



Olinguito Activity Kit

You can play master spotter within the pages of this book!
Can you . . .

- find the real pressed leaves and flowers used in each picture?
- find the three kinds of reptiles?
- name the three different amphibians shown?
- list the seven kinds of insects included?
- spot eight mammals? (Hint: olinguito is one!)
- count nine distinct kinds of birds?
- name a mollusk, a crustacean, and an arachnid?
- identify the one predator in pursuit of its prey?
- find the zoologist in every picture?

I-Spy Fun!

During hikes through the cloud forest, author/illustrator Lulu Delacre searched for special plants, animals, and birds. She checked off more than one hundred birds from her Birds of Ecuador list.

Interconnectedness in the Cloud Forest Ecosystem

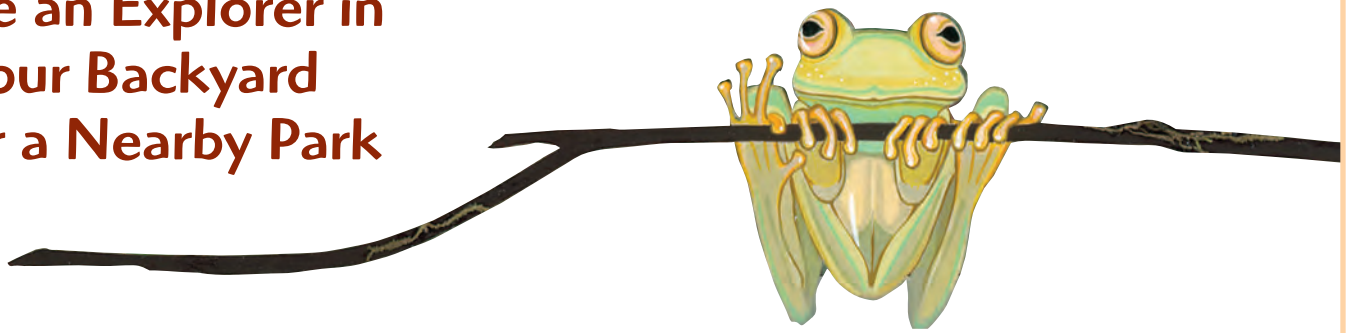
- Which animals pictured in the book do you think might predators, such as the **oncilla** (tiger cat) and the **viper**, might feed on? (Hint: Read about the oncilla and viper in the glossary.)
- Can you find the relationships among the plants and animals pictured on the Xx/Yy page? (Hint: Read about the carpenter bee, passion flower, and barbet in the glossary.)
- Look at the Ññ/Oo page. What do you think would happen if **bromeliads** no longer grew in the cloud forest?



Practice Spanish!

- Look at the picture on the Aa/Bb page. There are many things shown with names that begin with the letter A in Spanish. Can you name five of these things? (Hint: *Águila* is one of them.)
- On each page, can you name other things in the picture with names that begin with the featured letters? (Hint: Some spreads show more things than others.)

Be an Explorer in Your Backyard or a Nearby Park



Observe an ecosystem

You will need:

- a notebook
- a pen or pencil
- a camera
- a thick, old paperback book

1. Make a note of the time of day you are making your observations. Is it morning, afternoon, or night?
2. Record all the plants and organisms you see, including trees, shrubs, bushes, grasses, ferns, mosses, and lichens.
3. Record all the animals you see in the area, including insects, arachnids, mollusks, reptiles, birds, and mammals.
4. Gather fresh leaves of different shapes from trees and shrubs and put each separately between two pages of the paperback book. You may also gather small, colorful flowers or flower petals and put them between pages of the book.
5. Take photos of any animals you see.
6. Once you are back inside, place the paperback book under a pile of heavy books for a week or two to let your pressed leaves and flowers dry.





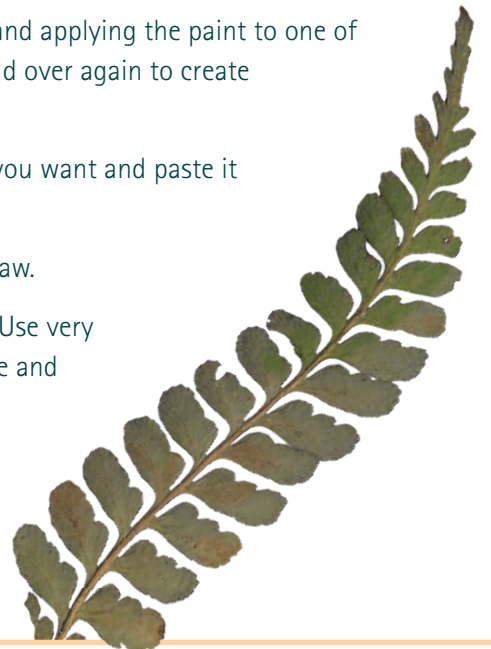
Illustrate the ecosystem

On the Gg/Hh page, pressed tree leaves were used to create the leaf print on the background and pressed ferns were glued to the picture to look as if they were growing on the tree. You can do the same!

You will need:

- smooth, thick white paper
- smooth, thin white paper
- your dried, pressed leaves and flowers
- acrylic paints
- scissors
- round and flat paint brushes
- glue

1. On the thick paper, sketch a simple scene showing a small area of your backyard or the park. Use your notes and photos as reference for what to show in your picture.
2. For your picture, think about where you want a leaf-print background and where you will draw or paste pictures of the animals you saw.
3. Create a leaf print background by dipping a flat dry brush in a little paint and applying the paint to one of your dried leaves. Take the painted leaf, press it on your thin paper over and over again to create a pattern.
4. Once the paint on your leaf print background is dry, cut it into any shape you want and paste it onto your picture.
5. Add your own drawings or collages of the trees, shrubs, and animals you saw.
6. Finish your picture by adding some of your pressed leaves and/or flowers. Use very little glue to paste the pressed leaves and flowers because they are delicate and brittle.
7. Identify your picture with a descriptive title and your name.



Useful Information

Animals are classified into two main groups: vertebrates and invertebrates. Vertebrates are animals that have a backbone and are further organized into five classes: reptiles, fish, amphibians, birds, and mammals. Invertebrates are animals without a backbone and are further organized into six groups: porifera, cnidarians, annelids, mollusks, arthropods, and echinoderms. Invertebrates are the largest group in the animal kingdom.

Five Classes of Vertebrates and Defining Characteristics

Fish: cold-blooded, aquatic, gills, wet scales

Reptiles: cold-blooded, terrestrial, lay hard-shelled eggs, dry and scaly skin.

Amphibians: cold-blooded, spend part of their life in water and part on land, lay eggs, do not have scales, moist and permeable skin

Birds: warm-blooded, terrestrial, feathers, beaks, lay hard-shelled eggs

Mammals: warm-blooded, hair or fur, live young that feed on milk from mammary glands

Six Groups of Invertebrates and Examples

Porifera: (sponges) aquatic, non-motile, filter feeders, no definite symmetry, simplest group of invertebrates

Cnidarians: (jellyfish, corals, sea anemones, hydras) aquatic, stinging cells, radial symmetry

Annelids: (earthworms, leeches) segmented worms, terrestrial and aquatic, bilateral symmetry

Mollusks: (snails, slugs, oysters, clams, squids) terrestrial and aquatic, soft bodied, consist of a head, body, and foot, many have hard shell for protection, bilateral symmetry

Arthropods: (insects, crustaceans, spiders) terrestrial and aquatic, hard exoskeleton, segmented body, bilateral symmetry, largest group of invertebrates and the animal kingdom

Echinoderms: (starfish, sea cucumbers, sea urchins) aquatic, tube feet, five-point radial symmetry

Identifying Questions

- Is the animal a vertebrate or an invertebrate?
- What covers the animal's body?
- Does it live in water or on land?
- What adaptations help the animal survive in its environment?



Key Definitions

Cold-blooded (ectothermic): A cold-blooded organism is unable to regulate its internal body temperature. Its body temperature depends on the temperature of the surrounding environment. For example, when it is warm outside, the body temperature of a cold-blooded animal increases; and when it is cold outside, the animal's body temperature decreases.

Warm-blooded (endothermic): A warm-blooded organisms is able to maintain a constant internal body temperature. Warm-blooded animals require more food, or metabolic energy, than cold-blooded animals to stay warm.

Exoskeleton: An exoskeleton is a hard, external covering that supports and protects an organism's body.

Bilateral symmetry: An organism's body parts can be divided into two equal halves from head to tail.

Radial symmetry: Is the arrangement of body parts around a central axis in which an organism can be divided into equal parts. Animals with radial symmetry only have a top and bottom, no right or left sides.

Five-point radial symmetry: Is the arrangement of body parts around a central axis in which an organism can be divided into five equal parts.

Ecosystem: An ecosystem is made up of the living (plants, animals, and other organisms) and nonliving (air, water, sunlight, and soil) things in an area. They interact and work together to form a system of interacting communities. Every living and nonliving factor directly or indirectly affects other factors in the ecosystem, and any change in an ecosystem directly or indirectly affects other factors within the ecosystem. An ecosystem can be very large or as small as a tide pool. Ecosystems are connected across Earth in **biomes**, large regions of the planet with similar climate, plants, and animals, such as tropical forests, deserts, oceans, and tundra. For example, a cloud forest is made up of many different ecosystems.

Predator: A predator species is one that hunts and consumes another species. Adaptations such as speed or sharp teeth or claws help predators hunt and capture their prey.

Prey: A species that is hunted and consumed by another species is its prey. Adaptations such as camouflage or speed help prey avoid or escape its predators.

Adaptation: An adaptation is an advantageous trait (structural or behavioral) that increases a species' chance of survival. Adaptations help a species navigate its environment, escape predators, obtain food, and produce offspring.

Predation: Predation is the act of one species (predator) consuming another species (prey). The predator-prey relationship keeps the populations of both the predator and prey species balanced in an ecosystem. As a predator population increases, the prey population decreases; and as the prey population decreases, the predator population decreases. Predators and prey both have adaptations that help them survive and eventually evolve.

Explore the following resources for more information about animal groups and classification:

[National Geographic-Habitats](#)

[National Wildlife Federation-Invertebrates](#)

[San Diego Zoo Kids-Meet the Animals](#)

[Smithsonian National Zoological Park-Invertebrates](#)



For more ideas, check out the teacher's guide for *¡Olinguito, de la A a la Z! / Olinguito, from A to Z!* at leeandlow.com