Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- |
| Required to complete this assignment: | Hand lens, flora and plant family guides, field notebook, pin flags, chaining pins; transect tape, observation to detail |

**Background:**

Whether you are interested in wildlife, fungi, trees, or insects, plants and plant communities are useful indicators of site conditions.

**Brainstorm:**

In your groups, discuss the above background statement. What about the statement resonates with you? Why is this biologically relevant? Can you offer any challenges to this statement?

**Activity:**

In your groups, set up transects in two different places with distinct plant communities: Hint: use contrasting sites like a north slope and a south slope or the mesa top and the a slope. **Use a 25m transect length for this activity.**

**Once you have your transects setup, regroup and discuss a method to quantify plants along your transect.**

**Do not implement your methods yet, write them down below.**

|  |
| --- |
| **Quantifying Plant Communities along Transect** |
| **Steps** |
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The next page contains a blank datasheet. Set up a data sheet for the above steps.

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Hint: Make sure you record important meta data on your data sheet. What meta-data may be useful?

Now that you have set up your data sheet:

Implement your methods and record your data!

Plant Identification: For right now, if you know a plant great, teach it to others. If you don’t have your group develop an identifier for the plant. Ex: Big-leafed pink flowers.

Make sure your group agrees and quantifies plants in your two plant communities.

Group Discussion: What makes a plant community a plant community (notes from discussion)

In-depth: Learning one of our Plants

1. See if you can learn the scientific name, record it here: *Genus specific epithet \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
2. Write three distinguishing characteristics.
3. Sketch your plant
4. Describe the habitat of the plant (climate (micro-climate), slope, aspect, dry/wet site, soil texture etc)
5. Additional observations (does it form a monoculture or seem invasive? Does it have any interesting traits?

Overwhelmed by plants?

We can simplify our study of plants by trying to recognize plant families. What is a family, you ask? Let’s review the Linnean Classification System.

Remember that the Linnean Classification system is based on traits, so each level is distinguished by having groups of organisms with similar traits. Fill in the trait that units each level of the organism in the example below.

|  |  |  |  |
| --- | --- | --- | --- |
| Taxon | Specificity | Example | Trait? |
| Domain | Most broad | Eukarya |  |
| Kingdom |  | Animalia |  |
| Phylum |  | Chordata |  |
| Class |  | Mammalia |  |
| Order |  | Carnivora |  |
| Family |  | Canidea |  |
| Genus |  | Canis |  |
| Species | Most Specific | domesticus |  |

So, when we talk about learning the plant families, we are talking about recognizing dogs from cats (Canidea from Felidea).

Plant Family Exercise!

Using Plant Families of the west see if you can find **three diagnostic traits** for each of the plant families below. See if you can find a representative plant at our field site.

Lastly, pick two families from the book not listed below

|  |  |  |  |
| --- | --- | --- | --- |
| **Family** | **Trait 1** | **Trait 2** | **Trait 3** |
| Pea |  |  |  |
| Rose |  |  |  |
| Mustard |  |  |  |
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Grading Information On the Next Page

On this assignment, your grade is based on the total possible points, but you still receive feedback based on the written assessment rubric to help you grow as a writer.

|  |  |  |  |
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| Points Received | Rubric Category | Rubric Score | Feedback |
|  | Knowledge |  |  |
| Total Possible Points | Skills |  |  |
| 20 | Communication |  |  |
| Points Percentage | Teamwork |  |  |
| % | Final Grade: |  | |

[A map of a city

Description automatically generated](https://caltopo.com/m/8TF05)

A satellite image of a river

Description automatically generated