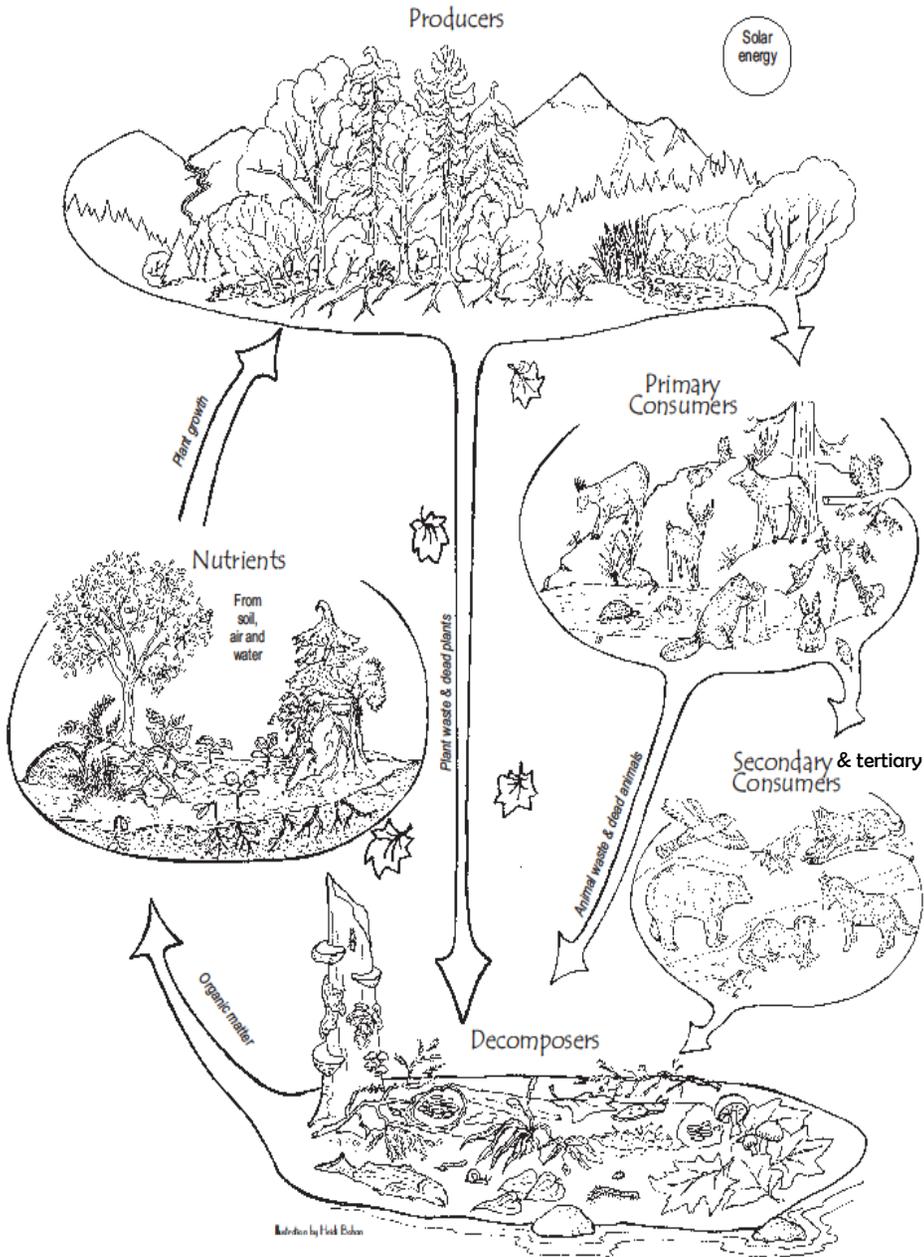


Appendix C

Student Field Notebook

Formatted to be printed double sided, collated, and stapled into individual booklets.

CYCLE OF RENEWAL IN THE WESTSIDE LOWLAND FOREST

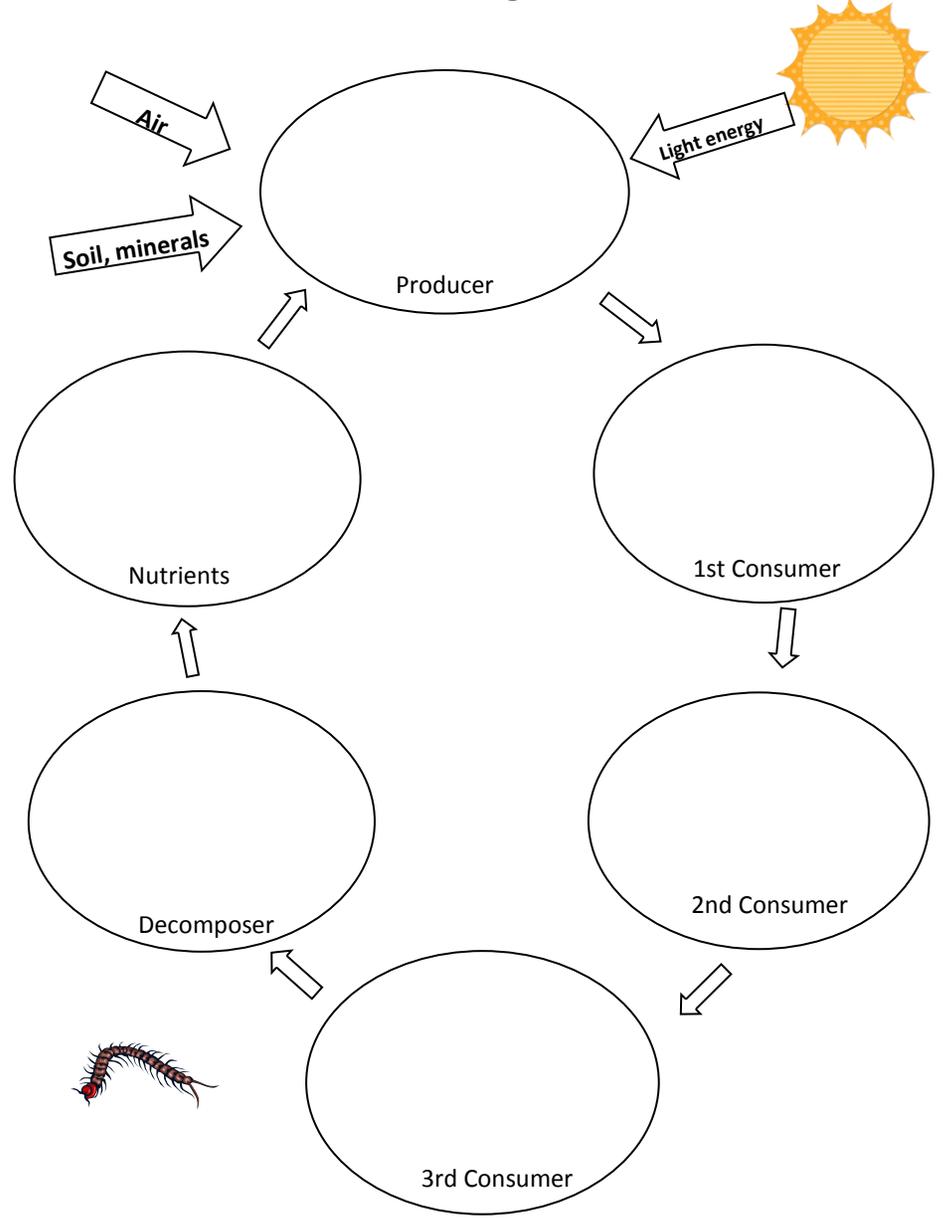


448 Cycle of Renewal Poster

Food Chains and Energy Flow

Directions:

Create a food chain found at Steigerwald in the ovals below.



Plot Line Survey- Plant Survival Count



What is the survival rate for new plants at Steigerwald?

Background

5th & 6th grade students from Camas, Washougal & Battleground planted native trees and shrubs to help the habitat for wildlife. How many plants have survived?

Student Roles: (write the names of your team members below)

Rope Holders _____

Plant Counters _____

Data Recorder _____

Number of Steps (circle one) 30 60 90 120 150

Record your data here:

Of ALIVE plants Tally _____ Total _____

of DEAD plants Tally _____ Total _____

Total plants _____

Answer these questions in your group.

Write 2 reasons why you think the plants survived?

Write 2 reasons why you think the plants died?

Follow-Up Math Questions:

What fraction of the total number of plants are ALIVE? _____

Change fraction to percentage. (alive/total x 100= ___%) _____

What fraction of the total number of plants are DEAD? _____

Convert fraction to a percentage (dead/total x 100= ___%) _____

Calculate the area of the plot (the radius = 16 feet) $Area=\pi r^2$ _____

Directions:

Identify and draw one plant.

Come up with your own name of this plant using its characteristics.

Describe why you chose that name.

Who lives at Steigerwald? The Plants!

Directions:

Use your field guide to identify plants you see along the trail.

Trees

1. _____
2. _____
3. _____

Shrubs

1. _____
2. _____
3. _____



Grasses

1. _____
2. _____
3. _____

Non-native Invasive

1. _____
2. _____
3. _____

Are there Purple Martins nesting in the Cottonwood snags?



Purple Martins nest in holes in cottonwood snags (standing dead trees). Purple Martins feed primarily on flying insects and make frequent trips to their nests bringing food and nesting supplies. These birds are a species of concern and have found refuge at Steigerwald.

Directions: 1. Find a snag and draw a diagram of it including any holes you see being used by birds.
2. For 5 minutes, watch the cottonwood snag and count how many trips a purple martin makes in or out of the holes in the snag. Flying in = 1 trip, and flying out = 1 trip.

Date _____

Start time _____

End time _____

of trips _____

of holes used?

Other birds you

see? _____

Draw your snag and mark the holes being used.

Post Field Trip

How could we improve Steigerwald as a habitat for wildlife?

Research: What are the most critical needs of wildlife?

Research: What are the most critical threats to wildlife at Steigerwald?

The Science: How does Steigerwald meet those needs?

The Science: How do these threats affect wildlife?

Current ideas for improving the Steigerwald ecosystem.

New Ideas:

Scientific Reasoning for these ideas.



Who lives at Steigerwald? The Animals!

Directions:

Observe and list actual animal sightings or animal signs (evidence) below.

Primary Consumers

(eats plants)

1. _____
2. _____
3. _____

Secondary Consumers

(eats primary)

1. _____
2. _____
3. _____



Tertiary Consumers

(eats secondary)

1. _____
2. _____
3. _____

Decomposers

(fungus, bacteria, insects)

1. _____
2. _____
3. _____

Why study Steigerwald Lake National Wildlife Refuge?

The Steigerwald Lake National Wildlife Refuge is important because it is the crossroads of two important flyways for migratory birds, north to south and east to west. On their yearly migrations, migratory birds depend on safe places along the route to be able to rest and feed before continuing their long journey. In today's world, not many of these valuable resting places are available because humans have filled in many of the areas along waterways.

You are the scientist!

No one is collecting and recording data at Steigerwald. You are the scientist, your data will be passed on to students year after year. To detect risks to this valuable ecosystem it is important that the data you collect is accurate, thoughtful and carefully recorded so that next year's scientists can continue this valuable work.

Vocabulary and core concepts

Ecosystems are defined as all of the plant and animal populations and nonliving resources in a given area. The relationships between organisms within an ecosystem make it possible to predict the consequences of change and provide insights into the sustainable use of natural resources.

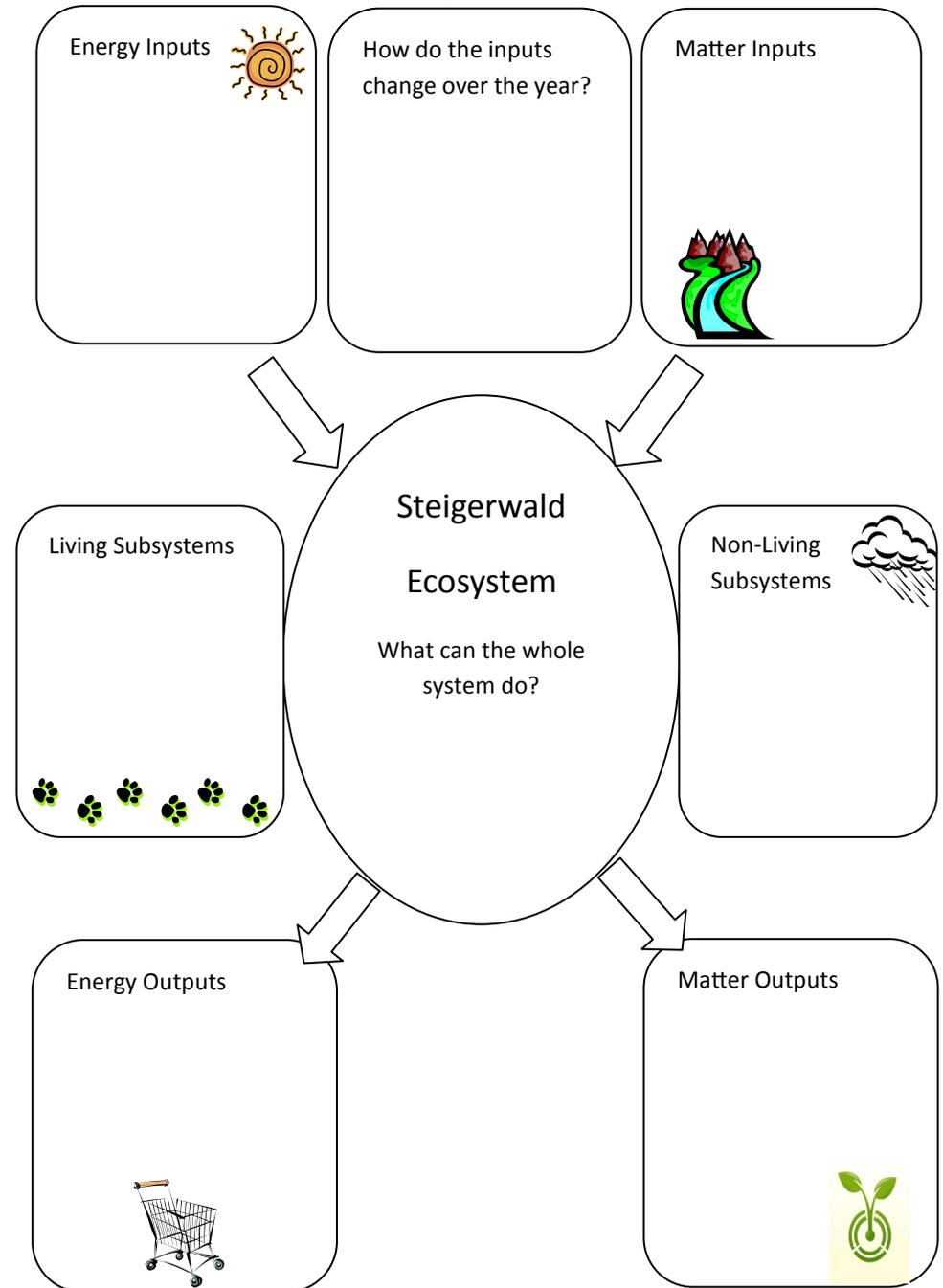
Food Webs: A network of food chains or feeding relationships where energy and nutrients are passed on from one species to another. Changes in ecosystems affect the populations that can be supported in a food web.

Structures and Behaviors: Plants and animals have different structures that meet their needs and behaviors that respond to the environment.

Heredity and Adaptation: Ecosystems change. Plants and animals that can adapt to these changes will survive and reproduce in higher numbers.

Post Field Trip

Eco-Systems



Reflection Activity

Steigerwald Lake National Wildlife Refuge



Student Field Notebook

Name _____