ACTIVITY SHEET 3

THINGS WE CAN LEARN FROM A COW AND A WORM

NAME _____

COMPOSTING AS RECYCLING

Directions

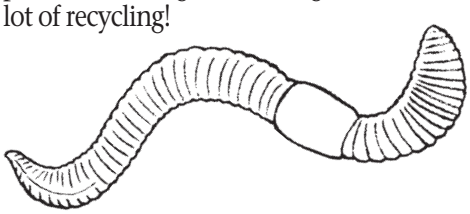
Read the information below and then fill in the section at the bottom of the page.

Composting speeds up and intensifies the very natural process of decomposition. Decomposition has been happening, unaided by people, since the world began. Through decomposition, things made of organic matter are broken down through a chemical process into simpler compounds and elements. Composting spurs some of nature's recyclers into action and hurries the decomposition process.

Microorganisms are too small for the human eye to see. Bacteria and fungi are microorganisms. They digest garbage like food scraps, industrial waste, leaves and grass clippings. They release 99 percent of all the carbon dioxide necessary for plant growth.

Macroorganisms also contribute to decomposition. Earthworms, mites, grubs and insects are macroorganisms that dig, chew, digest and mix materials. When they chew a leaf, for example, they increase the surface area so that bacteria and fungi can finish the decomposition process.

Earthworms eat almost anything soft enough to chew. They also eat bacteria, which is very nutritious—60 percent protein and no fat! As organic matter passes through the earthworm's body, it is ground up by tiny stones in the gizzard, and leaves the body as waste in the form of dark, fertile castings which contain partially digested material that enriches the soil. Each day an earthworm produces its weight in castings. That's a lot of recycling!



When microorganisms and macroorganisms decay, their decomposing bodies add nitrogen and other elements to the soil. Decomposed refuse, or compost, enriches soil. It returns to the soil nutrients necessary for new plant growth. If it weren't for the work of microorganisms and macroorganisms, our earth would be one major garbage dump with no chance of survival. These tiny creatures model recycling by turning garbage into nutrients to enrich the soil.

Application

Composting isn't for everyone, but everyone can use less, or reduce their demand for resources. Make a list of practices you are willing to change to use less of the earth's resources.

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Find Out

1. How can you tell a male worm from a female worm?

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2. What conditions hasten decomposition?

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3. What conditions hinder decomposition?

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How to Construct a Mini Compost Bin

1. Cut the top from a clean, clear plastic gallon jug.
2. Poke holes in bottom and on sides of jug. Make sure you have a dish to put under the jug to collect excess water.
3. Add 1 inch of gravel for drainage.
4. Poke holes in a plastic lid or plate and place over gravel.
5. Create a simple bedding mixture of shredded, moist newspaper and put on top of the lid.
6. Add a few redworms, which eat only garbage. Earthworms will not work for this observation.
7. Chop food scraps and sprinkle on top.
8. Cover with more bedding material.
9. Sprinkle with water. Don't soak!
10. Place a plastic bag over the top of the jug to control moisture, which can be removed to observe the progress of the compost bin. Record what you see in a daily log. Sprinkle with water as needed.

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