Working Wiggle Worms

THEME
The life of a worm is hard work.

SUB THEMES
1. Worms have an important job.
2. Worms are well adapted for their homes underground.
3. Worm composting at home is a great way to help the environment.

VOCABULARY
Producers, consumers, decomposers, food chain, vermicomposting, composting, recycling, castings, fertilizer, adaptations

ACTIVITY MATERIALS
Can of vegetable soup, worm costume pieces, cue cards, paper plates, moist paper towels, magnifiers, anatomy poster, container of worms, completed vermicomposting bin, food waste, poster for optimal conditions, composting log sheet

INTRODUCTION
Introduce yourself and state the title of the activity. Preview the main points of the activity and give students an idea of what they will be doing. Conversationally state the theme and sub themes. Hold up a can of vegetable soup and ask: **What ingredients do you think are in this can of soup** (water, carrots, peas, potatoes, etc.)? Ask: **Where do these ingredients come from** (gardens and farms)? Encourage the students to think about all of the things needed for these vegetables to grow for us to have foods like this soup. Explain that water, sunlight, carbon dioxide, and healthy soil are all important in helping plants grow. Ask: **What role do you think worms play in helping vegetables grow** (worms devour organic material such as decaying food and turn it into beautiful, rich, healthy soil)? Explain that worms have an important job. Explain that plants are producers and animals are consumers. Discuss the terms herbivore, carnivore, and omnivore. Ask: **What do you think the job title of a worm would be** (decomposer)? Explain that worms convert organic material into rich compost called castings (a.k.a. worm poop), which helps plants grow. Decomposers, like worms, form the foundation of the food chain and every living thing depends upon the food chain. That's one important job!

ACTIVITY
Explain that worms are specially adapted for a lifestyle underground. Ask for a volunteer to stand up. Ask the students in the group to name some of the characteristics that help a worm do

Teacher's Corner

Grade Level(s)
3rd, 4th, and 5th grades

State Performance Indicators
SPI 0307
-2.1: Distinguish between living and non-living things.
-3.1: Identify the basic needs of plants and animals.
-3.2: Recognize that animals obtain their food by eating plants and other animals.
-4.1: Select an illustration that shows how an organism changes as it develops.
-5.1: Investigate an organism's characteristics and evaluate how these features enable it to survive in a particular environment.

SPI 0407
-3.1: Determine how different organisms function within an environment in terms of their location on an energy pyramid.
-5.1: Determine how a physical or behavioral adaptation can enhance the chances of survival.

SPI 0507
-5.1: Identify physical and behavioral adaptations that enable animals such as amphibians, reptiles, birds, fish, and mammals to survive in a particular environment.

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ACTIVITY (cont.)
its job underground (long, thin body shape, soft body without bones, no arms or legs, segments along body to help it move, and completely blind). As each characteristic is named, dress up the volunteer with the corresponding prop and describe its attributes using the cue card. Have the volunteer sit down and put the materials away.

Next, bring out some worms for the students to examine more closely. Put students in groups of two or three and provide each group with a paper plate, moist paper towel, and magnifier. Before providing each group with a worm, explain the importance of handling the worms carefully. Place each worm on a moist paper towel on the plate. Once each group has a worm, point out the different anatomical features of worms using the poster and have students find the different features on their worms. After the worms have been studied for 10-15 minutes, collect the worms and place them back in the container.

Introduce students to the worm bin and explain that some people like the idea of having worms work for them in their home by converting their kitchen waste into rich, healthy soil for a garden. This is known as worm composting or vermicomposting. Have the students gather around the bin and explain the various components using the data sheet: **Worm Bin Components**. Have students point out the living and non-living components of the worm bin. Explain that to keep a vermicomposting bin working properly, weekly maintenance needs to be done. Today, they will get to help Butternut Valley properly take care of this vermicomposting bin. Have the students assist with adding food waste to one of the nine sections and record the time and section location on the composting log sheet.

Bring the group back together for the discussion.

DISCUSSION
Discuss the advantages vermicomposting can create for the environment such as decreasing the amount of waste in landfills, using worm castings in a garden to help plants grow, etc. If there is time, bring the students over to the garden for a tour. Explain how we use the worm castings to help the plants in the garden grow.

WRAP-UP
Let the group know that the activity is coming to an end. Conversationally review the theme and subthemes. Give the teachers any of the materials that students are able to take home with them.

BRINGING IT TO THE CLASSROOM
Allow students to research the lifecycle of a common worm and develop a poster to depict their findings.

ACKNOWLEDGEMENTS

- Activity developed by Melissa Squirlock; February, 2010.
- Appelhof, M. (1997). Worms Eat My Garbage. (2nd ed.). Kalamazoo, MI: Flowerfield.