

Name \_\_\_\_\_

Study guide: Ecosystems

Class code \_\_\_\_\_

Science assessment date: \_\_\_\_\_

## I. Vocabulary

- Attached are boxes of vocabulary words and their definitions. Kids can cut them out and play a matching game or another game that will help them learn how to study.
- Another way to study: Quizlet. Vocabulary words and definitions have been entered. *All that you need to do is go to Mrs. Morse's school website. Click "LINKS" (left side of home page).*

Look for: **Quizlet – 4<sup>th</sup> gr Ecosystems** (should be the 1<sup>st</sup> one).

There are different ways to study the vocabulary words. Please feel free to check it out!

## II. Students need to study **other concepts**: (included in study guide)

- Food chains & food webs
- Life processes
- Plant parts
- Life cycle & life span
- Energy & systems

↳ Types of energy:

heat, light, mechanical,  
solar, potential, chemical

Study Guide: Ecosystems

ecosystem	A community of living & non-living things that depend on the things in their environment to survive.
energy	Makes thing happen
system	Made up of different parts that work together for one function. Ex: bike
living	Organisms that move, reproduce, can be sensitive, take in nutrients, excrete, respire, & grow. (also refers to MRS NERG or life processes)
non-living	Anything that does not live and grow; cannot carry out all the 7 life processes. Ex: water, soil, air, clouds
organism	Any living thing (plants and animals).
life cycle	The stages that living things go through: birth, growth, reproduce, death
life span	The length of time an organism is alive from the birth to death.

food chain	The process of food (energy) being passed from a plant to a plant-eating animal to a meat-eating animal.
food web	A group of food chains that are linked together.
consumer	Living things that need to eat other living things to survive.
producer	Living things that make their own food. (plants)
carnivore	Living things that are meat-eaters.
herbivore	Living things that eat only plants.
omnivore	Living things that eat both plants and animals.
decomposer	An organism that breaks down dead matter. (ex: mushrooms, worms & bacteria)

predator	An animal that hunts and eats other animals.
prey	An animal that is hunted or eaten by other animals.
germination	The process by which seeds swell up and begin to sprout and develop roots.
photosynthesis	The process of plants using energy from the sun, carbon dioxide (from the air) and water to make their own food.
seed dispersal	When seeds move from one place to another: due to wind, water, humans, birds.

# Life Processes of Living Things



## 1. **GROWTH** - get bigger

Animals grow larger and stronger which helps them hunt better.



## 2. **SENSITIVITY** - to react to something

Living things have the ability to detect and respond to things. Animals react to some things. Plants are sensitive to light.



## 3. **ENERGY FROM FOOD**

Plants and animals need nutrients for energy.



## 4. **RESPIRATION** - exchange of gases

Animals breath in oxygen and exhale carbon dioxide.

Plants use carbon dioxide and release oxygen.

## 5. **Release wastes (excrete)**

Waste products must be excreted from plants and animals.



## 6. **REPRODUCE** - make new life, produce new organisms

Both animals and plants reproduce to make their species carry on.




## 7. **MOVEMENT**

Animals move to find food and get away from predators.

Plants move towards light. Seeds disperse.





## Parts of a Plant

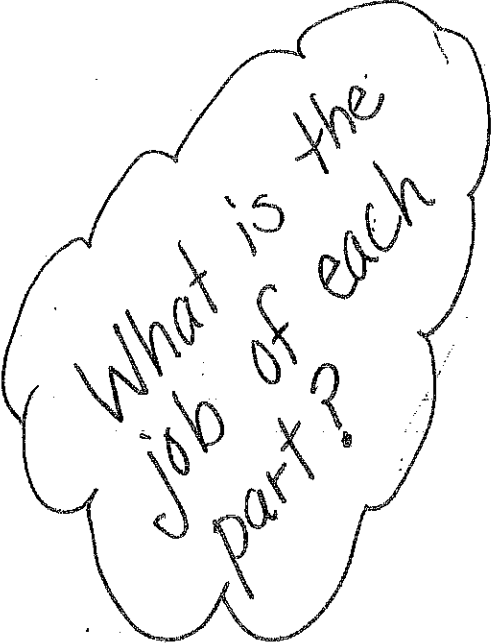
Every part of a plant has a job to do.

**Roots** hold a plant in place. Roots take needed water and minerals from the soil up to the rest of the plant. Some plants store food in the roots.

**Stems** hold up the leaves and flowers of a plant. Stems have little tubes to take water and food to the rest of the plant. Grass, flowers, and vines have soft stems. A tree has one hard, woody stem called a trunk.

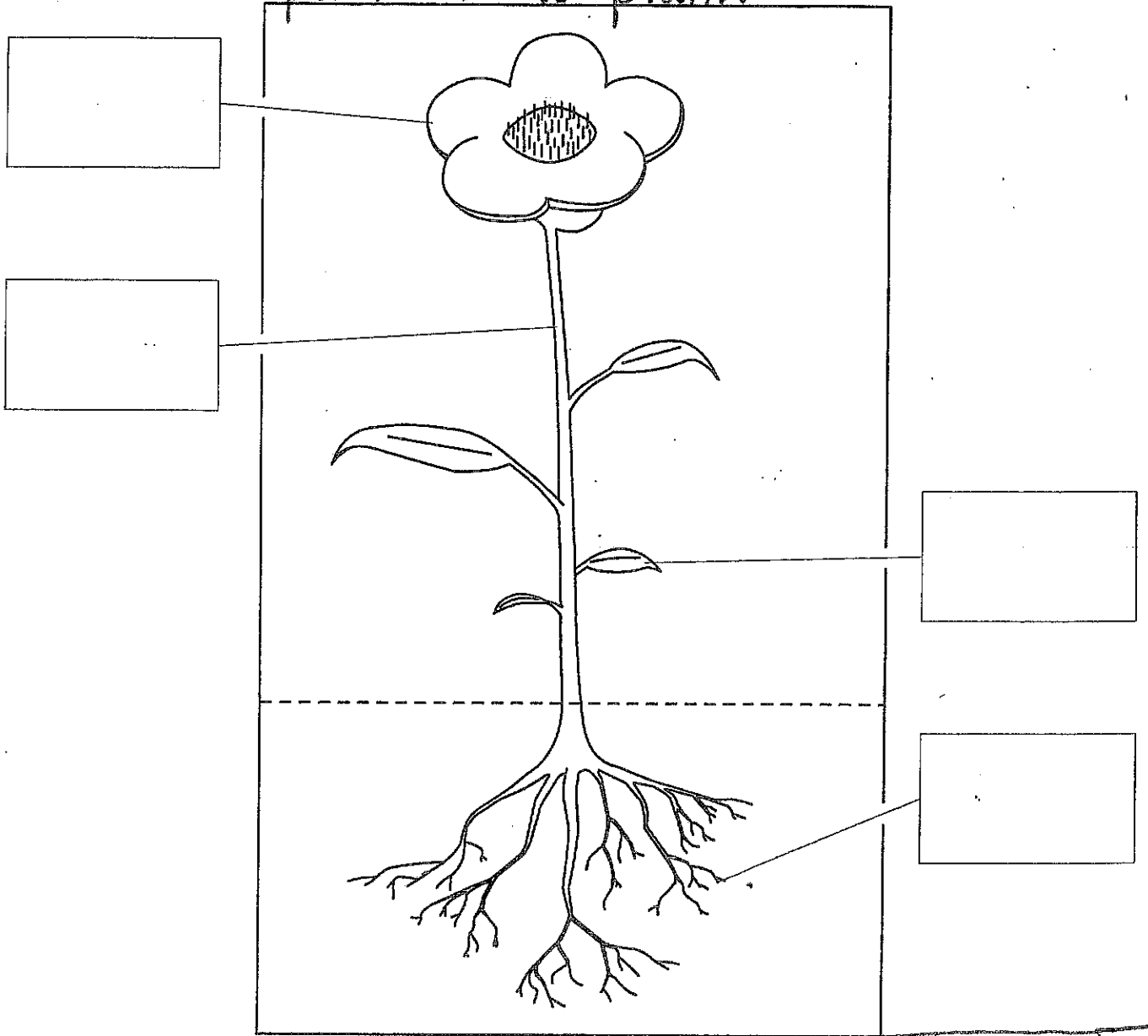
**Leaves** contain a special part (chlorophyll) that can make food for the plant. This green part plus water from the soil, gas (carbon dioxide) from the air, and energy from sunlight mix together to make the food. The leaves give off a gas (oxygen) that we use when we breathe. This is called **photosynthesis** (fo-to-sin-thuh-sis).

**Flowers** are the part of a plant that make seeds. The seeds grow into new plants.



What is the job of each part?

1. Label the parts of a plant.



2.

Write the correct plant part above its description.

\_\_\_\_\_ makes food for the plant

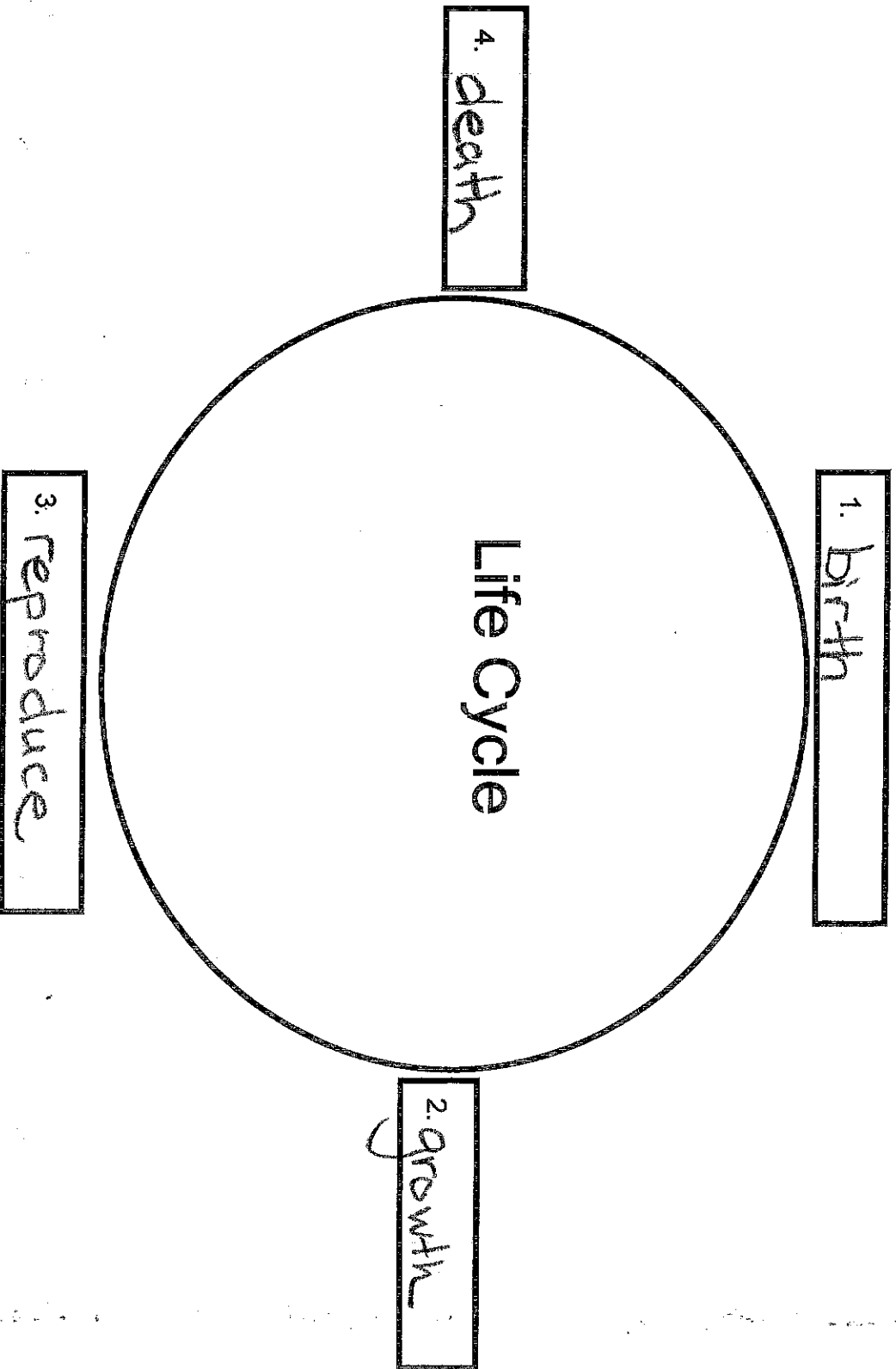
\_\_\_\_\_ holds up the leaves and flowers

\_\_\_\_\_ anchors the plant and takes up water/minerals

\_\_\_\_\_ forms seeds to allow the plant to reproduce

anchor = to hold in place

Fill in the stages of the life cycle that you learned in class.





- Food Chain:

The process of food being passed along from a plant to a plant-eating animal to a meat-eating animal.

Example:

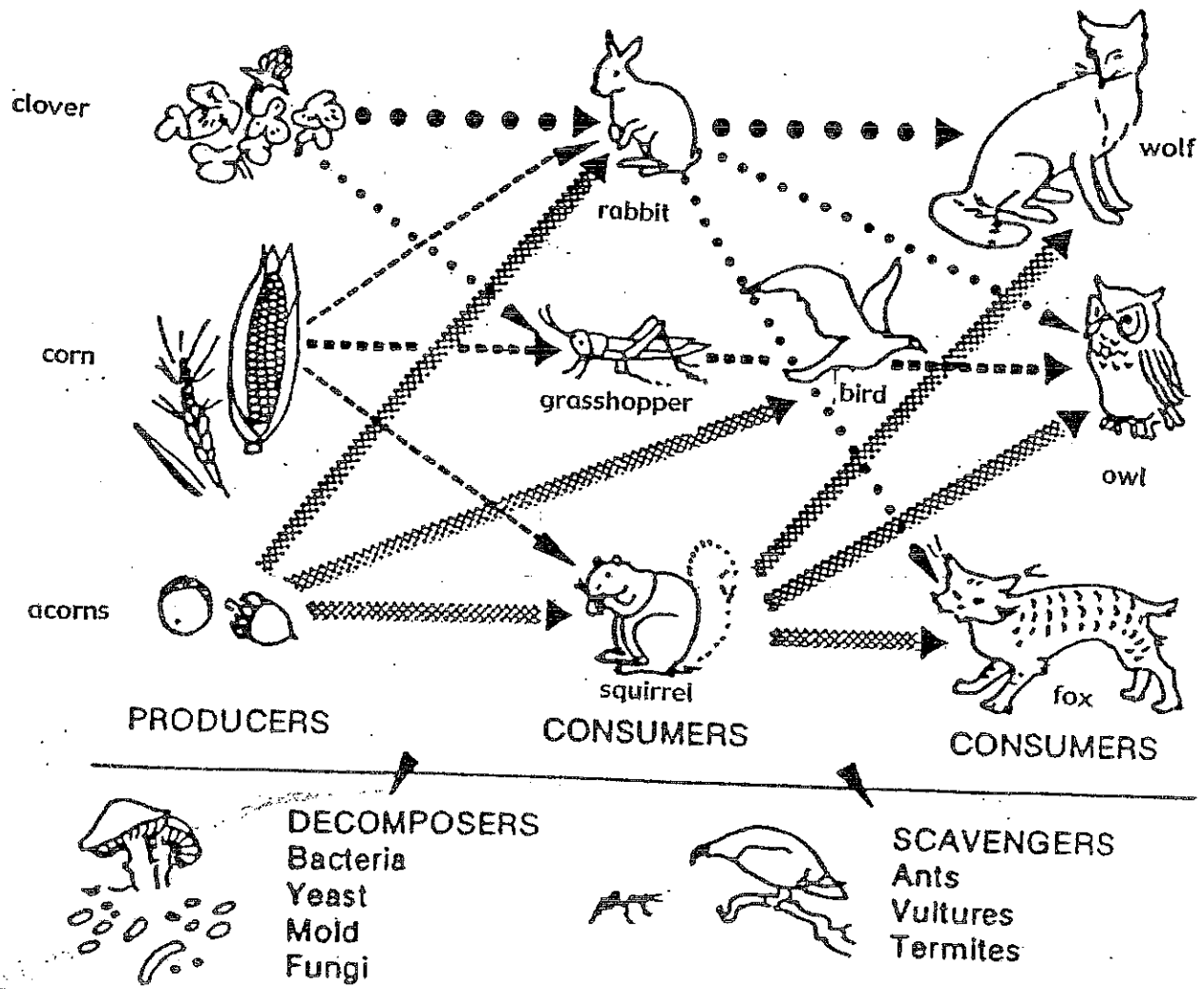
producer → herbivore → carnivore → omnivore

- Terrarium and Aquarium Ecosystems:

There were several important relationships between the organisms in your ecosystems.

Organism from one of the ecosystems	What does the organism depend on that was in the ecosystem? Why?
Ex: fish	Water for oxygen to breathe

- Food Web: multiple food chains that are interlinked in an ecosystem



1. Color all the producers green.
2. Identify all the predators of the squirrel from the food web.

\_\_\_\_\_

3. Write 2 different food chains that begin with 2 different producers. (Don't forget the arrows!)

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Circle 4 producers.

Write an X on 4 consumers.

**Food Web Questions:** Answer the following questions using the food web.

1. Which three organisms eat the corn?

\_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_  
\_\_\_\_\_

2. What does the owl eat?

\_\_\_\_\_ , \_\_\_\_\_

3. In the space provided, write one food chain that is in the food web.

4. A. Which animals does the wolf eat?

\_\_\_\_\_

B. What would happen to the wolf population if there were a decrease in the rabbit and squirrel populations?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_