Activity Planning

A comprehensive guide of iNaturalist Related Activities for various age groups and events. This document contains information about things varying from 12+ hour bio-blitzes to short 15 minute long school activities for kids at the Study Group or C.A.R.Y.A.

All lesson plans have been created elsewhere and have simply been adapted or copied from online, none of these have been created entirely by the WPI team working with Banksia Gardens Community Services.

2/2/2023

By:

Lily Bromberger

Eric Schuman

Emmanual Vargas

Stephen Fanning

# Table of Contents

[**Table of Contents**](#_qazrqy886zal) **2**

[**After school Activity**](#_6i0zc5y7wqmu) **3**

[Age Groups 5-8](#_a8rrxlhh0d3b) 3

[Age Groups 8-11](#_i70zogltrln1) 3

[15 minute - 90 minutes:](#_68901yvni3ox) 3

[45 minutes:](#_yes1rhdkkx0h) 3

[Age Groups 11-14](#_xj1giahopeqw) 3

[No Time](#_nhntumde6e0y) 3

[Unknown](#_a6pjjr3lmm1p) 4

[1 hr](#_e3s2brqgxyym) 4

[Age Groups 14-18](#_sc848sqdj6ad) 4

[45 mins:](#_70icbmck37su) 4

[45 mins:](#_lw4axz4w3oyv) 4

[60 mins:](#_dd41dg6ozyth) 5

[**Family activity**](#_3x5jqnn8wsde) **6**

[Description](#_ke6game0xvge) 6

[**Community day / “Bioblitz”**](#_y44htsru82sf) **7**

[**Quadrat vs. Transect Sampling:**](#_z0cf692y0kk4) **8**

# Notes:

2/15/23 Day:

Out of 20 kids 5 came and tried the activity. Followed edgars idea of having it be more scientific with transect sampling and a hula hoop. Very difficult to contain kids. Being outside made them want to play. The two girls who stayed for the activity both enjoyed the drawing aspect.

One wanted to throw the hula-hoop to decide what plants… may be too high energy to do that and settle back down

Look into this with the younger kids who enjoy drawing. Use various locations: heat haven, community garden, etc.. Encourage drawing of bugs. Try showing how the app will tell you the ID… This seemed to interest one of the kids a lot.

**number of different objects (richness) . Biodiversity index = —--------------------------------------------------------- .**

**total number of objects (evenness) .**

# After school Activity

## Age Groups 5-8

\*\*Have the kids observe things with worksheets and allow adults to upload photos of the observations due to age\*\*

Become detectives and look for traces of animals. Take photos of all the different parts. Try to figure out what is what? Seems not Accurate

<https://drive.google.com/file/d/17eMROqRWwMBlw0cpsjoEcVtFVOZRc3Kq/view>

Similar lawn analysis activity with older kids

<https://www.bgci.org/files/Canada/english_docs/rbg_lookatlawns.pdf>

## Age Groups 8-11

### 15 minute - 90 minutes:

Classify the plants, animals, insects by hierarchy.

Group them by adaptation

Take photos of the animals, plants and insects

Draw pictures of the animals and group the pictures (upload while they are drawing)

Group them by what they have in common

<https://education.eol.org/lesson_plans/2-5_Classification_LessonOverview.pdf>

### 45 minutes:

Grow out a lawn and look at bugs in grown out vs in cut → look at cut grass vs natural grassland

Have kids point out things

Take pictures for them and upload them while people talk about it

<https://www.bgci.org/files/Canada/english_docs/rbg_lookatlawns.pdf>

## Age Groups 11-14

### No Time

\*\* I like this one\*\*

<https://www.nationalgeographic.org/activity/introducing-biodiversity-and-bioblitz/>

Define biodiversity together. Interactive biodiversity information guessing. Go through taxon levels. Predict biodiversity of the area

### Unknown

\*\* more potentials haven’t looked into too far

<https://education.eol.org/lesson_plans/6-8_ScienceSkills_BioblitzSkillbuilder1.pdf>

Drawing based on other students descriptions

<https://education.eol.org/lesson_plans/6-8_ScienceSkills_BioblitzSkillbuilder3.pdf>

Estimating number of animals/ organisms prior to going out and measuring them

### 1 hr

\*\*this one might be able to work for kids 11+ aged not just up until 14

These two activities are very similar!!

<https://www.calacademy.org/educators/lesson-plans/field-guide-to-the-biodiversity-of-your-schoolyard> && <https://www.nationalgeographic.org/activity/analyzing-bioblitz-data/>

In this activity have the class split up into different groups such as insects, trees, flowers, food producing plants, birds etc and have them try to observe as many as possible

Then go and create field guides for the different animals

## Age Groups 14-18

*\*\*\* Issue:*

*\*\*\* All of these activities involve iNaturalist but not in a way where the kids are not making observations but simply interpreting data that other people collect*

*\*\*\* this will require us to create an activity from scratch*

### 45 mins:

<https://education.eol.org/lesson_plans/9-12_CitSci2_CitSci-OpenSci-Presentation.pdf>

\*\*need a projector

\*\* cool explanation of what citizen science is but not really something that has an activity

### 45 mins:

<https://education.eol.org/lesson_plans/9-12_CitSci3_IntroToINat.pdf>

\*\*need familiarity with iNaturalist

\*\* Create a Encyclopedia of life card about an animal observed

\*\* have a discussion about what type of wildlife is in the area. Native vs invasive? Migration patterns?

### 60 mins:

<https://education.eol.org/lesson_plans/9-12_CitSci4_CNC-Data.pdf>

\*\* does not involve taking photos with iNaturalist just interpreting data from other parts of the world…

# Community Day Activity

This activity will rely on families or groups of individuals to come together for 1-2 hours. This could be done in conjunction with another event, such as a community day, or left on its own. We could see this being used as a good way to introduce people who are not familiar with Banksia Gardens to the property. As you travel to each garden, not only can you explain it and how it affects biodiversity, but how the gardens are used by people and how you maintain them. This is a great way to show people what Banksia is all about while doing a citizen science activity.

Steps:

1. Split up into teams by family/group
2. Show adults or team lead how to use the iNaturalist platform
   1. Download app
   2. Creating an account if not existing (Video)
      1. Set up with email (can be entirely done from Gmail)
      2. Creating a good username (no identifying information)
      3. Allowing location data to be collected
   3. Joining the project
   4. How to take a good observation
      1. Multiple photos (preferably not blurry)
      2. No faces
      3. No pets
   5. Upload observations
      1. From app
      2. From camera roll
   6. Add additional information
      1. Location
      2. First identification
3. Bring groups to different gardens and allow them to photograph ANY wildlife.
   1. You can specify what they should try to photograph or just suggest any organism that interests them or that they have never seen before. When you leverage interest, it makes finding out what the plant is even more exciting especially for adults.
4. Move groups through the property, visiting the different gardens.
   1. At this point you should be explaining the purpose of the gardens. Maybe limit it to one photo per garden since there are so many. (this would be about 7 photos per “tour”)
5. Gather groups after the conclusion of the project and ask questions related to biodiversity.

What surprised them. What DIDN’T surprise them. What they wished they saw. Etc. Were there more or less species than they expected?

# “Bioblitz”

This event is known around the world and there are plenty of online resources about past BioBlitzes and the process of setting them up. See this link : [website](https://citizenscience.org.au/wp-content/uploads/2021/01/BIOBLITZ_Guidelines_WEB-final-201507.pdf).

<https://citizenscience.org.au/wp-content/uploads/2021/01/BIOBLITZ_Guidelines_WEB-final-201507.pdf>

“All of us who have run a bioblitz agree they are just the best way to have fun, explore and learn together in a special place and they are definitely worth the hard work of organizing them.”

Bioblitz 12+ hours of data collection

• Before - plan your event including your location, timing, team, resources, approvals and promotion

* Meet with groups who want to collaborate (hume city council hosts a CNC Apr. 28th - May 1)
* Who is coordinating this?
* Develop a budget
* Base camp - water station? Tent for shade?
* Create a time table?
* Spread the word
* Train volunteers on app – Melissa Doherty from Hume city council has resources on this

• During - Similar to the Community Day, use this as a time to show people around Banksia and Introduce them to your work. What is the purpose of the gardens. What you guys do for the community

• After - Have someone stay behind and Analyze the data collected. This is where our database comes in. At the end of the day, use a filter to show only that date and show the breakdown of the info collected on Banksias Property. (Projector in the auditorium??)

# Types of Sampling:

These are two types of sampling methods used by scientists to evaluate biodiversity. This has proven to not be effective when used at the Study Group. Trying again with CARYA where it is more focused on environmentalism may be the move.

## Quadrat:

## \*\*\* good for measuring plants and slow moving animals only!!! \*\*\*

## Nice educational video: <https://www.youtube.com/watch?v=ipTvsEVjuQQ>

## 

## \*\*These will require a rope going across the field and then using squares or hula hoops to mark out the space in which you are observing

* Find total area of field
* Split up into many different squares. Use a random number generator to pick at least 10 squares to sample.
* Count the number of a certain species in the square
* Find the average number of that species from all squares
* Multiply the average by the number of squares and that should give you an estimate to number of the species in the entire field

Need to repeat for many different species to gain full understanding

## Transect:

This uses quadrat sampling along a straight line in order to see the effect of wind, ph, shade, and water absorption and how it affects plants abundance.

The planting of trees and creation of shade will show changes in biodiversity over time along the same transects…