FIELD INVESTIGATIONS

HABITAT DIVERSITY

Draw and label a local ecosystem. Then ask ecosystem questions.

Ecosystem Questions

- What are the parts of the local ecosystem?
- What role/function do the plants in the ecosystem play?
- Identify transfers or transformation of energy in the ecosystem.
- What are some inputs and outputs to the local ecosystem?
- What is the energy source that runs the local system?
- Name subsystems within the local ecosystem.
- What might happen if the _____ died in this local ecosystem?
- Is the local ecosystem an open or closed system? Why?
- Describe interactions between plants and animals in the ecosystem. Between living and non-living components

Plant Diversity Investigation

Essential question:

Descriptive field investigation question:

What plants live in the habitat?

- Assign students 3-7 plants and give them plant ID cards or books to use for identification
- Choose a site along a path for each group of students

Materials:

- ✓ Map of area to show locations of sites (optional)
- ✓ Meter Stick or dowel
- ✓ Tape measure or string 5 meters long
- ✓ Tape measure to measure area covered or circumference of trees
- ✓ Plant ID cards or books
- ✓ Clip boards
- ✓ Thermometer
- ✓ Recording sheets

Procedure:

1. Choose a site for each group in the habitat that is being studied
2. Divide students into groups of 2-3
3. Choose 3-7 plants for each group to count/measure along the transect line
4. Have students determine the location of the study site
5. Have students describe the study site and measure and record the temperature
6. Have students lay out the string 5 meters through the habitat
7. Students then count the type and number of plants and record

Descriptive field investigation of plants in _____ habitat.

Question_____
_____

Location_____

Site Description_____

Date _____ Air Temperature _____

Weather_____

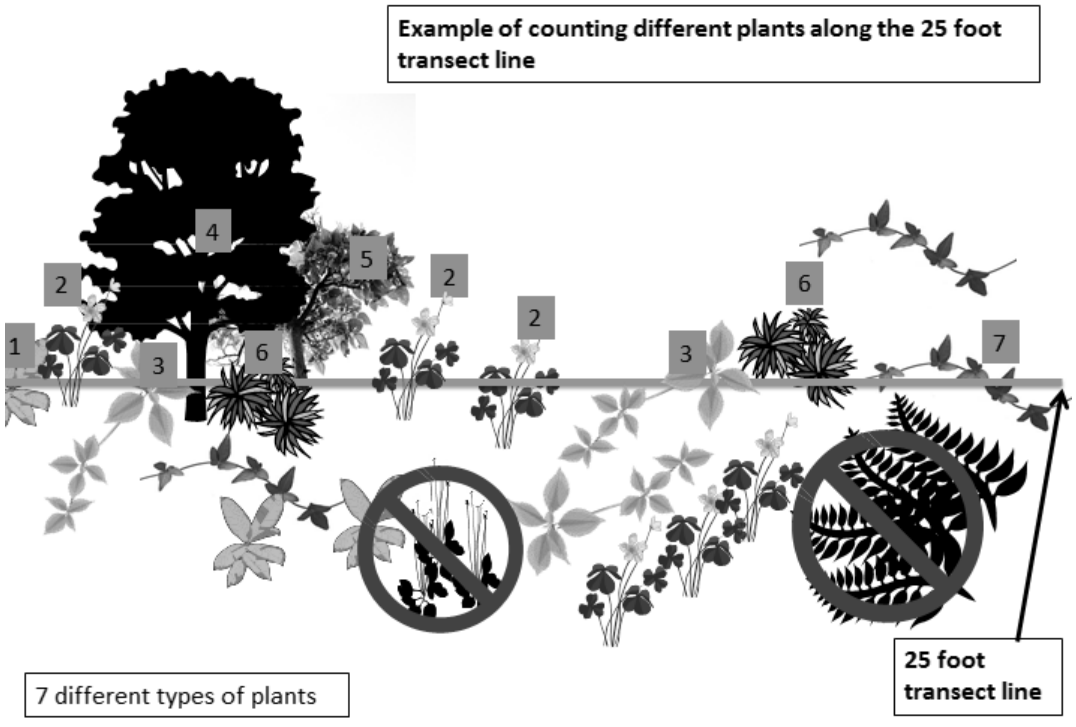
Type of Plant	# of plants along 5 meter transect or distance covered

Habitat Diversity

Comparative Diversity Investigation

Transect Procedure:

1. Record date, time, and place.
2. Describe study location.
3. Go to first habitat or area and place 25 foot transect line 2 feet from the edge parallel to the trail in a random spot.
4. Count every different type of plant the falls on the line or the foliage goes over the line.
5. Record number as transect 1.
6. Follow steps 3-5 five more times at this habitat (or area) recording numbers as transects 2-6 (this could be done by other groups).
7. Proceed to the 2nd habitat (or area) and follow steps 3-6.



Question: Which habitat: _____, or _____, has the greater diversity of plants (number of different types of plants) at _____ (location)?

Prediction:_____

Date_____**Time**_____**Weather**_____

Study site (location) _____**Study site Description**

_____

Materials: _____

Habitat vs. Diversity of Plants							
Habitat	**Diversity of plants-Numbers of different types**						
	Transect 1	Transect 2	Transect 3	Transect 4	Transect 5	Transect 6	**Ave Number of different types of plants**

Habitat Diversity Graph

Habitat Diversity Conclusion

Which habitat: _____, or _____, has the greater diversity of plants (number of different types of plants) at (location)?

- Limit conclusion to place, date, and time of investigation
- A conclusive statement clearly answers the investigation question Or answers the prediction
- Supporting data for lowest condition
- Supporting data for the highest condition or trend data
- Explanatory Language

Discussion

- Discuss factors that may have influenced data
- Discuss improvements to the procedure to control some of those factors
- Explain any inconsistent data
- Explain how this information might be important in the real world
- Explain how this information should inform actions or decisions
- Cite further questions for investigation
- What are other biotic or abiotic factors we could measure on this site?

How does the Diversity investigation help me understand the local ecosystem?

- What are the benefits of plant diversity in parks or urban landscapes?