

Marine & Other Invertebrates

Investigation Data Sheet



Earthworm Reaction To Moisture & Vibration

There are nearly 2,700 different kinds of earthworms that can be found around the world, and all of them need a moist environment to live in. These invertebrates live in deep, dark tunnels or burrows in the earth, often to avoid the heat and sunlight of the surface. Yet, there are ways to bring earthworms to the surface. Earthworms cannot see or hear, but they are sensitive to light, moisture and vibrations.

Objective

Test the reactions of earthworms to changes in the moisture and vibration levels of the environment around them.

Materials

- 2 clear plastic containers to serve as earthworm pens
- some soil
- several earthworms
- a shoe or boot
- some water

Safety Notice: All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

Procedure

Part 1: Moisture

1. Fill the plastic containers with soil about 4 centimeters deep. Place some worms on top of the soil in both containers and then cover them with another layer of soil that is about 8 centimeters deep.
2. Lightly sprinkle some water in one of the containers to moisten the soil. After a few minutes, observe the worms in both containers. In which container did the worms come to the surface?

Why do you think this happened?

Part 2: Vibration

1. Use the boot or shoe and tap it on top of the soil in the dry container in a rhythmic fashion. Keep tapping for a moment or two. Record your observations in the space provided.

Conclusions

- How do you think the earthworm response to moisture would differ if given varying amounts of water?

- Explain the earthworm response to the vibrations caused by the tapping shoe.

- How do these earthworm behaviors help them to meet their needs for survival?
