

Nature Changes – Pre-school

Summary

Students will meet a mammal, reptile, and amphibian to learn how these animals change throughout their lifecycles. On a hike through the nature center students will hear a story and investigate the natural world. They will observe, analyze, and interpret patterns between what plants, animals, and humans need to survive. *This program is 1 hour.*

Objectives

- Students will understand how a toad changes through metamorphosis
- Students will understand that snakes shed their skin in order to grow bigger
- Students will understand that rabbit's fur is different based on the habitat and weather
- Students will explore nature and search for living things in different habitats

Key Terms

Life Cycle – the growth that a living thing goes through from birth to death

Metamorphosis – all insects and amphibians go through this kind of life cycle, marked by sudden, dramatic changes

Habitat – a living' thing's home; there are many different kinds of habitats on planet Earth, such as a desert, a forest, or a coral reef bed

Nature – the living and nonliving things that make up habitats

Observe – to notice or study closely; we can observe by using all of our senses

Background Information

Toads

- Frogs and toads go through a form of metamorphosis called 'complete metamorphosis'. This means that their body shape completely changes from birth to adult. The young usually live in different habitats and have different diets than the adults, so they do not compete for food or space. Toads start as an egg, then hatch as a tadpole. Tadpoles progress to toadlets and then finally adults.



- Amphibians can spend time both in water and on land. You can usually tell the difference between a frog and a toad by looking at its skin – toads are usually bumpy and frogs are usually smooth. Most species of frogs move by hopping and most species of toads move by crawling. Amphibians can lay hundreds or thousands of eggs at a time; only a small percentage will survive to adult. Many species of frogs and toads communicate by songs/calls they make during breeding season. Each species has its own unique call.

Snakes

- The skin of a snake is a physically protective layer. It helps prevent injury, prevents drying out, and helps snakes to minimize friction. Because snakes lack limbs, their bodies are in contact with some surface at all times, which produces a huge amount of friction. As a result, they have to both minimize friction in order to move forward and generate their own friction in order to generate enough propulsion to move. Scale and

skin orientation help to accomplish this, and it has been demonstrated that nanostructures on their scales may play a role in this process.

- Snakes, like all reptiles, shed their skin – this is how they grow. The rate of shedding is directly correlated to the animal's metabolism – the more a snake eats (and the more frequently it eats), the more quickly it will need to shed. After it sheds its skin it is just a tiny bit bigger than it was before. Many snakes hibernate during the winter and therefore do not shed during this time.
- Snakes lay a clutch of eggs, usually once per year. Unlike jelly-like amphibian eggs, reptiles lay amniotic eggs which have a thicker protective layer around them, which makes them less susceptible to predation. As such, reptile clutches are much smaller – usually less than 100 eggs and often as few as 2-3 eggs.

Rabbits

- Rabbits will typically experience their first molt at the age of 4-5 months. At this milestone, rabbits shed baby fur and grow what is known as an immediate coat. This will not necessarily be the same color as their baby coat. Around three months after this, the rabbit will molt again and grow their adult coat.
- Rabbits grow and shed fur seasonally – in warmer months they shed fur to stay cool and in colder months they grow a thicker coat to stay warm.
- Rabbits have litters of 'kittens' several times per year. The average litter size is 6. Since rabbits are mammals, the babies nurse from their mothers and wean at 4 weeks old.