Lesson 5: Soil Needs Friends

Grade Level: Kindergarten

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, and discussion. 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 and drawing on prior learning about soil organisms, plants, and agriculture in Kansas. This lesson reinforces comprehension, vocabulary development, oral language, and informative writing through drawing, dictation, and emergent writing, supporting 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, comprehension, sequencing, vocabulary, and informative writing.

Kansas Academic Standards:
Kansas ELA Standards
W.K.2 Use drawing, dictating, and writing to compose informative texts.
SL.K.2 Ask and answer questions about key details and sequence events in a read-aloud.
RI.K.4 Ask/answer questions about unknown words.
RI.K.5 Identify front cover, back cover, title page.
RI.K.6 Name author/illustrator and define their roles.
RI.K.7 Describe the relationship between illustrations and the text.
RI.K.8 Identify reasons an author gives to support ideas.
RI.K.9 Identify similarities/differences between two texts/experiences on the same topic.

Science Standards
K-LS1-1 Use observations to describe patterns of what plants and animals need to survive.
K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and other living things.

K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change.

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 what plants and animals need to survive.
- explain that soil requires organisms to remain healthy, based on the organisms introduced in the book.
- ask and answer questions, make observations, and gather information about how farmers help soil using real-world practices (cover crops).
- use a simple model (Cover Crop Monster) to illustrate how plant roots help soil stay strong.

English Language Arts Objectives:
Students will be able to:

- identify the front cover, back cover, title page, author, and illustrator of *The Soil Neighborhood* and describe their roles.
- ask and answer questions about unfamiliar vocabulary from the text (e.g., soil, microbes, organic matter, neighbors).
- sequence key parts of the book using first, next, last.
- describe how illustrations help explain what is happening underground in the soil neighborhood.
- identify reasons the author gives for why soil is essential, based on the characters and materials shown in the book.
- compare the book's information about soil "friends" to the cover crop activity, understanding that these are two different kinds of soil helpers.
- create an informative writing/drawing that explains how soil needs friends and how plants (like cover crops) can help.

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
- Grass seed
- Plastic cups (for holding socks while filling)
- Mini elastic bands
- Thumb tacks
- Glue/adhesive on eyes
- 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. Have students identify:
        - Front cover
        - Back cover
        - Title page
        - Author/illustrator and roles

    Prompt: “Let’s pay attention to all the little helpers that live in the soil neighborhood.”
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 for:
        - Soil
        - Neighborhood
        - Neighbors (Clay, Rocky, Sandy, earthworms)
        - Root
        - Minerals
        - Bacteria
    b. Ask students:
        - “What clues do the pictures give us?”
        - “Who is helping the soil in this picture?”
        - “Why does the author say soil is important?”
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 soil stay moist).

c. Activity Procedures: *Cover Crop Monster*

1. 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." 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 add ears with the rubber bands. 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 the 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 and 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

4. Summarize. 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."
    a. 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."
5. Sequencing the Activity. Explain to students: "Now, let's think about the order of what we did. What happened first, what happened next, and what happened last when we made our cover crop monsters? We are going to turn-and-talk with a partner and then share our answers with the class."
    a. Pair students and have them discuss the steps. Take turns sharing their sequencing steps.
    b. Students turn and talk, then share:

- "First, we put seeds in."
- "Next, we added soil."
- "Last, we made the face."

6. Writing Component. Explain to students: "Now we are going to write what we learned about soil health."
    a. Provide the sentence starters below so the class can see and copy them into their writing journals.
        - "Soil needs friends because…"
        - "Plants help soil by…"
    c. Students can:
        - Draw their crop monster
        - Dictate facts about how soil needs friends
        - Write a simple sentence or word
7. Comparing the text to the Crop Monster Activity
    a. Ask students:
        - "How are the helpers in the book the same as our crop monsters today?"
        - "How are they different?"
    b. Expected answers:
        - Same: they help the soil.
        - Different, the book shows helpers under the soil; our activity shows how cover crops above the soil help.
8. Vocabulary:
    a. Review and discuss the meaning of the following vocabulary words as a group.
        - Soil - Soil is the dirt on the ground where plants grow.
        - Roots - Roots are the parts of the plant that grow under the ground, drink water, and hold the plant in place.
        - Bacteria - Bacteria are tiny living things too small to see that help the soil and plants stay healthy.
        - Cover Crop - A cover crop is a plant grown to cover the soil and keep it safe, like a blanket on the ground. It keeps the wind from blowing it away and rainwater from washing it away.
        - Minerals - Minerals are tiny natural bits in the soil that help plants grow strong and healthy.

Assessment:
Student understanding is assessed through ongoing formative and observational measures embedded throughout the lesson, including participation in the cover crop monster model, use of soil-related vocabulary, sequencing of the hands-on activity, and drawing, dictation, or writing that demonstrate understanding of soil health and foundational writing conventions.

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.

Author: Kelsy Sproul, Literacy Specialist, 2026 KFAC Teacher of the Year, KFAC Curriculum Advisory Council, Former Elementary Teacher.