Virtual Earthworm Dissection

SBI3U | Student laboratory assignment | 1 of 4

Prepare for your investigation

Name: _____ Date: _____ Class: _____

Research question

How do the external and internal structures of an earthworm support movement, digestion, circulation, sensation, and reproduction?

Learning goal: use the virtual model to gather evidence, explain virtual earthworm dissection and communicate a supported conclusion.

Materials: WorksheetGalaxy virtual laboratory, this assignment, calculator or spreadsheet if needed. Virtual observations only; do not recreate hazardous procedures or perform physical fitness tests without teacher approval.

1. Define two relevant scientific terms from the Background Information tab. (K/U)

2. Write a prediction or hypothesis with a scientific reason. (K/U, T/I)

3. Identify the variable or feature compared, the measured outcome and constants or consistent observation criteria. (T/I)

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Perform the virtual laboratory

Open the corresponding virtual lab and read Background Information. Follow the investigation instructions below. Record authentic simulated results; do not invent data.

• Examine the external view. Identify the anterior/posterior ends, clitellum, segments, and setae.

• Switch to the internal view and select at least eight structures. Record each structure's location, system, and function.

• Compare the crop and gizzard, and trace the route food follows through the digestive tract.

• Explain how the circulatory and respiratory systems work together.

• Complete the report with observations, explanations, and a labelled anatomical sketch (draw separately if required).

Record each completed observation using the simulator’s record control when available. Use Data & Graphs to review results. Export CSV if available; attach additional rows or screenshots when needed.

Record the exact settings and any changes to the method.

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Observations & results

Enter the actual results. Keep trial IDs consistent between continued tables. Attach the full exported data or extra sheets when the procedure requires more rows. Include units as displayed.

Data table 1

Trial / item	Structure	System	Function	Your observation	Action

Qualitative observations / sample calculation (show units where applicable)

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Analysis, conclusion & assessment

4. Present a labelled graph of a measured relationship, or an annotated diagram / comparison chart for qualitative investigations. Attach it separately. Explain the pattern using recorded evidence. (C, T/I)

5. Analysis 1: Trace the path of food and explain crop vs. gizzard. (K/U, A)

6. Analysis 2: How do respiration and circulation support earthworm survival? (K/U, A)

7. Analysis 3: Explain how segmentation, muscles, and setae support locomotion. (K/U, A)

Conclusion and evaluation: answer the research question, revisit the prediction using evidence, identify a model limitation and propose an improvement. (T/I, A)

Submit this assignment plus your completed Lab Report (printed or saved as PDF from the lab) and any supporting data/figures.

K/U: accurate concepts /10	T/I: method, data, reasoning /12	C: clear tables, units, report /8	A: explanation, conclusion, transfer /10

Total: /40