



## LiveWell Kids Garden and Nutrition Program

### Lesson 3: Soil Health & Nutrients

### SECOND GRADE

#### OBJECTIVES

By the end of this lesson, students will:

- Understand how nutrients move from soil to plants to people.
- Understand how composting and vermicomposting add nutrients back into soil.
- Identify minerals as nutrients our bodies need.
- Practice making healthier food choices by recognizing high- and low-sodium foods.

#### SUPPLIES AND SET-UP

- Garden activity - "Making Worm Extract"
  - Laminate: *Worm Bin*
  - Trowel
  - Weeder tool
  - Stream-spout watering can (this is the watering can without a sprinkle-top)
  - Sprinkle-top watering can
  - Castings from the worm bin
    - Set laminate, trowel, weeder tool and stream-spout watering can on top of the worm bin.
    - Fill the sprinkle-top watering can  $\frac{3}{4}$  with water, then put it next to the worm bin.
- Nutrition activity - "Sodium Relay"
  - Two collapsible bins
  - Sodium Relay Packet which includes:
    - Two Sets of *Sodium Relay Flashcards* (blue-dot set and yellow-dot set)
    - Laminate: *Sodium Relay Answer Key*
    - Laminates, card labels: *High Sodium, Low Sodium*
  - Set bins on the ground (in an open space) with a card label in front of each one.
  - Place the flashcard sets on the ground across from the bins where students will line up in 2 lines behind them (far enough to run to the bins.)
  - Place answer key where it is accessible for checking answers after relay.

**PREPARATION**

- Refer to the [LiveWell Kids Volunteer Manual](#) on the [LiveWell Kids webpage](#) for details about preparing for the lesson one week prior and the day of.
- Allow **30 minutes** for set-up and preparation on the day of the lesson.

**INTRODUCTION & MINDFUL BREATHING** (1 Minute)

- Introduce yourself and other volunteers.
- Guide students through a mindful breathing exercise.
- Explain the topic of the lesson: *To better understand the benefits of composting, and the role of minerals both in the garden and in our bodies.*

**\*\*Divide the class into 2 groups\*\***

Split the students into two groups.

Send one group with the other adult volunteer to the nutrition activity.

Take your group to the garden activity.

Both activities will run simultaneously for a total of 20 minutes.

Switch groups after 10 minutes.

**GARDEN: DISCUSSION & ACTIVITY** (10 Minutes)**Discussion: Soil Health**What Is Soil Health?

- Soil health means soil is alive and able to do its job.
- Healthy soil supports plants, animals, and people.
- Soil does 5 important jobs:
  1. It helps manage water.
  2. It supports living things.
  3. It helps clean water and soil.
  4. It recycles nutrients.
  5. It provides support for roots and structures.
- Healthy soil helps us grow healthy food season after season.
- In our gardens, we take care of soil by adding compost and worm extract.

**Discussion: Composting Review**Composting Review

- Ask: Who remembers what composting does?
- Guide students to respond: Old plants break down and return nutrients to the soil.
- Ask: What do those nutrients help?
- Guide students to respond: They help new plants grow.
- Ask: Does composting happen just once, or again and again?
- Guide students to respond: Again, and again.
- Explain: Composting is part of the **nutrient cycle**, where nutrients are reused over and over.

**Discussion: Vermiposting**Laminate: *Worm Bin*

- There is more than one way to add nutrients to soil.
- Worms help by turning food scraps into nutrient-rich castings.
- Using worms to make nutrients for soil is called **vermiposting** or **vermicomposting**.
- Worms make three different helpful products:
  - **Worm castings** - Worm castings are the solid waste worms leave behind after eating food scraps. They are rich in nutrients and help improve soil so plants can grow strong.
  - **Worm extract** - Worm extract is made when worm castings are mixed with water and gently stirred. This lets nutrients move into the water so they can be poured onto soil and reach plant roots more quickly.
  - **Worm tea** - Worm tea is made when worm castings are soaked or bubbled in water for a longer time. It contains nutrients and beneficial life that support healthy soil.
- Worm extract and worm tea are sometimes called “liquid gold” because they deliver nutrients to soil in liquid form, helping plants absorb nutrients more quickly.
- All three worm products help return nutrients to the soil and support the nutrient cycle.

**Activity: Making Worm Extract**

- Bring students to the worm bin and show the *Worm Bin* laminate.
- Explain that worms eat produce scraps and create castings.
- Lift the lid and briefly show where food is added.
- Show the lower layer with worm castings.
- Scoop about 1 teaspoon of castings with the trowel into the stream-spout watering can.
- Use the weeder tool to stir.
- Walk with students to the garden bed, bringing both watering cans.
- Slowly drizzle the worm extract onto the soil between plants, followed by the water.
- Explain that this adds nutrients back into the soil to help plants grow.
- If extra time, allow students to observe the worm bin layers – looking for worms is always fun!

**NUTRITION: DISCUSSION & ACTIVITY** (10 Minutes)*\*\* Occurs at the same time as Garden Activities***Discussion: Minerals We Eat**Minerals

- **Minerals** are nutrients our bodies need to stay healthy.
- Our bodies cannot make minerals on their own.
- Minerals come from soil and are taken up by plants.
- When we eat plants—or animals that eat plants—we get those minerals.

Sodium

- **Sodium** is a mineral our bodies need in small amounts.
- Too much sodium can make our bodies work harder.
- Many packaged and restaurant foods are high in sodium, even if they don't taste salty.

**Activity: Sodium Relay**

## Sodium Relay Packet

- Explain that students will practice identifying foods that are high or low in sodium.
- Divide students into two teams.
- One team uses blue-dot cards; the other uses yellow-dot cards.
- When it is their turn, students:
  - Look at the food card.
  - Decide if it is high or low in sodium.
  - Run to the correct bin and place the card inside.
- After all cards are used, check answers with the Answer Key.
- Review any incorrect placements with students.

**CLOSING** (1 Minute)

- Regroup students and reinforce how nutrients move from soil to plants to people.
- Visit the garden bed before returning to class.
- Thank teacher and volunteers; dismiss class.

**\*\*Report your lesson as delivered with the online form:**

From your phone, scan this QR code below to report lessons as delivered. Once the page opens, select the 'grid view'. From the computer, click the link [LiveWell Kids Tracking Links 2025-26](#)

