

Grade Level/Course:

Grade 7 Life Science

Lesson/Unit Plan Name:

Mealworms Lab

Rationale/Lesson Abstract:

Students will develop the process of scientific inquiry

Students will describe how to develop a hypothesis, make an observation, and a write a conclusion based on collected data.

Students will observe mealworms in cornmeal and without cornmeal and describe mealworms reaction to stimuli.

Timeframe:

1 class period

Standard(s)

7. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations.

c. Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.

Instructional Resources/Materials:

Optional: Prentice Hall 2008 Focus on Life Science textbook

p. 18-22 (see Lab Zone Standards Warm-up)

See Mealworm lab worksheet below

**Lab Materials:**

- Mealworms (obtain from stores or scientific supply houses)
- Small trays for each lab group
- 4 hand lenses for each lab group
- Fine cornmeal (For contrast, you might have another tray without cornmeal).
- 2 flashlights for each lab group

For each group/station:

- Divide mealworms into two groups; place one group into fine cornmeal tray and the other in another tray without cornmeal.
- Distribute 2 trays of mealworms, one with and one without cornmeal, to each lab group.
- 2 Flashlights
- Lab worksheet for each student (see lab worksheet below)
- Student lab book

Activities/Lesson:

- Students in each group should make observations of mealworms, come up with a hypothesis, construct data table and record their observations in their science lab book.
- Compare and contrast mealworms reaction to different stimuli

See Mealworm Lab on page 4

Assessment:

Student understanding and performance will be evaluated by ongoing informal and formal assessment.

Informal

- Teacher observation of student discussion, questions, and responses in lab groups/stations
Teacher checks in with each lab group listening for use of scientific language and understanding the steps of the scientific method.

Formal

- Student written material in lab books, lab data sheet and lab summary shows us of qualitative and quantitative language.
- Tables are labeled and titled, diagrams clearly drawn, information based on observation and research. Summaries in lab books use scientific language, compare/contrast statements, summarize, sequence, predict.
- Writing demonstrates clarity of concepts and understanding of the purpose of the lesson.
- Quiz
- Test (Text or teacher created)

Mealworm Lab



Objective: Observation of mealworm functions and movement
Develop scientific inquiry skill.

Purpose/Questions: Will mealworms respond to stimulus?

Hypothesis: (state what you think will happen)

Materials:

1. Mealworms (obtain from stores or scientific supply houses)
2. Small trays for each lab group
3. 4 hand lenses for each lab group
4. Fine cornmeal (For contrast, you might have another tray without cornmeal).
5. 2 flashlights for each lab group

Procedures:

1. Put students into lab groups
2. Divide mealworms into two groups; place one group into fine cornmeal tray and the other in another tray without cornmeal.
3. Distribute 2 trays of mealworms, one with and one without cornmeal, to each lab group.
4. Students will observe mealworms in both mediums with their flashlights with classroom lights turned on and with classroom lights turned off.
5. Students will record their observations in their data chart.
6. Students will then gently prod the worms and record their observations in their data chart. (Note: Teacher can demonstrate the prodding or assign one student in each group. Students write their observations.)

Data:

1. Students reproduce the table below in their lab books, allowing sufficient space to write thorough observations.

	Classroom lights on	Classroom lights off	Prodding mealworms
Flashlights on			
Flashlights off			
Cornmeal			
No cornmeal			

Analysis/Results:

Describe the mealworms reaction to the flashlight shined on them?

Do they prefer light or dark? How do you know?

What happened when you gently prodded them?

State your observations in scientific language.

Conclusion: (summary of lab data to help the reader understand your results).

Do you accept or reject your hypothesis?

Compare and contrast mealworms in cornmeal and no cornmeal, light and dark conditions.

If they moved, describe their movements.