

(I am not sure where I found this unit, if you know where it came from please let me know.)

## **Mealworm Unit**

Students need to be introduced to insect life cycles as you are studying the mealworm and butterfly. It takes the mealworms weeks to complete the metamorphosis. Begin the mealworm activities, then go on to the butterfly activities and check back on the mealworms throughout the unit of study. The mealworms will molt. They are not dead if they appear to be a whitish-grey colour.

### **Day One: Mealworms**

1. Do a KWL chart on insects.
2. Pass out one or two mealworms and a hand lens to every student.
3. Give students time to observe the mealworms.
4. Pass out the mealworm journal and do the day's activities.
5. Have students predict what insect the mealworm will be in its adult stage.
6. Fill the small plastic containers  $\frac{3}{4}$  full of crushed cornflakes, oatmeal or cornmeal. Poke air holes in the lids. Put the mealworms inside the container and close the lids. It's easier to keep the mealworms in one location than keeping them on the student's desk.
7. Have students fill in any items they can on the KWL chart.

### **Days 2-5:**

1. Do a page each day in the mealworm journal and continue your study of insects.
2. Continue to fill in the KWL chart as new information is learned.

### **Day Two:**

1. You will need water and eye droppers for the students.

### **Day Three:**

1. You will need 3"x3" squares of black, white, yellow and green construction paper for every student.

### **Day Four:**

1. You will need rulers and objects for the mealworms to try to climb.
2. You will need to make a bar graph for each student.

**Day Five:**

1. You will need some potato chips, fresh fruit, granola bars, and bread for each student.

## **Mealworm Activity—Day One**

Carefully place your mealworm in the middle of your desk. Using your hand lens look for the following parts and fill in the chart.

<b>Body Parts</b>	<b>How Many</b>
Mouth	
Eyes	
Antenna	
Legs	
Body Segments	

Write a good description of your mealworm. Describe the colour, size, and actions of the mealworm. Tell any interesting things you noticed while observing this mealworm.

Draw a picture of your mealworm. Label any body parts that you observed.

## Let's Find Out—Day Two

Tell what you think. Will your mealworm prefer wet or dry areas?

\_\_\_\_\_

Put your mealworm in the middle of your desk. Place four or five drops of water on one side of your desk and no drops of water on the other side of your desk. Observe to see if your mealworm prefers to be in the wet or dry area of your desk. Do this at least five times and record your results using tally marks.

Wet area \_\_\_\_\_

Dry area \_\_\_\_\_

My mealworm preferred the \_\_\_\_\_ area.

Draw a picture of what you observed in this activity.

Compare your results with ten other students in your class.

<b>Student</b>	<b>Wet Area</b>	<b>Dry Area</b>
<b>my mealworm</b>		
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

From my observations and information I think most mealworms prefer to be in \_\_\_\_\_.

From these observations describe where you think mealworms are most likely to live. Give at least two reasons why you decided on this answer.

### Daylight or Darkness – Day Three

Do you think your mealworm would rather be in the sunlight or in the dark?

\_\_\_\_\_

You will need a 3"x3" piece of black, white, yellow and green construction paper. Spread the four pieces of construction paper out near the centre of your desk. Place your mealworm in the centre of your desk equal distances from each piece of construction paper. Observe which colour your mealworm goes to most often. Do this observation five times and record the results using tally marks.

Black \_\_\_\_\_

Yellow \_\_\_\_\_

White \_\_\_\_\_

Green \_\_\_\_\_

Can you determine anything from five observations? If not do it five more times.

Draw a picture of this activity.

Ask ten classmates which colour their mealworm went to most often and record those results on the following chart.				
Student	Black	White	Yellow	Green
My mealworm				
From my observations and the information I gathered I think mealworms prefer to be in the _____.				

Using the information you have gathered in the last three days, predict where you think mealworms live and tell why. (It's okay to change your mind from your first prediction.)

## Fast or Slow—Day Four

How fast is your mealworm? Measure the distance your mealworm moves in ten seconds.

My mealworm moved \_\_\_\_\_ in ten seconds.

Will your mealworm climb? Lay your pencil on your desk and see if your mealworm will climb on or over it. Record your result. \_\_\_\_\_

Try different objects to see if the mealworm will climb on or over them. What objects did the mealworm climb on?

---

---

---

---

Measure your mealworm. How long is it? \_\_\_\_\_

Compare the length of your mealworm to other mealworms in the classroom. What did you discover?

---

---

---

---

With your teacher, make a bar graph showing the sizes of the mealworms in your classroom



# Larvae Journal

Draw pictures of the larvae as it appears each day inside the cup.

Day 1	Day 2	Day 3	Day 4	Day 5
Day 6	Day 7	Day 8	Day 9	Day 10

## Chrysalis Development

Day 1	Day 3	Day 5
Day 7	Day 9	Day 11
Day 13	Day 15	Day 17



## Rubrics

<b>Tally Charts:</b>	
<b>4 Points</b>	The charts are filled out correctly and the student answered the question correctly according to the tally marks.
<b>3 Points</b>	Most of the charts are filled out and all of the questions are answered.
<b>2 Points</b>	Most of the charts are filled out, but some of the questions are not answered.
<b>1 Point</b>	The charts are not filled out and the questions are not answered.
<b>Comparison Charts:</b>	
<b>4 Points</b>	The student successfully completed all three of the comparison charts.
<b>3 Points</b>	The student successfully compared his results with 9 other students in class and filled in the three charts.
<b>2 Points</b>	The student successfully compared his results with at least 7 other students in class and filled in the three charts.
<b>1 Point</b>	The student successfully compared his results with 6 or fewer students in class and filled in the three charts.
<b>Drawings:</b>	
<b>4 Points</b>	Student correctly drew and labelled three pictures.
<b>3 Points</b>	Student drew the three pictures and correctly labelled two of the pictures.
<b>2 Points</b>	Student drew and labelled two of the three pictures correctly.
<b>1 Point</b>	Student drew and labelled one of the three pictures correctly.

<b>Writing:</b>				
	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<p><b>Day One</b></p> <p>(Days 2-5 follow same directions for indenting, using complete sentences, capital letters and periods)</p>	Paragraph is indented. Wrote complete sentences using capital letters and periods. Writing describes colour, size and action. Tells at least three observations.	Paragraph is indented. Most of the writing is in complete sentences using capital letters and periods. Writing describes two of the three criteria. Tells two observations.	Paragraph is not indented. Used few complete sentences and capital letters or periods. Writing describes one of three criteria and tells one observation.	Paragraph is not indented. Did not write in complete sentences. Did not use capital letters or periods. Did not follow criteria in the directions.
<b>Day Two</b>	Described habitat and gave two reasons for this answer.	Described habitat and gave one reason for this answer.	Did not describe habitat or did not give any reasons for the answer.	Did not answer the questions.
<b>Day Three</b>	Predicted where the mealworms lived and told why.	Predicted where mealworms live or told why.		Did not answer the question.
<b>Day Four</b>	Compared mealworm length and wrote about the comparison.	Compared mealworm length but did not write about it.		Did not answer the question.
<b>Day Five</b>	Accurately described the chart.	Somewhat accurately described the chart.		Did not describe the chart.