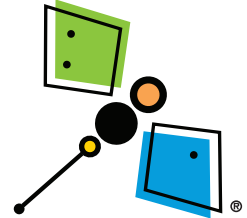


DragonflyTV: GPS Activity 11

Biodiversity



Bronx Zoo
New York, NY
bronxzoo.com



Biodiversity

We're Jessica and Stanley, and we're exploring the African rain forest on our home turf in New York City! We went to the Bronx Zoo, where they have animals and plants just like those in the African Congo. We'd heard how many different kinds of animals and plants live in the rain forest (that's called biodiversity), so we wanted to see for ourselves how that could be. Our question: How can so many different kinds of animals live together in the rain forest?

The rain forest has five very different layers: the emergent layer at the very top, the canopy, the understory, the shrub layer, and the forest floor at the very bottom. We drew a map of the layers and recorded where each of the 12 animals in the Bronx Zoo Congo Exhibit lives. We also wrote down observations that showed us how they've adapted to life in that area of the jungle.



**BRONX
ZOO**



Icebreaker

Discover the diversity of life where you live by doing a BioBlitz!



DragonflyTV Skill: Observing

Guide your kids as they

- 1) Prepare to participate in a BioBlitz event by selecting a location to observe plants and animals. This could be a yard or neighborhood park, a wooded area, a pond (adult supervision, please!), or anywhere else outdoors where there is a variety of plant life.
- 2) Make a numbered list in the notebook, leaving space to write notes and observations after each number.
- 3) Enter the BioBlitz observation area in groups of two, and write a list of living things that they see. Each type of tree, plant, flower, or weed gets its own entry on the list. If the name of the plant is not known, write a full description of it, and try to identify it later.
- 4) Watch for animals as well, although they may not be as readily apparent. Look for squirrels, rabbits, or birds and don't forget to look for bugs. This may mean getting down on hands and knees, and being thorough in looking for bugs in grassy areas, or even under leaves, logs, or rocks. Again, if the name of a specific bug is not known, describe it as completely as possible.
- 5) After all the teams have had a chance to explore the BioBlitz zone, return to a gathering place to go over everybody's findings. Make a master list of all the different kinds of plants and animals that the teams found.

You'll need:

- notebook and pencil
- plant and animal identification resources

DFTV Science Helper

If it feels intimidating to set up this BioBlitz activity, enlist your local nature center, zoo, or science center to help guide you. You may even find that one of these organizations in your area already does an annual BioBlitz activity that you can participate in. Do a Google search on the term BioBlitz, along with your state's name, and see what's happening. You can also lengthen the time duration to suit your needs.



To find a science or nature center near you, visit http://pbskidsgo.org/dragonflytv/gps/gps_localize.php



Investigation Biodiversity



1-2 hours

You'll need:

- camera
- notebook

Guide your kids as they

- 1) Go to the zoo to look at animal feet. Webbed feet, padded feet, clawed feet, feathered feet. Make a list of ten different animals at the zoo, and write down a description of their feet.
- 2) Now think about this: How do each animal's feet help it live in its environment? Put each animal from your list into the category that best describes what their feet type help them do. You can put an animal into more than one category. Use these categories, or any others you can think of:
 - Hunting
 - Fishing
 - Swimming
 - Digging
 - Jumping
 - Climbing
 - Defending themselves
 - Holding things

DFTV Science Helper

Scout the zoo animal exhibits in advance to make sure that the animals' feet can be seen. If a creature's exhibit has tall grass, or if the animal tends to hide behind trees or rocks in the exhibit, it will be hard for students to make any observations. You may want to have photographs available to students if they come back and say, "I couldn't see the tiger's feet!"



DFTV Kids Synthesize Data and Analysis

Many zoos have themed exhibit areas: "North Woods Trail," or "Tropical Birds," for example. Your students can use these existing themes to analyze the data they collect from their animal feet investigation. In other words, help students envision the environment where these animals live and relate each animal's use of its feet to the place in that environment it occupies. If your students encounter water fowl on the "North Woods Trail," then their feet are suited for swimming, and the place in the north woods where they live is a wetland. A porcupine climbs with its feet, and its place in the woods is in the trees. Encourage students to develop an artistic rendering of the woods, and put drawings of the animals in the appropriate part of the diagram. You can use this concept whether discussing an ocean habitat, or a forest, or even a desert.

Here's a statement that shows how Jessica and Stanley discussed their findings at the Bronx Zoo Congo Exhibit:

"There were a lot more plants and animals living in the Congo rain forest than we expected! Their homes are in different layers or niches. The okapi is a floor dweller, the gorilla lives in the shrub layer, and monkeys and birds live in the understory and canopy layers. We think it's interesting how each animal seems suited to the layer it lives on. Another thing we noticed was a lot of the animals were endangered because of losing their habitat. If human beings get rid of rain forests, they get rid of the animals too!"



Keep Exploring!

Encourage your kids to look at the different ways color protects the animals at the zoo. Animal colors and patterns might help them blend in to their environment, or their colors and patterns might be a warning for other animals to "stay away!" Have the kids describe the colors and patterns they see on different animals, and write down how they think they protect this animal from predators.