

Photo Description



A child is carefully holding a colorful snake with bright red, black, and yellow stripes wrapped around their hand. The snake has smooth scales that shine in the light, and you can see its head with a small eye looking at the camera. This snake is a king snake, which is a type of animal that lives on the ground and eats other snakes!

Scientific Phenomena

Anchoring Phenomenon: Why do some snakes have bright colors?

This image captures a snake with distinctive color banding—a pattern called aposematism (warning coloration). King snakes display these bold red, black, and yellow bands as a defense strategy. Scientifically, these stripes serve as a visual warning to predators that the snake may be dangerous or unpalatable. Interestingly, king snakes are actually harmless to humans and non-venomous, but their coloring mimics venomous species (like coral snakes), which protects them through a phenomenon called Batesian mimicry. For Kindergarteners, the key idea is: Bright colors on animals can mean "stay away!" or help them hide and stay safe.

Core Science Concepts

- * Animal Characteristics and Features: Snakes have no legs, smooth scaly skin, and move by wiggling their bodies. They are reptiles that breathe air and live in different environments.
- * Colors in Nature: Many animals have colors and patterns that help them survive. Some colors warn predators, while others help animals blend in or stay safe.
- * Animal Behavior & Handling: Snakes are living creatures that need calm, gentle treatment. Understanding safe interaction with animals teaches responsibility and respect.
- * Biodiversity: Different snakes look different and live in different places. A king snake is just one type of snake among many kinds in the world.

Pedagogical Tip:

For Kindergarten, avoid using the terms "venomous" or "mimicry" directly. Instead, focus on observable features: "This snake has pretty stripes. The bright colors tell other animals, 'Be careful!' Even though this king snake is friendly, its colors look like snakes that are NOT friendly, so predators stay away." Use hand motions and colorful visuals to reinforce the concept.

UDL Suggestions:

Multiple Means of Representation: Provide high-quality images of snakes in different colors and patterns alongside real or realistic snake models. Use repetitive, predictable language ("This snake is red and black and yellow"). Allow students to wear or touch colored ribbons to physically represent stripe patterns.

Multiple Means of Engagement: Invite a local naturalist or reptile educator to bring a live (or high-fidelity robotic) snake for supervised, hands-on observation. If a live snake visit isn't possible, create a "snake sensory bin" with smooth objects (river rocks, silk scarves) that mimic snake textures. Celebrate curiosity without pressure to touch.

Multiple Means of Expression: Allow students to show their learning through drawing snakes with patterns, arranging colored strips of paper to make snake stripes, or creating their bodies like snakes. Assess on work samples and student responses.

Discussion Questions

1. What colors do you see on this snake? (Bloom's: Remember | DOK: 1)
 2. Why do you think this snake has such bright, colorful stripes? (Bloom's: Infer | DOK: 2)
 3. How might the snake's bright colors help it stay safe in the wild? (Bloom's: Analyze | DOK: 2)
 4. If you were a big animal that eats snakes, what would the bright colors tell you? (Bloom's: Evaluate | DOK: 3)
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Extension Activities

1. Snake Stripe Craft: Provide students with paper strips in red, black, and yellow. Have them glue or tape the strips onto a paper snake cutout to recreate the king snake's pattern. Talk about how the colors repeat: "Red, black, yellow, red, black, yellow!" This reinforces pattern recognition and fine motor skills.
 2. Sensory Texture Exploration: Create a sensory bin with smooth rocks, silk scarves, yarn, and other smooth/slippery items. Hide a plastic or rubber snake model in the bin. Invite students (with hand-washing supplies nearby) to feel the textures and discover the snake. Discuss: "What does a snake's skin feel like? Smooth? Cold? Shiny?"
 3. Snake Movement Dance: Play soft music and invite students to move like snakes—wiggling on the floor, slithering across the classroom, or moving to a designated "snake habitat" (a marked-off area with green cloth). Pause and ask: "What do you notice about how snakes move without legs?" This builds body awareness and kinesthetic learning.
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NGSS Connections

Grade: K (Kindergarten)

Performance Expectation: K-LS1-1

Develop models to describe that organisms have observable features and behaviors that help them survive, grow, and meet their needs in their environment.

Disciplinary Core Ideas:

- K-LS1.A (Structure and Function) — Snakes have body parts (scales, eyes, mouth) that help them survive.
- K-LS1.D (Information Processing) — Snakes use their eyes and body to sense their environment.

Crosscutting Concepts:

- Patterns — The stripes on the king snake follow a repeating pattern (red, black, yellow, red, black, yellow...).
 - Structure and Function — The smooth scales help the snake move through grass and soil.
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Science Vocabulary

- * Snake: A long animal with no legs that moves by wiggling and has smooth, shiny scales all over its body.
- * Scales: Tiny, smooth pieces that cover a snake's skin like a suit of armor to keep it safe.
- * Stripes: Long lines of color that run down the snake's body in a repeating pattern.

- * Reptile: An animal with dry, scaly skin that lays eggs and is cold-blooded (like snakes, lizards, and turtles).
 - * Pattern: A design that repeats over and over, like the red-black-yellow-red-black-yellow stripes on a king snake.
 - * Predator: An animal that hunts and eats other animals for food.
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External Resources

- ### Children's Books
- * Hiss! by Jeanne Willis (illustrated by Adrian)