



TOPICS

Environments, Ecology

MATERIALS LIST

- PMVCD Field Notebook
- Magnifying Lens
- 3 Pictures of different backyard insects, 1 of each for each student
- Scissors
- Snack size plastic baggies for insect pictures

STANDARDS

Next Generation Science:

- Traits of organisms are influenced by the environment (Grade 3, Life Science 3-2; Middle School, Life Science 4-4)
- Diversity, characteristics & survival (K, Earth and Human Activity 3-1 Grade 2 Life Science 4-1 Grade 3, Life Science 4-2 & 4-3)
- Investigation and Experimentation Grades K-12

Common Core Standards:

- K - W.K.2, W.K.7
- 1 - W.1.7, W.1.8
- 2 - W.2.7, W.2.8
- 3 - W.3.2.a-d, SL.3.4

WEB RESOURCES

https://curiosity.com/playlists/the-curiosity-of-animal-camouflage-HC7cmjMv/?utm_source=dsc&utm_medium=rdr&utm_campaign=rdrwork#intro-playlist

CAMOUFLAGE QUEST

Find the insects before they find you!



BEFORE THE ACTIVITY

1. Photocopy and cut out all the insect pictures on the other side of this sheet. Cut three different insects per student. Record the total number of insects made.
2. Place one each of three different insects in plastic baggies for each student.
3. Provide each student with a field notebook and magnifying glass.

TO DO AND NOTICE

1. At the beginning of the activity, hold up a sample insect. Ask the students to describe the insect (color, body shape and size). Where should it stop if it wants to hide from predators (in classroom or outside)? Put it where they suggest. Did it work?
2. Have students identify each insect in their baggie and describe what the insect looks like (color, body shape and size) and write it in their field notebook.
3. Have the students make hypotheses of how their insects would hide inside or outside.
4. Let students experiment inside or outside the classroom by holding up each insect in the baggie against different surfaces/environments to see if the backgrounds camouflage the insects.
5. As a secondary outdoor activity, have students look for insects with their magnifying glass, and describe the insect and their background to see if the insects are successfully camouflaging themselves. Have them draw and write these observations in their field notebooks.
6. At the end of the search period, gather the students and have them share the notes from their field notebook. What did they notice about the insects that were easiest to find? Where were they located? Were the insects and backgrounds the same color, or different colors? Were some color combinations harder to find? Ask the students to look around and speculate about the variations in their observations. What does this suggest about camouflage and survival?



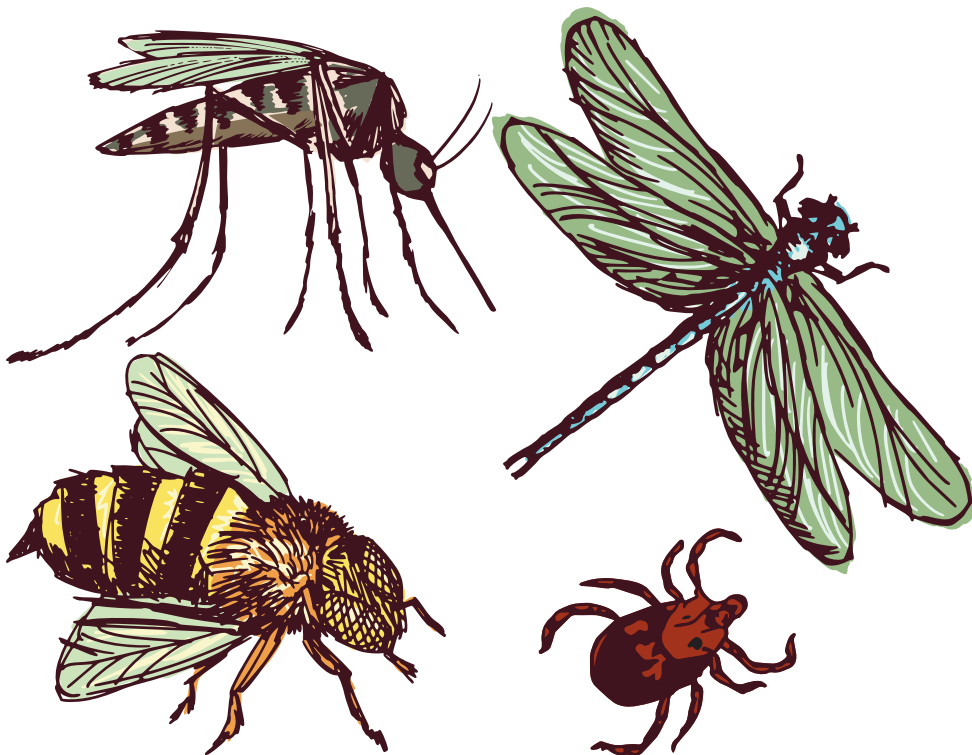
CAMOUFLAGE QUEST *Continued*

THE SCIENCE BEHIND THE ACTIVITY

Camouflage means “to veil, hide, or disguise.” Soldiers and hunters often wear patterned outfits designed to make them disappear into their surroundings. Animals have many forms of natural camouflage. Many blend into their habitat, such as a brown snake hiding among the brown rocks where it lives. An octopus can change color to blend into different environments. Some animals, like zebras, are covered with wild patterns that make their outlines hard to see.

Animals use mimesis/mimicry (imitation) to copy the shapes around them. A “Walking Stick” insect is very hard to find among the branches of a small bush! Over time, changes in camouflage occur as a result of natural selection. Nature selects phenotypes (individuals) that can avoid predators more readily, and thus the survivor’s characteristics (such as their coloring) are passed on to future generations. The color distribution in a certain population of moths gradually shifted from white to gray when the amount of smoke and ash in their forest increased. The white moths were easier for the birds to find on the darkened trees. When pollution was reduced, the white coloration once again became more common!

Camouflage, alone, is not enough. Blending in with the background is good, but since many predators’ vision is based on movement, the trick is “Don’t Move”! Once a well-camouflaged prey starts moving, a predator might spot them quickly. So, nature would also select an animal with the “freeze” instinct.



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