

Earthworm Observation Lab

Read Squirmin' Herman and participate in the classroom discussion.

Question: Do earthworms have a sense of odor, touch, and light?

Hypothesis: Make a hypothesis about the above question (a hypothesis must be testable)

We believe a worm is sensitive to light and touch

Be extraordinarily gentle with your earthworm. Be sure to keep it moistened with water and DO NOT poke at it or "torture" it in any way. If you do, you will get a 0 for this lab/assignment. You should put it on a moist paper towel on a clean pan.

Background: (Observe UNSTIMULATED behavior).

1. Get an earthworm for you and your partner.

2. Observe and record your earthworm's normal behavior

a. Notice the muscle contractions that you see along the segments.

b. Locate the posterior (anus-end) and anterior (head-end) of the worm. Find the Clitellum-smooth part of the worm. It will be closest to the head end.

3. Describe the difference between the anterior and the posterior ends?

The anterior is darker and moves more.
The posterior is lighter and doesn't move much.

4. Measure your worm. How long is it? 6 1/2 inch

Was this hard to do? yes Explain....

much

he squirmed very

5. Describe how your worm moves.

He stretches and pulls

6. Turn your worm over....what does it do?

its squirms and tries to get over the right way

7. How is the bottom of your worm different from the top?

his bottom is lighter than his top. He tries to flip over

8. Study your earthworm's head. Does it appear to have any sense organs, such as eyes, ears, nose or mouth? Do you think the worm is capable of sensing... (Mark your predictions below--yes or no)

Light? yes Odor? No Touch? yes

Response to TOUCH

Place a dry paper towel on one side of your pan and a moist paper towel on the other. Stretch (GENTLY) the worm so that it lays across both towels. Observe the worm's response. Which direction does it move. Perform this 10 times (GENTLY) alternating where you place the head end so that half the time it lays on the moist to start, and half the time it lays on the dry to start. Record your observations below.

Head starts on dry	Response (moves toward ...wet OR dry)
Trial 1	Dry (trying get out)
Trial 2	moves to moist
Trial 3	Dry
Trial 4	Dry
Trial 5	Dry turned a little
Head starts on wet	all moist
Trial 6	all moist
Trial 7	moist
Trial 8	all moist
Trial 9	moist
Trial 10	moist

9. What conclusion do you draw about whether or not an earthworm can sense wetness or dryness?

They prefer to be in wet not dry

10. Put your worm on half sandpaper and half newspaper. What does it do? Do this three times and record your results.

#1

#2

#3

newspaper

sand paper

newspaper

11. Touch the front end of the worm with a toothpick (GENTLY - do not penetrate its skin or harm it in any way). What does your worm do?

Touch the back end...what happens? He doesn't mind it

Touch its sides. ...what happens?

tries to move away

11. 500

Response to LIGHT

12. Push the damp paper towel together to make a cave like structure. Record what the worm does?

stays in the same spot

13. Cover the top of your pan mostly with a piece of construction paper. Which side does the worm seem to move towards? (The area in the light or the area in the dark?)

moving towards the dark does not like the light

14. Using a flashlight, test your worm's sensitivity to light.

Record what you did and what the worm's response was.

He goes to go under

the paper towel to get dark

Response to ODOR

15. Dip a cotton swab in vinegar. Wave it near the posterior end? What happens?

moves away does not like it

Wave it near the anterior end. What happens? record your observation.

He does like the smell

What did your observation / experiments show about a worm's sense of smell, touch, and odor? Write a paragraph detailing what you learned.

We believed that it was sensitive to light and touch but now we know he is sensitive to odor too. We discovered that he doesn't like light he tries to go to a dark spot. We tried to see if he had a sense of odor, he does. He doesn't like the scent of vinegar. We also discovered that he didn't mind being touched on his sides. He did mind being touched on his head and his rear end.

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