

How Hot Is My Compost?

Cornell Waste Management Institute

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GRADE LEVELS: 7-8

SUBJECT AREAS: science

CONCEPT: Compost heats up.

OBJECTIVE: To study the dynamics of heat in the composting process.

MATERIALS:

- handout: [Compost Temperature Record](#)
- laboratory or meat thermometer
- work gloves
- pencil

KEYWORDS: Fahrenheit, Celcius, dynamics

BACKGROUND: When your compost pile is working ideally, it will get hot. The temperature can rise to 150 degrees F (66 degrees C) during the composting process. In the winter, if the compost is working fast, snow will melt on the pile and you may even see water vapor coming off the top. The center of the pile will be warm to the touch.

Turning your compost pile adds air to the pile. Because the microorganisms and soil animals in the pile need air to do their work, turning the pile increases their activity. What effect does turning the compost pile have on its temperature?

PROCEDURE: As your compost pile works, take its temperature. Wearing a glove, place the thermometer deep into the center of the pile. Record the temperature on the Compost Temperature Record. **NOTE:** Your compost pile or container must be at least 4 cubic feet in volume in order to heat up adequately.

Compost Temperature Record

Name: _____

Date compost pile started: _____

Today's date: _____

Date last turned: _____

Temperature (Degree F or C): _____

Observations (smell, color of material):

What effect did turning the pile have on its temperature?

What effect does turning have on the speed of breaking down material in a compost pile? Why?