

2.4: Mealworms Factsheet Reading



Mealworms Eating Potato by FableVision

Mealworms eat decaying leaves, sticks, grasses, young plants, grains, and the waste of other animals. Although they prefer to live in barns and farms where lots of grains are stored, you can also find mealworms in pet stores. This is because mealworms make good food for other animals, like birds and lizards. In the wild, mealworms are also prey to a variety of animals, like the European Robin in the picture to the side. Additional predators to the mealworm are other insects, birds, rodents, spiders, and lizards.

Mealworm Life Cycle

The mealworm is the larval stage of the mealworm beetle life cycle. The mealworm life cycle is similar to the caterpillar and butterfly life cycle. Mealworms begin as tiny eggs. After a few weeks, the eggs hatch. The creatures that come out of the eggs are called larvae. During the larval stage, mealworms have two goals: eat and grow. They grow so much that they have to molt their outer shell a few times to make space for their extra biomass.



Darkling Beetle by Sanja565658 (CC BY SA-3.0)

Mealworms are not actually worms! They are the larval stage of an insect called the darkling beetle (*Tenebrio molitor*). Even though mealworms look like worms, they have six jointed legs like adult beetles (worms don't have legs). Mealworm larvae are yellow and have 13 body segments—a head, three thoracic segments, and nine abdominal segments.

Mealworms eat decaying leaves, sticks, grasses, young plants,



Robin Eating Mealworm by Philip Heron (CC BY SA-3.0)

In the third stage, the pupal stage, the mealworm forms a shell around its body. Although it looks fairly inactive during this time, it is changing. This transformation, or metamorphosis, usually takes a few weeks, but can take up to nine months. At the end of this transformation, the adult darkling beetle emerges from the shell.

The adult darkling beetle lives for a few months. It spends most of its time finding food, eating, hiding from predators, and reproducing. The female beetles lay new eggs, and the life cycle begins again!

Mealworm Composition

Because mealworms are used as a food source, there is nutrition information for mealworms available. The food label can be used to determine the molecules that the cells of mealworms are made up of. Look at the food label for dried mealworms to the side. *What molecules are mealworms made of? How do mealworms compare to the other food made from other organisms you calculated in Activity 2.2?*

Dried Mealworms

Nutrition Facts	
1 servings per container	
Serving size	(100g)
Amount Per Serving	
Calories	440
<small>% Daily Value*</small>	
Total Fat 19g	24%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 150mg	50%
Sodium 180mg	8%
Total Carbohydrate 15g	6%
Dietary Fiber 9g	31%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 55g	110%
Vitamin D 0mcg	0%
Calcium 81mg	6%
Iron 4mg	20%
Potassium 1100mg	25%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

As you read above, mealworms eat plant parts. In the investigation in the next lesson, you will see mealworms eat potatoes. Look at the food label for a potato to the side. *What molecules are potatoes made of? How does the mealworms' food compare to what the mealworms' cells are made of? What do you wonder based on this comparison?*

Potato

Nutrition Facts	
1 servings per container	
Serving size	1 (148g)
Amount Per Serving	
Calories	110
<small>% Daily Value*</small>	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 26g	9%
Dietary Fiber 2g	7%
Total Sugars 1g	
Includes 0g Added Sugars	0%
Protein 3g	6%
Vitamin D 0mcg	0%
Calcium 26mg	2%
Iron 1.08mg	6%
Potassium 846mg	20%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.