

# Worms

*Grade level: Kindergarten*

OVERVIEW – Students learn about and explore worms: anatomy, life cycle, behavior and environment.

This lesson is aligned with Washington State Common Core Standards.

## COMMON CORE/STANDARD

### SCIENCE

EALR 1- SYSTEMS: Part-whole relationships. A system contains both living and non-living things. Identify differences of living and non-living systems. Students learn differences between a living and non-living thing.

EALR 2-INQUIRY: Making observations. Conduct an experiment/activity to observe worms in their habitat. Students record observations.

EALR 4:-LIFE SCIENCE: Plant and animal parts, habitats.

K-LS1-1: Use observations to describe patterns of what plants and animals need to survive.

K-ESS2-2: Construct an argument supported by evidence for how plants and animals can change the environment to meet their needs.

### English Language Arts

#### READING

##### Literature

1. With prompting and support, ask and answer questions about key details in the text.
4. Ask and answer questions about unknown words in a text.
7. With prompting and support, describe the relationship between illustrations and the story in which they appear

##### Foundational skills

4. Read emergent-reader texts with purpose and understanding

#### WRITING

2. Drawing dictating and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

7. Participate in shared research and writing projects (e.g. explore a number of books by an author and express opinions).

8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer question.

## **SPEAKING AND LISTENING**

5. Add drawings or other visual displays to descriptions as desired to provide additional detail.

## **MATH**

### **Measurement and Data**

- Describe measurable attributes of objects, such as length or weight.
- Directly compare two objects with a measurable attribute in common.
- Measure length of object, length of habitat

## **PURPOSE**

- Investigate and compare the basic needs of living things (worms)
- Observe the physical characteristics of animal (invertebrate ~ worm)
- Identify what living things provide for other living things
- Describe how animals (worms) interact with the environment (garden, soil, compost,etc.) to meet their needs and how the environment changes by their interactions.
- Explain what living things need to survive (both plant and animal, organisms): Sun, air, water, soil, space, home.

## **MATERIALS**

### **Books on Worms:**

*Wonderful Worms, Linda Glaser*

*Wiggling Worms at Work, Wendy Pfeffer*

*Garden Wigglers: Earthworms in Your Backyard, Nancy Loewen*

*Diary of a Worm, Doreen Cronin*

### **Worm anatomy art activity:**

Pencils

Crayons

Rulers

Create worm anatomy diagram

Glue

Papers with blank worm diagram and cutouts of worm parts

## **For Worm Hotel**

- Large glass jar, such as empty mayo jar
- Sand
- Potting soil
- Dark colored construction paper
- Tape
- Sparkly gel markers, glitter glue
- 3-4 big earthworms
- Water

Microscope (dissecting type), or magnifying glass

Worm Compost Bin or Garden Compost: See Life Lab video on how to create compost bin:  
<http://www.youtube.com/watch?v=3y44omiZabw>

### PROCEDURES

Preparations:

Activity 1: Read the chosen book about worms. See list of suggested books on attached page.

- a. Discuss: What do worms eat? Where do worms live (habitat)? Why are they important in the garden and/or environment?
- b. Art activity: Draw a worm and label parts
  - Teach the students about the anatomy of an earthworm.
  - Draw a large picture of a worm on a piece of paper. Label the anterior and posterior (front and back ends), the segments, the clitellum (the band near the front of the worm) and the mouth. Then give the children their own diagrams and a set of the names of the body parts printed on small address labels. Let them label their diagrams with the labels.

Explain what each part does.

Worm anatomy diagram activity: students create drawing of worm, identify parts and attach labels  
See attachment sample

Here is a picture of my worm: Students draw a worm and its parts.

My observations:

The worm is: (description: color, body characteristics, etc)

Student will use pre-cut worm part labels to place on worm drawn by student

Student describes their initial thoughts/observations about the worm before learning about it.  
Will record observations in notebook.

- c. Math activity: Have students measure the length of their worm (either drawing or real worm)

If *Diary of a Worm* is the selected book, students can be asked what is fiction and what is non-fiction. Example:

Fact vs. fiction

- Was this book factual or fictional?
- What parts of this book were factual?
- What parts of this book were fictional?

Activity 2: Worm hotel – see attached activity

- Students will create a worm habitat and observe worms in this environment
- Students will measure the length of worm tunnels in their worm habitats

Activity 3: View worms under the microscope in soil environment (could be earthworms and red worms) \*

Activity 4: Worm Bin exploration: Either bring small worm bin into classroom or take class to outside garden compost. \*

Ask students while at the worm bin:

- Why do we have a worm bin? Composting reduces waste
- How do worms help us? Make great soil for the garden, castings help plants grow

\*For Activities 3 and 4: Can divide class into groups of about 4-6 students to rotate through microscope viewing and worm bin activity.

#### TIPS

- Decide which book to share ahead of time
- Make a worm anatomy diagram and list of parts (cutout) for art activity
- Create an example of a worm hotel
- Create a worm compost bin (see Lifelab video on how to make your own compost bin)
- Microscope set up beforehand to ensure settings are correct

#### EVIDENCE OF LEARNING

- Discuss and learn how worms help the environment and garden
- Identify and label worm anatomy and measure picture of worm
- Observe worms in their habitat (compost bin, garden/outside, or worm hotel activity)
- Identify differences between living and non-living systems

## Art activity (sample)

Worm anatomy diagram activity: students create drawing of worm, identify parts and attach labels

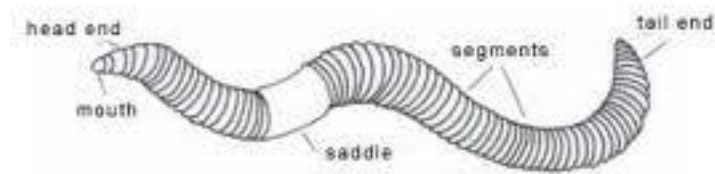
Here is a picture of my worm: students draw a worm and its parts.

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Student describes their initial thoughts/observations about the worm before learning about it.  
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Sample worm parts description:

An earthworm has a pointy head and a small mouth

Long body

Saddle (clitellum) is where the eggs are laid

Ringed parts called segments (muscles that help it move)

Tail end is where castings come out

Five hearts

No abdomen or thorax

## **Resources:**

*Meeting worms, developed by Elin Marley for Blake Street Public School and Withrow Avenue Public School garden programmes, 2011*

<http://www.brighthubeducation.com/pre-k-and-k-lesson-plans/100137-wonderful-worms-kindergarten-lesson-with-live-worms/>

[http://www.education.com/activity/article/make a worm hotel kinder/](http://www.education.com/activity/article/make-a-worm-hotel-kinder/)

The Edible Schoolyard Project, <http://edibleschoolyard.org>

Life Lab, [www.lifelab.org](http://www.lifelab.org)

Life Lab video on how to create compost bin: <http://www.youtube.com/watch?v=3y44omiZabw>