
Animals and Their Adaptations



Pre-Kindergarten Teacher Resource Guide

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Lesson Summary: The *Animals and Their Adaptations* program provides students with an opportunity to touch and examine live animals and natural specimens from a variety of taxonomic groups, including arthropods, amphibians, reptiles, and mammals. During the animal presentations, students will participate in an instructor-led group discussion emphasizing each animal's diet, ecological role, habitat, and physical adaptations (structure and function) needed for survival.

Vocabulary: Below are words and concepts that relate to the *Animals and Their Adaptations* program.

Adaptation (in biology): a change in either the structure or functions of an organism over time that better enables it to survive and reproduce in its environment. An adaptation can be structural (e.g., talons for seizing prey), physiological (e.g., ability to change color), or behavioral.

Amphibian: a cold-blooded animal that starts life in a wet environment but can live on land once it matures

Arthropod: an animal with an exoskeleton and jointed legs

Biology: the science that is concerned with the growth, development, and functioning of living things

Camouflage: something (such as color or shape) that protects an animal from attack or helps it to surprise others by making the animal difficult to see against the area surrounding it

Carnivore: an animal that feeds primarily on meat

Diversity: the state or condition of being unlike; dissimilarity or variety

Ecosystem: a community of living things, together with their environment

Environment: everything around an animal, its natural surroundings including the air, water, soil, and plants

Habitat: the particular natural environment (place) where an animal or plant is usually found.

Herbivore: an animal that feeds solely on plants

Inheritance: the genetic process of passing characteristics to succeeding generations, or the characteristics thus transmitted

Mammal: a warm-blooded animal that has a body more or less covered by hair, gives live birth, and nourishes its young with milk from the mammary glands of the female

Mimicry: the imitation by an organism of its environment or of other organisms as a means of survival. **Also: mimic**

Niche: the role or part that an animal plays in its habitat or environment

Omnivore: an animal that feeds on both plants and animals

Poisonous: dangerous to bite; containing chemicals that harm the body when eaten

Predator: an animal that hunts and eats other animals

Prey: an animal that is hunted or killed by another animal for food

Reptile: a cold-blooded animal with dry scaly skin that typically lays soft-shelled eggs on land

Venomous: dangerous to be bitten by; capable of biting, stinging, or otherwise wounding other creatures with harmful chemicals

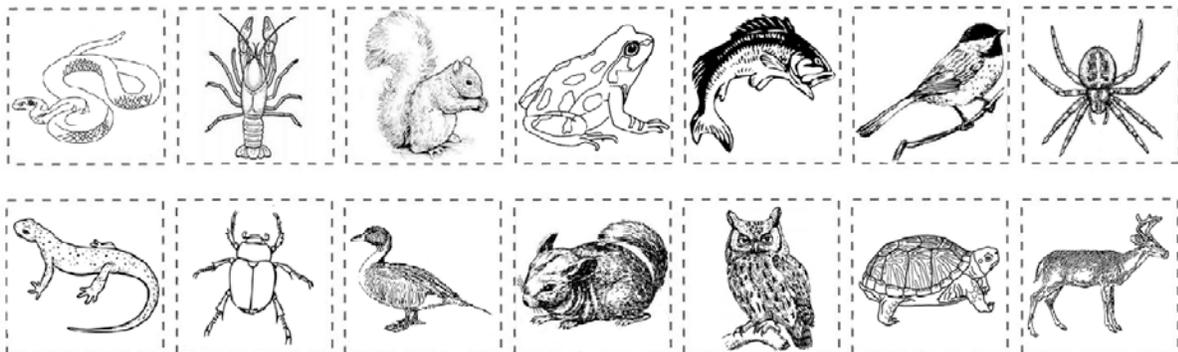
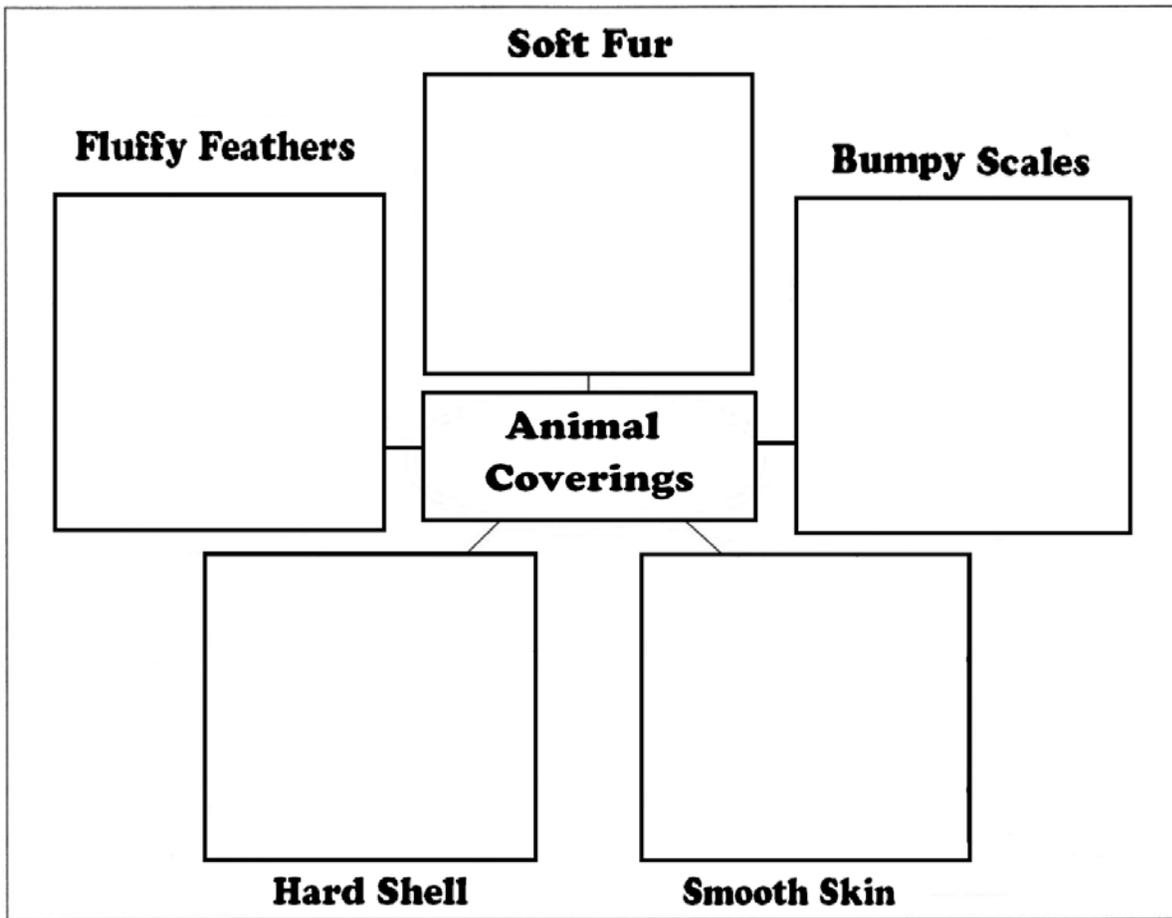
Animals and Their Adaptations: Animal Coverings Activity Page

Name: _____

What's on the Outside?

Different animals have different types of body coverings. Give it a try!

Directions: Cut out the animal pictures at the bottom of the page, then paste them into the correct square on the diagram.



Animals and Their Adaptations: Extension Activities

The extension activities listed below are from RAFT (Resource Area For Teaching). RAFT educational content is available online (www.raftbayarea.org) at no cost and is aligned to California Science Standards and Next Generation Science Standards. Below is a selection of post-visit activities from RAFT to build on student learning about animals and adaptations.

[RAFT Idea: Blubber Gloves - Resource Area For Teaching](#)

Grades Covered: Pre-K through 12

Subjects Covered: Physical Science, Life Science

Curriculum Topics: Marine mammals, Environments, Ecology, Adaptations

Description: Adaptations in physical structure or behavior may improve an organism's chance for survival.

www.raftbayarea.org/ideas/Blubber%20Gloves.pdf

[RAFT Idea: Baby, It's Cold Outside - Resource Area For Teaching](#)

Grades Covered: K through 6

Subjects Covered: Life Science

Curriculum Topics: Environments, Habitats, Adaptations

Description: This diorama helps students visualize life and ecology in an arctic environment.

<http://www.raftbayarea.org/ideas/Baby,%20It's%20Cold%20Outside.pdf>

[RAFT Idea: What Makes a Bird - Resource Area For Teaching](#)

Grades Covered: Pre-K through 3

Subjects Covered: Life Science

Curriculum Topics: Animals, Environments, Sorting & Classifying

Description: In this activity primary learners learn how to sort animals into two categories.

www.raftbayarea.org/ideas/What%20Makes%20a%20Bird.pdf

Animals and Their Adaptations: Education Standards

Our Animals and Their Adaptations program will contribute to students' ability to meet the following standards from the Head Start Framework for 3-5 year olds:

Physical Development & Health: Health Knowledge & Practice

- Follows basic health and safety rules and responds appropriately to harmful or unsafe situations.
- Participates in structured and unstructured physical activities.

Social & Emotional Development: Social Relationships

- Cooperates with others.
- Uses socially appropriate behavior with peers and adults, such as helping, sharing, and taking turns.
- Recognizes how actions affect others and accepts consequences of one's actions.

Self-regulation

- Follows simple rules, routines, and directions.

Emotional & Behavioral Health

- Adapts to new environments with appropriate emotions and behaviors.

Approaches to Learning: Initiative & Curiosity

- Demonstrates eagerness to learn about and discuss a range of topics, ideas, and tasks.
- Asks questions and seeks new information

Cooperation

- Helps, shares, and cooperates in a group.

Logic & Reasoning: Reasoning and Problem Solving

- Recognizes cause and effect relationships.
- Classifies, compares, and contrasts objects, events, and experiences.
- Uses past knowledge to build new knowledge.

Language Development: Receptive Language

- Attends to language during conversations, songs, stories, or other learning experiences.
- Comprehends increasingly complex and varied vocabulary.
- Comprehends different forms of language, such as questions or exclamations.

Mathematics Knowledge & Skills: Measurement & Comparison

- Compares objects using attributes of length, weight, and size (bigger, longer, taller, heavier).
- Uses nonstandard and standard techniques and tools to measure and compare.
- compare.

Science Knowledge & Skills Scientific Skills & Method

- Uses senses and tools, including technology, to gather information, investigate materials and observe processes and relationships.

Animals and Their Adaptations: Education Standards

- Observes and discusses common properties, differences, and comparisons among objects.
- Participates in simple investigations to form hypotheses, gather observations, draw conclusions, and form generalizations.

Conceptual Knowledge of the Natural & Physical World

- Observes, describes, and discusses living things and natural processes..

Social Studies Knowledge & Skills: People & the Environment

- Recognizes that people share the environment with other people, animals, and plants.

Excerpted from: <http://www.acf.hhs.gov/programs/ohs/resource/hs-child-development-early-learning-framework>