

## Explore Activity - Habitat Assessment and Anole Population Count

### Objectives:

- Students will be able to define trophic cascade, and calculate population count
- Students will understand factors that impact habitat viability and population density
- Students will utilize common surveying techniques and organize data collected to answer a scientific question

### Materials:

- Watch or timer
- Notebook and writing utensil
- Datasheet ([Click Here for Datasheet](#))
- Binoculars (optional)



### Background:

South Florida is paradise for lizards, particularly those introduced from other lands. From iguanas to monitors to geckos, there are nearly 50 recorded [exotic species](#) of [lizards](#) living in Florida today compared to only 15 [native species](#)! One of the most common exotics is the [brown anole](#). Introduced in the 1880s when they stowed away on boats coming to the Keys from the Caribbean where these lizards are native, brown anoles are now found in nearly every type of [habitat](#) throughout peninsular [Florida](#).



While many native animals do not thrive in areas where there are a lot of people or homes, many introduced exotics do very well in urbanized areas. Brown anoles are so well-suited to the areas where humans live that they appear to be out-competing the [green anole](#), a Florida native, for resources like space and food. In order to determine how many brown anoles are in your backyard or schoolyard and what kind of habitat this lizard prefers, you will conduct a [population survey](#) and a [habitat assessment](#). This type of data collection helps us understand what an area's [carrying capacity](#) is, where populations of a particular species are likely to be found, and how exotics could be impacting native species as [urbanization](#) and [climate change](#) alter the natural landscape.

### Introduction:

- First do some research online. Brown Anoles come in many different patterns and shades of brown. Females and males can look quite different too. Make sure you are familiar with what this lizard looks like.
- Now research the Green Anole. These lizards can change from green to brown so look at any differences you notice between them and the Brown Anole. One big behavioral difference is that Green Anoles are rarely seen on the ground.

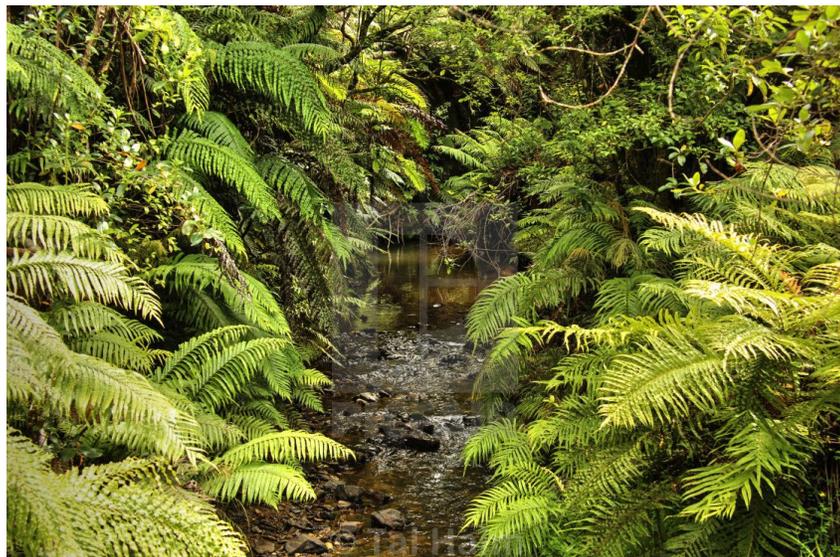
### Anole count and Habitat Assessment Instructions:

1. Take your notebook, pencil, data sheet, and binoculars (optional) and slowly and quietly walk around your outdoor space.
  - a. The slower and quieter you move, the more anoles you have a chance of seeing.
2. Take a look at your data sheet. On it you will see **4** spaces for **2** types of habitats. They are:
  - a. **2 open natural spaces** or habitats
  - b. **2 natural spaces within five paces of a perch** (a place for an anole to rest off the ground).
  - c. Perches can refer to a tree, wall, ledge, tree stump, bush, etc.
  - d. "Paces" refers to the natural walking stride or step you take while walking.
3. On your data sheet, mark which type of habitat you are sampling - open natural space or natural space near a perch.





- a. Then take notes of the habitat's characteristics within the sampling area, including notable features, like a large rock, tree, artificial substrate, etc...
- b. Make a simple **sketch** of the area and clearly label any perches in the first column of your data sheet.
- c. You will need to **note** both the **dominant substrate** and the **dominant vegetation** in the sample area.
  - i. **Dominant** species are in the majority within an ecological community, particularly when they are most numerous or form the bulk of the biomass.
    1. For example: the dominant vegetation in this image is fern and the dominant substrate is rock.



- ii. Refer to the attached guides for both substrate and vegetation examples.
4. Once you identify where you will collect data, head back inside for a 10 minute break. You probably spooked the anoles and we have to give them a chance to come out of their hiding spots before we try to count them!
5. After 10 minutes, head back outside and carefully approach each data collection site.
  - a. **Count ALL the anoles you see in each habitat** and mark your counts on your data sheet.
  - b. When performing your habitat assessment and anole count, follow these guidelines:
    - i. Wait 2-3 minutes between counts, standing or sitting as quietly and still as possible.
    - ii. Use binoculars if you can, to stay further away from your habitats as you count. The further you are the more you will see!
    - iii. For the last part of each habitat count, walk through the area you are counting. This could make some hidden anoles run away that you can now count. Babies are especially hard to see unless you scare them by walking close-by.
    - iv. Repeat these steps for each of the four sample areas on your data sheet.

## DID YOU KNOW?

The bright pouch that male anoles push out to display is called a DEWLAP. Anoles display their DEWLAP to attract a mate or to announce that a habitat is their territory.

