Activity 6

Smell of the Habitat

Rationale: The odor or smell of the Habitat is an extremely good indicator of the heath of the vermiculture. This seemingly unimportant variable's measurement must be collected and recorded each day. Many times the change in odor will be the first signal that something is environmentally amiss.

Objectives

1) Determine an adequate odor scale for each Habitat.
2) Discuss and agree upon a set of four to six odor descriptors.
3) Realize that it is difficult to easily graph temperature or humidity vs. descriptors.
4) Derive a sequential number value for each descriptor.
5) Present/explain a system to peers.

PDE Standards

Science and Technology
3.1.7. A,B,C
3.2.7. A,B,C,D,E,F
3.6.7. A,B
3.7.7. A,B,C,D
Environment and Ecology
4.1.7. A,B,C
4.2.7. A,C
4.6.7. A,B,C

Materials

Habitat

Introduction

The odor of the vermicompost is an excellent qualitative measure of Habitat health. The odor associated with garbage may be present for a short time after adding it to the vermicompost and should not be confused with the presence of rotting garbage. If the Habitat is not healthy, the worms will not decompose the garbage in a normal time frame. Also, if the worms are healthy and too much worm food has been added, a garbage odor will be present for a longer period of time than normal. Therefore, the worms cannot keep up with the excess food. This will also occur sometimes after harvesting worms since the same amount of food will be added and there are too few worms to decompose that amount of food.

Strategies

The ideal situation will be to have students with a refined sense of smell volunteer to be in the odor sensor group. It may be difficult for students to not gag at an unhealthy habitat. Some encouragement may be necessary from the teacher. Students with a too refined sense of smell will get carried away with the number of descriptors. Students without a refined sense of smell will not be discerning enough. Have students

design a descriptor system that resembles a box of crayons with ONLY 8 colors, not the 48 or 96 color pack. The students will need to have access to 5 or 6 stages of decomposition for this to work really well. This activity is best with a Habitat set up by the teacher.

Procedure

1) Students should decide who will be the group of odor sensors.
2) Odor sensors should design a set of odor descriptors.
3) Odor sensors should assign a sequential set of number values to the descriptors.
4) The odor sensors should present the odor scale to the class and describe the rationale for the system.

Expectations

The students should to be able to:

1) develop a reasonable odor scale.
2) develop the ability to compromise.
3) record observations and effects in the journal.

Data Table 1 ***(Typical Table at this point in time)*** Optional Optional Optional

Date	**Smell (scale)**	**Δ Mass***	**Temp**	**Humidity (%)**	**pH**	**CO_2 (ppm)**	**O_2 (%)**

*** = Δ Mass (g) = change in mass**