Explain to students: *“In our book *The Soil Neighborhood*, we learned that soil has lots of helpers: clay, sand, rocks, worms, bugs, bacteria, and roots. Our monster is another soil helper because the plant roots will hold the soil together, just like real cover crops do for farmers.”*
 - b. Ask students:
 - *“How is our monster like the soil friends in the book?”*
 Students may say: *“It helps soil; it has roots; it grows in soil.”*
2. Writing Component
 - a. Explain to students: *“Today, we are going to write an informative piece about soil and how soil helpers support plant growth. Informative writing teaches the reader about a topic. Good informative writing has three parts: it introduces the topic, explains ideas using facts and definitions, and ends with a concluding sentence.”*
 - b. Display sentence starters and writing expectations.
 - Introduction: *“Soil needs friends because...”*
 - Definition: *“A soil helper is...”*



- Facts: “Plants help soil by...”
 - Conclusion: “Healthy soil is important because...”
- c. Explain to students: “These sentence starters can help you as you write. You will use them as we go, one sentence at a time.”
 - d. Explain expectations briefly to students: “You will write at least four complete sentences; one to introduce your topic, one or more to teach with facts, one or more with a definition, and one to conclude your writing.”
 - e. Model an oral example for the introduction, “Listen to my first sentence. This sentence is my introduction because it tells my topic: “Soil needs friends to stay healthy.”
 - c. Direct students say: “Before you write, say your first sentence quietly to yourself. Make sure it tells your topic.”
 - d. Have students write their topic sentence. While students are writing, circulate and ask:
 - “Read your first sentence to me. Does it tell what your writing is about?”
 - “What is your topic? Make sure your first sentence tells the topic.”
 - e. Model an oral example for facts and definitions: “Now I need sentences that teach the reader using facts and definitions.
 - Listen to my example: “A soil helper is a living or nonliving thing that helps plants grow. (That is a definition.)”
 - “Plant roots help soil by holding it in place and keeping it healthy. (That is a fact we learned.)”
 - f. Direct students say: “After your topic sentence, write sentences that teach the reader. Use facts or definitions from the book and our cover crop monster model.”
 - g. While students are writing, circulate and ask:
 - “Tell me one fact you learned about soil helpers.”
 - “What does that word mean? Can you explain it in your writing?”
 - “Does this sentence teach the reader something new?”
 - h. Model an oral example for the conclusion. “Now I need one last sentence to wrap it up.
 - Listen to my conclusion. “Healthy soil is important because it helps plants grow and gives us food.”
 - i. Direct students say: “When you are done teaching your reader, write one last sentence that explains why healthy soil matters.”
 - j. While students are writing, circulate and ask:
 - “Read your last sentence. Does it explain why soil matters?”
 - “How does this sentence wrap up your writing?”
 - k. Remind students: “Before you finish, check your writing. Do you have a sentence that introduces your topic, sentences that teach your reader with facts and definitions, and a sentence that concludes your writing?”
 - l. Explain to students: “You just finished teaching someone else about soil and how soil helpers support plant growth through your writing. Now we are going to think more carefully about where our ideas came from. We learned about soil helpers from the book *The Soil Neighborhood*, from our cover crop monster activity, and from the video about cover crops. Let’s compare what we learned from each one to see how they are the same and how they are different.”

3. Comparing the text to the Crop Monster Activity. Explain to students: “Sometimes we learn information from books, and sometimes we learn from activities and videos. Comparing helps us understand ideas more deeply.”
 - a. Ask students the following comparison questions, guiding them to reference the book, the activity, and the video:
 - “How did The Soil Neighborhood show soil helpers?”
 - “What did our cover crop monster model show us about how plants help soil?”
 - “What did the video teach us about cover crops that was not in the book?”
 - b. Ask students to compare similarities and differences:
 - “How are the soil helpers in the book and the cover crops in the video the same?”
 - “How are they different?”
 - “How do all three help us understand why soil needs friends?”
 - c. Expected answers:
 - Same: They all help keep soil healthy; they help plants grow.
 - Different: The book shows helpers underground; the activity shows roots growing; the video shows cover crops in fields.
4. Kansas Connection. Explain to students: “The book, our activity, and the video all connect to something important about where we live. In Kansas, farming is a big part of our state, and farmers work hard to take care of the soil.”
 - a. Guide a concluding discussion using questions such as:
 - “Why is healthy soil important for farmers in Kansas?”
 - “How do cover crops help farmers take care of their soil?”
 - “Why might farmers plant cover crops when their main crops are not growing?”
 - b. Connect student learning to real life and say:
 - “Kansas farmers use soil helpers like worms, roots, and cover crops to keep their soil healthy so they can grow crops like wheat. Healthy soil helps farmers grow food for people and animals.”
 - c. Conclude the lesson and say:
 - “Today, you learned that soil needs friends. You learned this from a book, an activity, and a video. All of them helped you understand how soil helpers and cover crops keep soil healthy and help plants grow.”

Assessment:

Student understanding is assessed through ongoing formative observation of participation in the cover crop monster model, use of soil-related vocabulary during discussion, responses to text-based questions, oral comparison of ideas from the book, activity, and video, and informative writing that introduces a topic, uses facts and definitions, and includes a concluding statement demonstrating understanding of soil health and plant–soil relationships.

Supplemental Activities:

1. Have students keep a daily journal and draw what their crop monster looks like each morning when they come into the classroom.
2. Save for *Milk Comes From A Cow?* unit to demonstrate livestock grazing.

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