

Raising Mealworms

WHAT YOU NEED



widemouthed
jar



mealworm
beetle larva



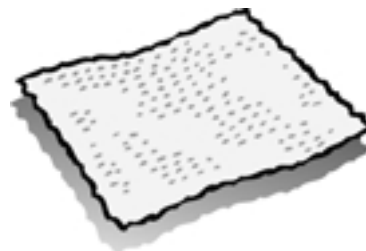
oatmeal



apple slice



rubber band



cheesecloth

Find Out

Do this activity to see the life cycle stages of mealworms.

Process Skills

Observing
Communicating
Predicting

Time

- 30 minutes to get started
- 5–10 minutes every day for three weeks



WHAT TO DO

1. In a clean, dry jar, place a layer of oatmeal.
2. Add an apple slice to the jar.
3. Add some mealworms to the jar. Cover the jar with the cheesecloth and secure it with the rubber band.
4. **Observe** the mealworms and **draw** how they look.
5. Based on what you have learned about insects, **predict** how the mealworms will change over the next few weeks.
6. Place the jar in a safe place in the classroom out of direct sunlight.
7. **Observe** the mealworms every day. **Record** what you see.

Make sure that the apple slice does not become too moist, so that mold does not grow. The apple slice can be replaced if this occurs.



Date	How the Mealworms Look

Student data will vary, but students should observe the differences that occur during each stage in the mealworms' life cycle.

Conclusions

1. How did the mealworms change?

Observations will vary, depending on the stage of the mealworm when purchased.

Expect students to observe change in color, shape, size, and activity.

2. What did the mealworms do differently at different times of their lives?

Larvae move a lot in search of food. Pupae move very little. They mostly wiggle in

their cases. Adult beetles can hop and use their wings to glide.

New Questions

1. What changes do you think you might see if you continue to watch the insects?

Answers will vary, depending on when the investigation is concluded.

Students may be able to observe the adult female beetle lay eggs.

2. Write a new question you have about animal life cycles.

Accept all questions.



Name _____



ACTIVITY

Modeling Insects and Spiders

List the parts of an insect's body. **List** the parts of a spider.

Insects	Spiders

Insects have a shell, six legs, antennae, a head, a thorax, and an abdomen, and many insects have wings. Spiders have a shell, eight legs, a head, and an abdomen.

Name _____

What Happened

① How are your insect model and spider model alike?

They both have legs, a head, and an abdomen.

② How are they different?

The insect has six legs and the spider has eight legs. The insect has a thorax, wings, and antennae, and the spider does not have these parts.

What If

How would insects and spiders be different if they had only two legs?

Insects and spiders would not be able to move as well with two legs.

Name _____



ACTIVITY

Modeling Butterfly Life Cycles

Draw a caterpillar.

A large, empty rectangular box with a black border, intended for drawing a caterpillar. In the bottom right corner of the box, there is a small, simple line drawing of a pencil.

Drawings will vary. Accept any reasonable drawing.

Draw a chrysalis.

A large, empty rectangular box with a black border, intended for drawing a chrysalis. In the bottom right corner of the box, there is a small, simple line drawing of a pencil.

Drawings will vary. Accept any reasonable drawing.

Draw a butterfly.

A large, empty rectangular box with a black border, intended for drawing a butterfly. In the bottom right corner of the box, there is a small, simple line drawing of a pencil.

Drawings will vary. Accept any reasonable drawing.

Name _____

What Happened

- ① How are the caterpillar and chrysalis alike?
How are they different?

The caterpillar and chrysalis are shaped similarly; both do not have wings; the caterpillar is longer and thinner than the chrysalis; the caterpillar has legs and the chrysalis does not.

- ② How are the caterpillar and butterfly alike?
How are they different?

The caterpillar and butterfly both have a head; the caterpillar and butterfly both have legs; the caterpillar does not have wings and the butterfly does have wings; the caterpillar and butterfly are colored differently; the caterpillar is smaller than the butterfly.

What If

Suppose you observed both a butterfly and a caterpillar. Compare how they move from place to place.

Caterpillars use legs to crawl and butterflies use wings to fly.

Name _____



ACTIVITY

Investigating Fingerprints

Draw a picture of what you **predict** your fingerprint will look like.

A large, empty rectangular box with a thin black border, intended for drawing a predicted fingerprint. In the bottom right corner of the box, there is a small, detailed black and white illustration of a human fingerprint.

Accept any reasonable drawings.

Draw a picture of what your fingerprint looked like.

A large, empty rectangular box with a thin black border, intended for drawing an actual fingerprint. In the bottom right corner of the box, there is a small, detailed black and white illustration of a human fingerprint.

Accept any reasonable drawings.

Name _____

What Happened

① Did your fingerprints look the same?

Most students should be able to see variation in their own fingerprints,

although they may look similar.

② How were your fingerprints different from your classmates' fingerprints?

Each student's fingerprints should look different, even if they have some

similarities.

What If

What would happen if you made your fingerprint on the same piece of tape as someone else?

The fingerprints would become smudged and would not be accurate.
