

# Camouflage: You Can't See Me!

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| <b>Grade Level</b> | 5                 |
| <b>Duration</b>    | 1-2 class periods |

Adapted from AIMS Education Foundation

## National Standards

### GEOGRAPHY

#### Element 3: Physical Systems

8. The characteristics and spatial distribution of ecosystems on earth's surface.

### NEXT GENERATION OF SCIENCE STANDARDS

#### Ecosystems: Interactions, Energy, and Dynamics

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

#### Earth and Human Activity

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

## AZ Standards

### SCIENCE

#### Life Science Standards

5.L3U1.10 Construct an explanation based on evidence that the changes in an environment can affect the development of the traits in a population of organisms.

### ELA

#### Reading

##### Key Ideas and Details

5.RI.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text, based on specific information in the text.

#### Writing

##### Production and Distribution of Writing

5.WHST.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

## Arizona Social Science Standards

### Human-environment interactions are essential aspects of human life in all societies.

5.G2.1 Describe how natural and human-caused changes to habitats or climate can impact our world.

## SIOP Elements

### Preparation

Adapting content  
Linking to background  
Linking to past learning  
Strategies used

### Scaffolding

Modeling  
Guided practice  
Independent practice  
**Comprehensible input**

### Grouping Option

**Whole class**  
**Small groups**  
Partners  
Independent

### Integrating Processes

**Reading**  
**Writing**  
**Speaking**  
Listening

### Application

**Hands on**  
Meaningful  
**Linked to objectives**  
**Promotes engagement**

### Assessment

**Individual**  
Group  
**Written**  
Oral

## Arizona English Language Proficiency Standards



Education Studies Department  
Teachers of Language Learners Learning Community (TL<sup>2</sup>C)



# Camouflage: You Can't See Me!

## Grade 5

### Basic

#### Listening and Reading

Standard 2 By the end of each language proficiency level, an English learner can determine the meaning of words and phrases in oral presentations and literary and informational text.

B-1: determine the meaning of frequently occurring academic and content-specific words and phrases.

#### Speaking and Writing

Standard 3 By the end of each language proficiency level, an English learner can speak and write about grade appropriate complex literary and informational texts and topics.

B-3 compose informational text that includes details to develop a topic while using appropriate conventions.

B-5: use examples of precise language and domain-specific vocabulary within informative texts.

#### Listening, Speaking, Reading, and Writing

Standard 6 By the end of each language proficiency level, an English learner can participate in grade-appropriate oral and written exchanges of information, ideas, and analyses, responding to peer, audience, or reader comments and questions.

B-1: participate in discussions about familiar topics and texts.

B-5: contribute information and evidence to collaborative oral and written discussions.

## Overview

An animal's ability to blend into an environment is called camouflage. Camouflage can be used for defensive or offensive purposes. A rabbit uses camouflage to hide from predators. A mountain lion uses it to hide until a prey is close enough to attack. Both color and shape can camouflage animals.

## Purpose

In this lesson, students will apply what they have learned about camouflage to design their own moth that could survive in a classroom environment. Students will also learn about the Peppered Moth and how it rapidly adapted during the Industrial Revolution and then adapted again after air pollution was curbed. This lesson includes strategies for diverse learners (ELLs).

## Key Vocabulary

**camouflage:** the ability to blend into an environment

**environment:** the air, water, plants, and other things that surround you

**predator:** an animal that kills and eats another animal

**prey:** any animal that is hunted for food

**natural selection:** the process by which plants or animals change in order to survive in their environment

**evolve:** to slowly change

## Materials

- Moth Environment--Collage of moths on a sheet of newspaper
- Scissors
- Colored pencils
- Tape
- Internet and projector
- Moth pattern (9 paper moths per sheet to cut out and color)
- Vocabulary Cards
- Vocabulary Test and Answer Key

## Objectives

The student will be able to:

1. explain how camouflage can affect the ability of an animal to survive in its environment.

## Procedures

*Prior to Lesson: Create a collage of moths on a sheet of newspaper. Color and cut out 16 moths from the moth pattern provided. Color 4 moths green, 4 red, and 4 blue. The final 4 moths will be cut out of a sheet of newspaper. Randomly glue the moths onto a newspaper. Tape on the wall hidden under some construction paper.*

## SESSION ONE



## Camouflage: You Can't See Me!

### Engage:

1. Have students view the video of the 25 most incredible camouflaged animals. (5 min)

[www.youtube.com/watch?v=XpdoDBYuHIA](http://www.youtube.com/watch?v=XpdoDBYuHIA)

**(Application: Promotes engagement)**

2. Discuss camouflage and how it assists animals in their environment. **(Grouping Option: Whole group)**

### Explore:

3. Tell students that you have a Moth Environment hidden under the construction paper on the wall. To see how effective camouflage can be, they will be testing their ability to spot camouflaged animals.

They will be given fifteen seconds to study the environment looking for how many total moths and how many different colored moths they see.

**(Application: Promotes engagement,**

**Scaffolding: Comprehensible input)**

4. After fifteen seconds cover up the Moth Environment again. Have students record their observations. How many moths did they see altogether and how many different colored moths did they see? In small groups, students can discuss their observations and which moths were the easiest to see. **(Grouping option: Small group; Integrating processes: Reading, Writing, and Speaking)**

### Explain:

5. As a whole class activity, uncover the Moth Environment and count the actual number of moths. Discuss why the newspaper print moths were not easily detected.

6. Talk about why camouflage might protect an animal from being easily seen by another animal. Discuss what would happen to an animal if that animal's environment changed? **(Application: Linked to objectives)**

7. Distribute the Vocabulary Cards. Discuss the cards and place the vocabulary words on the word wall. Have students write the vocabulary words in their science journals.

## SESSION TWO

### Elaborate:

8. Give each student a paper moth to decorate/camouflage. Tell them the goal is for their moth to blend into the classroom. Remind them to consider both color and pattern for their moth. Remind them to keep their work secret from classmates. Distribute the art supplies.

**(Application: Hands on)**

9. Once students are done decorating/camouflaging their paper moths, have them line up outside the

classroom. Have them enter the classroom, one at a time, to tape their moth in plain sight. The moth should not be hidden behind or under anything. When finished taping his/her moth, he/she will go back outside and another student will do the same procedures. As soon as all students have taped their moths, have them come back inside and sit at their desks. **(Application: Hands on)**

10. One by one, have students will take a turn at being a predator--finding a moth (prey) and "eating" it. After all students have had one chance to "eat" a moth, have the students whose moths have not been eaten show the class the moths that survived.

11. Then conduct a discussion why were these moths not eaten (natural selection) and survived in their environment. **(Application: Hands on, Promotes engagement)**

12. Show the video Evolution of the Peppered Moth. [www.youtube.com/watch?v=LyRA807djLc](http://www.youtube.com/watch?v=LyRA807djLc) (2 min)

13. Discuss how the moth evolved first to save itself from predators in times of polluted air and then once pollution was curbed, it evolved again to keep itself safe from predators. **(Application: Promotes engagement)**

## SESSION THREE OR HOMEWORK

### Evaluate:

14. Assess students by having them take the Vocabulary Test. Assess students by having them write the following essay in their science journals. How does camouflage benefit animals in their environment?

- Describe what happened in the classroom Moth Environment activity
- What happened to your own moth? Why was it eaten or not eaten?
- What did you learn about the Peppered Moth?

Share the Scoring Guide. **(Assessment: Individual and Written)**

## Assessment

### Science, Geography, and ELA

The essay can be graded with the Essay Scoring Guide. A score of 24 points or higher will be considered mastery.

Language acquisition can be measured with the Vocabulary Test. A score of 80% or higher will be considered mastery.

## Sources

AIMS Education Foundation



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Evolution of the Peppered Moth: 2 min 4 sec

[www.youtube.com/watch?v=LyRA807djLc](http://www.youtube.com/watch?v=LyRA807djLc)

25 Incredible Camouflaged Animals: 4:56

[www.youtube.com/watch?v=XpdoDBYuHIA](http://www.youtube.com/watch?v=XpdoDBYuHIA)

Natural Selection and Speciation

[Biology.clc.uc.edu/courses/bio106/nat-sel.htm](http://Biology.clc.uc.edu/courses/bio106/nat-sel.htm)



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