
Ecosystem Observation Cards

Activity Overview:

Students go out to a remnant or restoration with a set of observations cards to familiarize themselves with an ecosystem at different times of year.

Objectives:

- Students will
- Experience a natural setting through first-hand contact
 - Practice observation skills at different times of year
 - Develop a list of words to communicate impressions and observations
 - Draw observed subjects

Subjects Covered: Science, Math, Language Arts, and Art

Grades: K through 8

Activity Time: 1-2 hours, depending on time spent observing, distinguishing and identifying insects

Season: Any

Materials:

Observation cards, writing utensils, clip boards, measuring sticks

State Standards:

Language Arts: Create or produce writing (B.4.1, 8.1, 12.1),

Participate in discussion (C.4.3, 8.3, 12.3)

Science: Observe, describe, and measure physical events (D.4.4)

Math:

Connect mathematical learning with other subjects (A.4.3)

Work with data in real-world situations (E.4.1)

Use graphs, tables, or charts (E.4.3)



Background

An important first step in studying or restoring an area is to get to know the model ecosystem. Students, as well as adults, may have had little first-hand experience with the ecosystem in question. While background material is important, students must have an opportunity to experience the natural model that they are going to recreate.

Our first encounter with an ecosystem should include observing, exploring and interacting with the area. Identification generally comes later. We can observe small and large changes in a single natural area during different times of the year. Too often we can get bogged down in identification and fail to open our eyes to other things going on.

Simply going out and sitting in an area is not likely to prove useful. Giving students direction and focus will help them make observations and personalize the experience. There are many ways to provide this direction. Following this page are masters of observation cards. These cards are only a beginning; cards that challenge students to consider other things such as color, texture, patterns, seasonal changes, plant-plant or plant-animal interactions and wind movement might also be effective. In addition, these cards can and should be modified, expanded and customized to fit needs and interests of students, ecosystem, season, available time, and so on.

Activity Description

Identify a restored or remnant example of the ecosystem to study. Prior to beginning the activity, define the boundaries within the ecosystem where students will make their observations. Make sure students understand that staying within the boundaries protects them and wildlife that may be in the area. You may choose to have students work in pairs or individually to complete the observation cards outdoors. After returning to the classroom, have students share their observation cards with the class and then compile the results as a group. Discuss what surprises, if any, they found in the observation area. What plants and animals did they see or hear? How might this area differ from another area like the woods, schoolyard, prairie or other ecosystem? What might they expect to observe during another season of the year? Students can assemble the appropriate cards to make a classroom book or create a guidebook of observations for other people who may visit the same ecosystem.

Ecosystem Observation Cards (cont.)

Extensions

- The words generated on the “What’s Happening” card can form the basis for a creative writing or poetry exercise.
- Create a mobile of the things observed.
- Graph findings from the “Take a Look” tallies. Compile data from the “Take a Look” cards for a biodiversity study. See the Earth Partnership for Schools activity, “What’s Green and Grows All Over? Studying Ecosystem Biodiversity.”
- Develop a computer database to file information collected for comparisons over time.
- Investigate what appears different when looking at the area from outside its boundaries.
- Pretend to be a small creature, such as a prairie dog, butterfly or a meadowlark, living in a prairie (or other ecosystem). What makes this place a good place for you to live? What makes it not so good?
- Create a Phenology Book or Calendar that describes their observations throughout the year.

Additional Resources

- Curtis, John T. (1955). *Vegetation of Wisconsin*. University of Wisconsin Press, Madison, WI.
- Levine, Carol. (1995). *A guide to wildflowers in winter*. Yale University Press, New Haven, CT.
- Locker, Thomas. (1995). *Sky tree*. Harper Collins Publishers, USA.
- Murie, Olaus. (1982). *Animal tracks (Peterson field guide)*. Houghton Mifflin, Boston, MA.
- Pearce, Tony. (1990). *Exploring woodlands: A cross-curricular approach to investigations of the woodland environment*. Hampshire Books, Exeter.
- Stokes, Donald W. (1976). *A guide to nature in winter*. Little, Brown & Co., Boston, MA.
- Weber, Larry. (1996). *Backyard almanac*. Pfeifer-Hamilton Publishers, Duluth, MN.

Assessments

- Develop a list of words to communicate your experiences while observing the ecosystem.
- Present your observations to your peers using mathematical models (e.g., graphs, charts, diagrams).
- Compare and contrast the similarities and differences of your observations from different times of the year.

Ecosystem Observations



Name: _____ Date: _____

What's the Weather?

(circle one)

Feels:

HOT WARM COOL COLD

Wind:

CALM BREEZY WINDY GALE

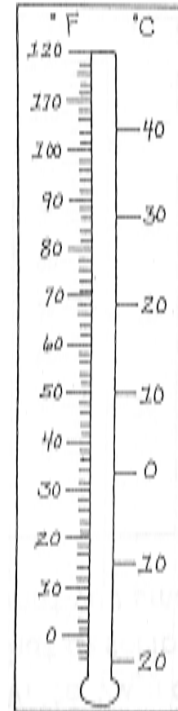
Precipitation:

CLEAR RAIN SNOW _____
(other)

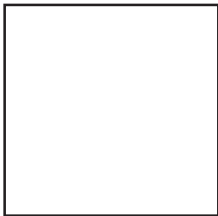
Light:

SUNNY PARTLY CLOUDY CLOUDY

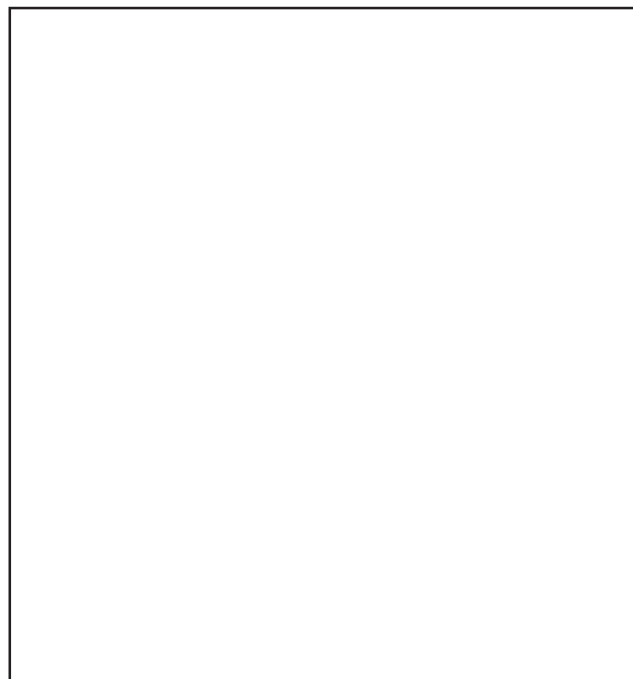
Temperature



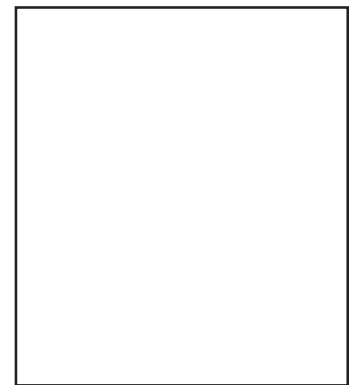
Show Me



Draw
the smallest
thing you see



Draw
the biggest thing you see



Draw
your favorite thing

What's Happening?

Listen

Write 3 words that describe what you hear

Look

Write 3 words that describe what you see

Feel

Write 2 words that describe what you feel

Smell

Write 1 word that describes what you smell





Insect Observations

Find an insect and observe what it is doing.

Draw or describe what you see.

Seeds

Seeds

<i>Hitchhikers</i>  Find seeds that will stick to your clothing.	<i>Animal Express</i>  Find a berry.
Find seeds that are carried by the wind. 	Find a very small seed. 
<i>Parachutes</i>	<i>Micro-seeds</i>

Find an example of each seed type. Draw or tape your seed to your booklet.

Leaf Size Measurements

Plant # 1

Draw your leaf here.

Name: _____

Leaf Length (from leaf base to leaf tip):

Leaf Width (at widest point):

Surface Area (width X length):

Plant # 2

Draw your leaf here.

Name: _____

Leaf Length (from leaf base to leaf tip):

Leaf Width (at widest point):

Surface Area (width X length):

Measurements



Grass

Name: _____

Height: _____

Root Length (Height X 2): _____



Forb

Name: _____

Height: _____

Root Length (Height X 2): _____



Grass

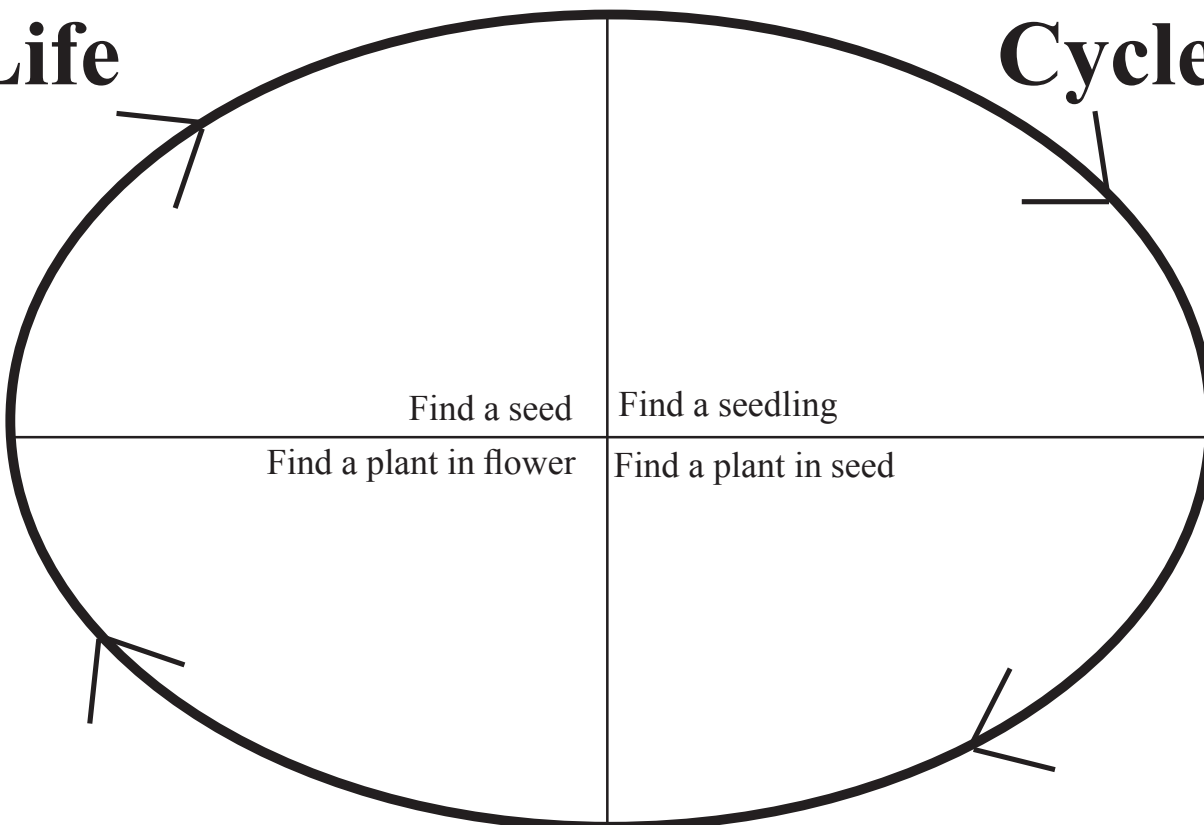
Name: _____

Height: _____

Root Length (Height X 2): _____

Life

Cycles



Draw an example of each stage in a plant's life cycle.

Take A Look in Spring

Different Colors	Flowers	Plants that reach the top of your shoes	Plants that reach your knees
Bird Calls	Insects or Spiders	Butterflies	Signs of Animals

Tally how many you find (like this )

Take A Look in Summer

Different Colors	Flowers	Plants that reach over your head	Leaves bigger than your hand
Bird Calls	Insects or Spiders	Butterflies	Seeds

Tally how many you find (like this )

Take A Look in Fall

Different Colors	Flowers	Plants that reach over your head	Leaves bigger than your hand
Bird Calls	Insects or Spiders	Butterflies	Seeds

Tally how many you find (like this )

Take A Look in Winter

Different Colors	Animal Tracks	Plants that reach over your head	Green Plants (hint: look under the snow)
Bird Calls	Types of People Tracks	Bird, Insect, or Animal Shelters	Seeds

Tally how many you find (like this )