

## Photo Description



This picture shows many rocks and pebbles of different sizes, colors, and shapes scattered on the ground. Hidden among all these rocks is a small animal that blends in perfectly with its surroundings. The animal is hard to see because it looks just like the rocks around it.

## Scientific Phenomena

The anchoring phenomenon here is camouflage - an animal's ability to hide by blending in with its environment. This happens because some animals have evolved colors, patterns, and body shapes that match their surroundings. When predators look for food, they have trouble spotting the camouflaged animal, which helps the animal survive. This natural "hiding" ability is passed down from parent animals to their babies through inherited traits.

## Core Science Concepts

1. Camouflage as Survival Strategy: Animals use camouflage to hide from predators and sometimes to sneak up on their own prey.
2. Inherited Traits: The colors and patterns that help animals camouflage are passed down from parents to offspring through genes.
3. Habitat Matching: Animals often develop camouflage that specifically matches their most common environment (rocks, leaves, sand, etc.).
4. Predator-Prey Relationships: Camouflage affects the relationship between hunters and the animals they hunt in ecosystems.

### Pedagogical Tip:

Use a "I Spy" approach to engage students initially, then transition to scientific observation. Have students describe what they notice about the hidden animal's appearance compared to its surroundings before introducing the term "camouflage."

### UDL Suggestions:

Provide multiple ways for students to demonstrate understanding: drawing camouflaged animals, acting out predator-prey scenarios, or creating tactile camouflage examples using different textured materials for students with visual impairments.

## Zoom In / Zoom Out

1. Zoom In: At the cellular level, special cells called chromatophores contain pigments (colored particles) that create the animal's camouflage patterns. Some animals can even change these colors by moving the pigments around in their cells.

2. Zoom Out: Camouflage is part of larger ecosystem food webs where energy flows from plants to herbivores to carnivores. When camouflage helps prey animals survive, it maintains balance in the ecosystem by preventing any one predator from eating all of its food source.

### Discussion Questions

1. What do you notice about how the hidden animal's colors compare to the rocks around it? (Bloom's: Analyze | DOK: 2)
2. Why might it be helpful for this animal to look like the rocks in its habitat? (Bloom's: Evaluate | DOK: 3)
3. What other animals can you think of that might use camouflage, and where would they hide? (Bloom's: Apply | DOK: 2)
4. How do you think baby animals get their camouflage colors? (Bloom's: Understand | DOK: 2)

### Potential Student Misconceptions

1. Misconception: Animals choose their camouflage colors like picking clothes.  
Reality: Animals are born with their camouflage patterns, which are inherited from their parents.
2. Misconception: All animals can hide equally well anywhere.  
Reality: Camouflage only works well when animals are in their specific habitat - a desert animal wouldn't be camouflaged in a forest.
3. Misconception: Only prey animals use camouflage.  
Reality: Some predator animals also use camouflage to sneak up on their prey.

### NGSS Connections

Performance Expectation: 2-LS4-1 - Make observations of plants and animals to compare the diversity of life in different habitats.

Disciplinary Core Ideas:

- 2-LS4.D - There are many different kinds of living things in any area, and they exist in different places on land and in water.

Crosscutting Concepts:

- Patterns - Patterns in the natural world can be observed and used as evidence.

### Science Vocabulary

- \* Camouflage: When an animal's colors and patterns help it blend in and hide in its surroundings.
- \* Predator: An animal that hunts and eats other animals for food.
- \* Prey: An animal that gets hunted and eaten by other animals.
- \* Habitat: The natural place where an animal lives and finds everything it needs to survive.
- \* Inherited: Traits or features that are passed down from parent animals to their babies.

### External Resources

Children's Books:

- "What Color Is Camouflage?" by Carolyn Otto
- "Hide and Seek: Nature's Best Vanishing Acts" by Andrea Helman
- "Hiding in Plain Sight: Animals That Are Hard to See" by Diane Swanson

YouTube Videos:

- "Animal Camouflage for Kids" - Educational video showing various camouflaged animals in their habitats: <https://www.youtube.com/watch?v=hFZFjoX2cGg>
- "Can You Find the Hidden Animals?" - Interactive video challenging viewers to spot camouflaged creatures: <https://www.youtube.com/watch?v=p4kVWCSzfK4>