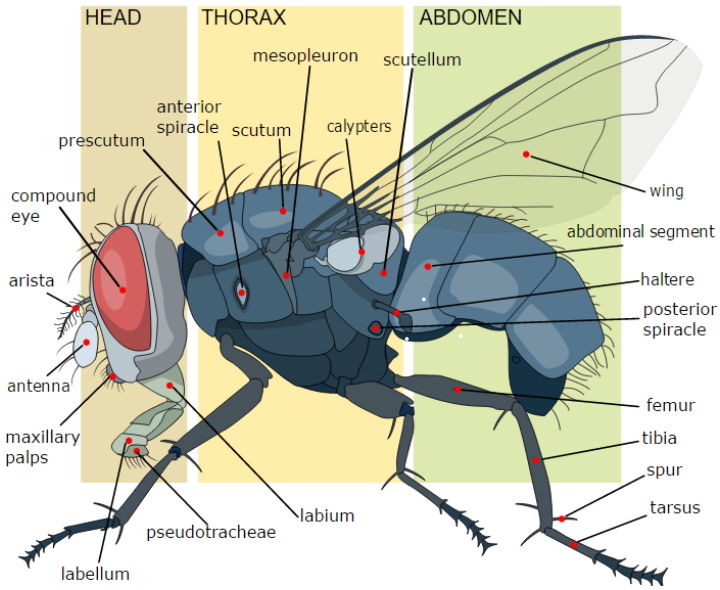
Name _____

# Antenna Insectigation

1. At the museum, look through the cages closely and look at an insect's body. Can you find all the parts in the diagram? **Circle** the parts you see.




2. After looking at some of the cages, try to answer the following questions about insect antennae.
   a. All insects have 2 antennae T F
   b. All antennae have the same shape T F
   c. Insects have antennae that are different lengths T F
   d. Antennae help insects with many functions T F
   e. Prediction: What does an insect use its antennae for? _____
   _____

3. Draw an example of an insect with its head and antennae. Try to use as much detail as you can!

4. When you have finished your drawing, go over to the Trait wall. Try to match the antenna you drew to one of the pictures on the wall. Which one does yours most closely resemble?
   _____

5. Look again at the antennae on the wall. Why do you think they are all different shapes?
   _____
   _____

Name _____

Insectigation: You and your friend are on a hike and notice a bluebird chipping away at some insects that are trying to scurry away. You run over and shoo the bird away. The insects are alive, but their antennae were cut off by the birds' beaks! You must figure out which antennae belong to which insects.

Your first idea is to research antennae. What are they used for? You had some ideas from your trip to the museum, but you take your research to another level. Read the article below.

Insects have two antennae on their heads that they like to wave around in the air, as if they were trying to feel around with them. Antennae are used for **touch**, but they also do so much more. In many insects, antennae help them sense motion, heat, **sounds**, and even **taste**!

In Monarchs, antennae are a solar **compass** during migration, and they help to tell the butterflies where to go. In the hawk moth, antennae help to **stabilize** them while flying. Mosquitoes detect sound with their antennae, and flies use them to gauge air speed while flying.

Insect antennae are very mobile, meaning they can move around at the different joints. In a similar way, if you wiggle your finger, you can see it bending at the joints.

Antennae come in many different shapes and sizes. Some are sharp and pointed, others are light and feathery. Some are very narrow, and others have a club at the end. Antennae have been **adapted** over time to fit the insect's environment the best. Some insects swim in the water, some dig underground, and others fly through the trees and flowers. Their behavior has an impact on the type of antennae that are best.

Use the clues to help you determine which kind of antennae would be best fitting for the following insects. Think about how the animals catch their food and where they live.

Clue 1: Dragonflies have very large eyes, and to find their food, they must hunt down their prey and catch them. Their larvae are aquatic meaning they swim and live in the water.

Clue 2: Moths eat nectar from flowers and have small eyes. They fly at night.

Clue 3: Carrion beetles dig in the ground, and they feed on decaying animals.

Clue 4: Ants live in colonies and each ant has important tasks to complete. Their eyes can see small movements but not details. They rely heavily on trails set by other ants.

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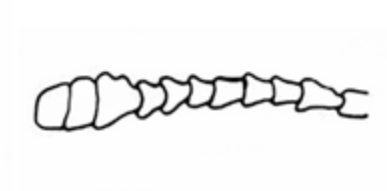
Match the insect to the drawing of its correct antenna.

| Insect | Antenna Type |
|---|---|
| Dragonfly  |  |
| Luna Moth  |  |
| Carrion Beetle  |  |
| Ant  |  |

Name _____

1. How did you use the clues to help you figure out which type of antennae the dragonfly had?

_____

_____

2. How do ants use their antennae for eating?

_____

_____

_____

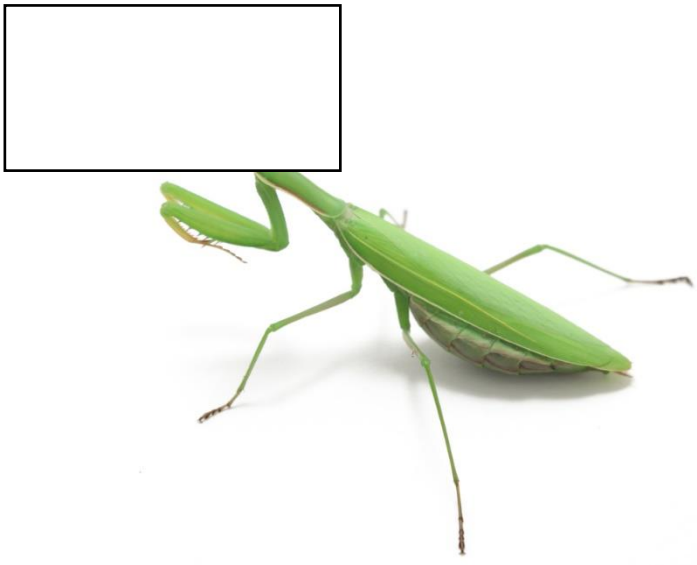
3. Why do you think we don't need antennae to help us get around?

_____

_____

_____

4. Draw what you think the antennae would look like on a praying mantis. Answer the questions to help guide your thinking.
   a. Where does a praying mantis live? _____
   b. How does a praying mantis eat? _____
   c. How well can a praying mantis see? How big are its eyes? _____

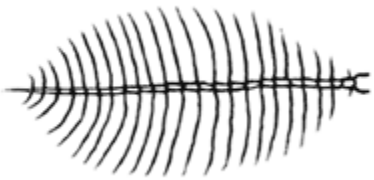


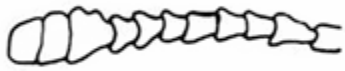
Name _____

Answer Sheet

See the images below for a key to the insect antenna matching.

Explanation: The clues gave students insight to insect lifestyles. Dragonflies have large eyes for sensory so they can catch their prey easily. Also, their life in the water is suited for swimming. Their antennae are smaller and more streamlined. Instead of big eyes, butterflies have adapted long antennae and hairs on their body to feel for predators. Carrion beetles are decomposers, so they did in the dirt. Their antennae are clubbed so they can feel more texture while crawling around in the dirt or at night. Ants have large elbowed antennae to help them find their colonies and food, since their lifestyle is very complex and organized. Our senses are very well-developed, so they take the place of insect antennae, and we don't need them!





Name _____

# Antenna Investigation - Answers

1. At the museum, look through the cages closely and look at an insect's body. Can you find all the parts in the diagram? **Circle** the parts you see.
   answers may vary

2. After looking at some of the cages, try to answer the following questions about insect antennae.
   a. All insects have 2 antennae T
   b. All antennae have the same shape F
   c. Insects have antennae that are different lengths T
   d. Antennae help insects with many functions T
   e. Prediction: What does an insect use its antennae for? taste, smell, hear, touch

3. Draw an example of an insect with its head and antennae. Try to use as much detail as you can!

   answers may vary

4. When you have finished your drawing, go over to the Trait wall. Try to match the antenna you drew to one of the pictures on the wall. Which one does yours most closely resemble?

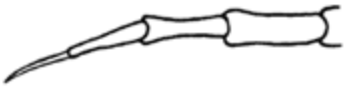
   answers may very

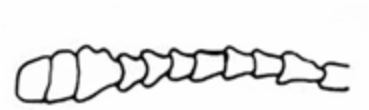
5. Look again at the antennae on the wall. Why do you think they are all different shapes?
   They are used for a variety of things and in a variety of places

Name _____

See the images below for a key to the insect antenna matching.

Explanation: The clues gave students insight to insect lifestyles. Dragonflies have large eyes for sensory so they can catch their prey easily. Also, their life in the water is suited for swimming. Their antennae are smaller and more streamlined. Instead of big eyes, butterflies have adapted long antennae and hairs on their body to feel for predators. Carrion beetles are decomposers, so they did in the dirt. Their antennae are clubbed so they can feel more texture while crawling around in the dirt or at night. Ants have large elbowed antennae to help them find their colonies and food, since their lifestyle is very complex and organized. Our senses are very well-developed, so they take the place of insect antennae and we don't need them!





Name _____

1. How did you use the clues to help you figure out which type of antennae the dragonfly had?

   answers may vary

2. How do ants use their antennae for eating?

   They follow pheromone trails laid by other ants to their food.

3. Why do you think we don't need antennae to help us get around?

   We have other methods of using our senses.

Draw what you think the antennae would look like on a praying mantis. Answer the questions to help guide your thinking.

a. Where does a praying mantis live? Grasslands / Forests

b. How does a praying mantis eat? Other Insects

c. How well can a praying mantis see? How big are its eyes? They have very good eyesight.