


Insect Defenses

8th Grade Science
Mrs. Tracy Tomm


Insects are an important part of any food web; however, many of them have **adaptations** or **defense mechanisms** that help them avoid being eaten! They also help them survive challenges in their habitats!

Warning Colors


Insects use **warning colors** to alert predators that they may be poisonous, distasteful, or dangerous. Common warning colors are **yellow, red, and black**.




Bumble Bee




Yellow Jacket



Monarch




Palm Beetle




Milkweed Bug

Spikes & Stingers


Insects use **spikes and stingers** to **defend** against predation by helping them **fight off** attackers or to **kill** prey.



Cicada Killer




Hickory Horned Devil




Rainbow Scarab Beetle (Dung Beetle)

Chemical Defenses: Odors & Poisons


Insects use chemicals as defenses, such as **odors and poisons**, to defend themselves. Predators avoid these insects because they **smell bad, taste bad, or give off chemicals**.




Ladybird Beetles
Secrete their yellow blood which causes stains and smells bad



Saddleback Caterpillar (To Moth)
Have body hairs & spikes with an irritant that causes pain & itching




Bombardier Beetles
Shoot formic acid at predators




Paper Wasp
Many bees and wasps have venom that is released when they sting a predator; may also be used to help them catch prey

Mimicry

Insects use **mimicry** to help them **look like (or mimic)** a harmful insect in the hopes that predators will avoid them.




Monarch
Distasteful to predators




Viceroy
Looks like monarch in hopes that birds will avoid it as well

Let's see some more mimics!

Click the picture at right to go to the website → 


Camouflage

Insects that use **camouflage (or crypsis)** are colored in such a way that they are able to blend into their habitats.



Katydid

Let's see if you can find some insects!



Click the picture above to go to the website

Body Features (Mimesis)

Some insects use **mimesis**, which means they have a body shape or special features (such as eyespots) that **mimics natural objects** and helps them hide in their surroundings.



Owl Butterfly

Let's see some insects that can hide!

Click the picture to go to the website →



Spicebush Swallowtail



Giant Swallowtail



Eastern Comma

Behaviors

Live in Society

Bees, ants, and wasps live in societies and work together to find food, provide defense, and take care of the young.



Hunting Strategies

Some insects work together to capture prey. Antlion larvae build "capturing" pits to get food.



Antlion

↑ Larva

← Adult



Buckeye Butterfly (M)



Mourning Cloak (H)

Hibernation or Migration

Some insects hibernate during the winter as pupa or adults, while others head to warmer parts of the globe to avoid the cold temperatures and lack of food.

Special Defenses



Sound Effects

← Madagascar hissing cockroaches make a hissing sound that scares away predators

Click beetle also make sounds →

Weapons

Stag beetles (and other insects) have modified mouth parts or appendages that can be used for defense.



Stag Beetle

Praying Mantis



Special Tricks

Click beetles can "play dead" if attacked or threatened; can also turn themselves over if they are upside down



Flash Coloration

Red Admiral butterflies use bright colors to create a display to scare away predators



Arthropod Classification Challenge

Glue on page 13 (4C)

* - Only one organism

What arthropods have we found (or seen) in the garden that we can use to fill in the petals on each flower?

Use your notes, insect books, or the sites on the Insect Links page of the Science Spot's Kid Zone to help you.

You may use some of the critters more than once!



Finish on your own using your notes!