

**Title:**

*The use of Natural history Collections Data to learn about ecosystems and biodiversity*

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**Abstract:**

This activity aims at engaging students in learning about species **distributions**, co-occurrence and conservation using institutional collections of data. A computational tool called iDigBio can be used to show on a map the spatial **distribution** of species through **georeferencing**. Gray bat whose scientific name is *Myotis grisescens* (mammal) is one of the endangered and threatened species in Florida. Using the provided data, students are going to use iDigBio to see how **spatially distributed** these species are hence analyze the data and come up with ways to protect them.

**Subject, Grade, Level:**

Earth Science/Comp Science Grade 7

**Learning Objectives:**

1. Collect data from natural history collections
2. Use iDigBio to create a spatial distribution map of the gray bat (*Myotis grisescens*) in Florida. (one of the endangered and threatened species)
3. Analyze spatial occurrence data for gray bat.
4. Examine the natural history data of the gray bat
5. Find ways of protecting this endangered and threatened species

**Timeframe:**

Creating a spatial distribution map using iDigBio will take 10 minutes. Writing observations will take 5 minutes. Researching about Gray bat will take 10 minutes.

Writing ways of protecting gray bat will take 10 mins. Conclusion will take 5 minutes

**List of materials:**

Computers connected to internet

Small white boards

White board markers

**Procedure and general instruction (for instructor)**

1. Teachers should make sure that each student have a computer connected to internet
2. Present the procedures of how to use iDigBio on a power point and explain point by point as the students are doing the activity
3. Instruct students to type <http://www.idigbio.org/portal> in the search box
4. Instruct the students to search for the records of the gray bat by typing *Myotis grisescens* into the search box [Scientific Name] and hit enter
5. A map with records that have GPS coordinates will pop up.
6. Instruct students to write their observations on small white boards
7. Read out loud students' responses and ask questions to probe their thinking

8. Instruct students to read about the gray bat by typing [myfwc.com/wildlifehabitats/imperiled/profiles/mammals/gray-bat](http://myfwc.com/wildlifehabitats/imperiled/profiles/mammals/gray-bat) and hit enter.
9. Instruct students to write on their white boards ways of protecting the gray bat and have a general class discussion in conclusion.

### **Procedure and general instructions (for students)**

1. Type <http://www.idigbio.org/portal> in the search box
4. Search for the records of the gray bat by typing *Myotis grisescens* into the search box [Scientific Name] and hit enter
5. A map with records that have GPS coordinates will pop up.
6. Write your observations on your white board.
7. Raise up your white board to show your observations
8. Read about the gray bat by typing [myfwc.com/wildlifehabitats/imperiled/profiles/mammals/gray-bat](http://myfwc.com/wildlifehabitats/imperiled/profiles/mammals/gray-bat) and hit enter.
9. Clean your white board and write ways of protecting the endangered and threatened gray bat .