



Worms: A Farmer's Best Friend



Goal

Teach students about life cycles by learning about worms and the ways they benefit the garden and farms. Through reading literature and completing hands-on activities, the class will conduct a worm investigation and observe that the organisms (and other animals) need food, air and space to grow.

NC Standards Addressed

Kindergarten: *English Language Arts* – 1.01, 2.03, 3.01, 3.02; *Science* – 1.01, 1.02, 1.03, 1.05, 4.01, 4.04.

First: *English Language Arts* – 2.03, 2.04, 3.01; *Mathematics* – 2.01, 4.01, 4.02; *Science* – 1.02, 1.03.

Second: *English Language Arts* – 2.01, 2.02, 2.06, 2.08, 4.04; *Mathematics* – 2.01, 4.02; *Science* – 1.01, 1.02, 1.03.

NC Common Core:

Kindergarten: *English Language Arts* – RI.K.5, RI.K.6, W.K.8, RI.K.3

First: *English Language Arts* – RL.1.1, RI.1.10;

Mathematics – 1.MD.1, 1.MD.4

Second: *English Language Arts* – RL.2.1, RI.2.2, SL.2.3, SL.2.4;

Mathematics – 2.MD.1, 2.MD.2, 2.MD.10

Materials

Supplies

- Nightcrawlers or red Wiggler worms (one per student)
- Worm anatomy chart
- Magnifying glass (one per student)
- Rulers (one per student)
- Paper and pencils

Preparation: For this lesson you will need to purchase worms.

Activities

KWL Chart

Start the lesson by making a KWL chart about worms with students. What do they know about worms? What do they want to know? What have they observed in the garden? After reading books about worms and completing the hands-on activities below, students will fill in what they learned on the chart.

Read a Book and the Message from a Farmer

Read one of the children's books to your class. Wonderful Worms, An Earthworm's Life, and Earthworms are all factual books that include lots of fun facts and interesting information about worms. Winnie Finn, Worm Farmer is a great storybook to read students as a follow up and review to the factual books.

Books to Read

Wonderful Worms

by Linda Glaser

An Earthworm's Life

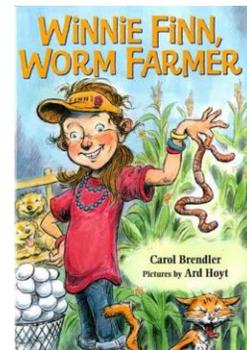
by John Himmelman

Winnie Finn, Worm Farmer

by Carol Brendler

Earthworms

by Clair Llewellyn





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Read the included message from farmer Steven about the importance of worms to your class.

Worm Exploration

Step one: Start the worm exploration by reviewing fun worm facts and asking the class a few questions.

Worm Facts: Worms don't have lungs like you and me, but instead they breathe through their skin! Worms also don't have ears, but they feel sound through their whole bodies! Show the students the worm anatomy chart. Do people and worms have any similarities? Differences?

Step two: Give each student a paper plate with a bit of dirt, one worm, a magnifying glass, and a pencil and paper to record their observations. Ask the students to look closely at their worms. Can they tell which end is the worm's head? How does the worm feel? How does it move? Encourage them to observe as much as possible about their worm, including which body parts they can identify and how many rings the worm has around its body. Now put leaves next to the worm on the plate. What does the worm do?

Step three (for first and second grade): Show students the rulers and explain how to use them. Give each student a ruler and ask them to measure their worm with a ruler. Record the lengths on the board and make a table that shows how long the class' worms are. Older students can tally the average length of the class worms.

Step four: Record observations. Give students paper and pencils and ask students to record observations they have made. Students may illustrate their worms or write sentences about them.

Step five: Complete the KWL Chart. Take up the worms and plates. Ask students to recall what they have learned about worms. Record their answers in the KWL chart.

Garden Exploration (Optional)

Take students to the garden. Ask them where they predict worms would live in the garden. Give students trowels and put them in groups of three. Direct the groups to different areas of the garden and have them dig and report back if they find any worms. Be sure to ask students to keep any worms they find in the garden. *Areas of the garden covered with leaves or hay will have more worms because the hay and leaves are a food source and keep the soil moist.*

Bring the class back together for reflection. Where did the class find the most worms? Review the class' predictions and see if any were correct. If they didn't see any worms at all, discuss possible reasons for the absence of worms.

Make a Worm Advertisement (Optional)

Advertise all the great things worms do to help plants grow in your garden! Give each student construction paper and crayons. Ask them to illustrate a worm activity that helps gardeners grow healthy plants. They can also write some of the fun worm facts around their illustration to make it clear how great worms are. Post the worm advertisements on your bulletin board.