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4th Grade Science Remote Learning - Week 1

Cover Page

Date:	Assignment:
Monday 3/23	• **Review the lesson titled, "Lesson 1 - Living vs. Nonliving"** • **Answer the questions** in the practice section. • **Complete the exit ticket** at illuminate.online
Wednesday 3/25	• **Review the lesson titled, "Lesson 2 - Life Processes"** • **Answer the questions** in the practice section. • **Complete the exit ticket** at illuminate.online
Friday 3/27	• **Review the lesson titled, "Lesson 3 - Photosynthesis"** • **Answer the questions** in the practice section. • **Complete the exit ticket** at illuminate.online

Guidance on Exit Tickets: Complete this short 2-question quiz in Illuminate on Monday, Wednesday, and Friday, after completing that day's practice problems. You will need your student ID to login, make sure you get this information from your child's teacher.

*NOTE: All answers for this week will be shared on Monday, March 30th. Please save your work so you can review all answers then!

Monday, March 23, 2020
Lesson 1 - Living vs. Nonliving
Objective: SWBAT describe living and nonliving things in an environment.
Question of the Day: What are living and nonliving things?

Living things are both similar to and different from each other and from **nonliving things**. The world around us is made up of both living and nonliving things. Living things depend upon each other and the nonliving environment to survive.

Watch the following video on youtube: [It's alive! Biology for kids video - living and nonliving things](https://www.youtube.com/watch?v=Gy60BqCnTG4)
https://www.youtube.com/watch?v=Gy60BqCnTG4

Animals and plants are living things. They have basic needs (necessities) in order to survive. We often say that living things (**organisms**) are alive.

Classification of living things:

Animals need **air, water, and food** to survive.

- Animals take in air by breathing. They need oxygen, which is in the air. Oxygen allows the animal to make and use **energy**, which it needs to survive.
- Animals also need water to survive. Water is used to break down and move materials throughout the body.
- Animals cannot make their own food so they must eat to get **nutrients**. Nutrients are necessary for growth and energy.

Plants need **air, water, nutrients, and light** to live and survive.

- Plants take in air through their leaves. The type of air that plants take in and use is called carbon dioxide. This is necessary for the plant to create food. Plants make their own food by a process called **photosynthesis**.
- Water is used by the plant to move materials up from the roots to make food.
- Nutrients from the soil enter the plant through its roots. Nutrients are necessary for the plant to survive.
- Light is one of the most important things for a plant. Light gives the plant the energy it needs to survive.

If the living organism does not get the air, water, food, nutrients, or light it needs to survive then it will die.

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Classification of nonliving things:

Nonliving things are all around us. They are present in nature or can be made by humans. They do not have a life cycle.

A rock is considered a nonliving thing; it exists in nature. A nonliving thing does not need anything to exist; it does not grow or reproduce and it is not alive.

A swingset is a nonliving thing that is man made. Your desk, pencil, and paper are all nonliving things. They were made by humans, but cannot change or grow on their own. Air and water are nonliving, but are necessary for living things to live and survive.

Practice:

1. List three things that you need to live and survive.
   1._____
   2._____
   3._____

2. Air and water are necessary for _____ to survive.
   a. Plants
   b. Animals
   c. Both plants and animals
   d. Nonliving things

3. Look around your apartment or outside your window. Name three things that are living and three things that are nonliving.

Living things	Nonliving things
1.	1.
2.	2.
3.	3.

Exit Ticket https://testing.illuminateed.com/auth/quick?access_code=5U8KU6U

1. Which object is a nonliving thing that is made by humans?
   a. A fish
   b. A rock
   c. A green plant
   d. A metal container

2. What list contains only nonliving things?
    a. Coins, snakes, birds
    b. Water, rocks, sunlight
    c. Rubber ball, plants, house
    d. Soil, fish, air

Wednesday, March 25, 2020
Lesson 2 - Life Processes
Objective: SWBAT describe life processes of living things.
Question of the Day: What is a life process?

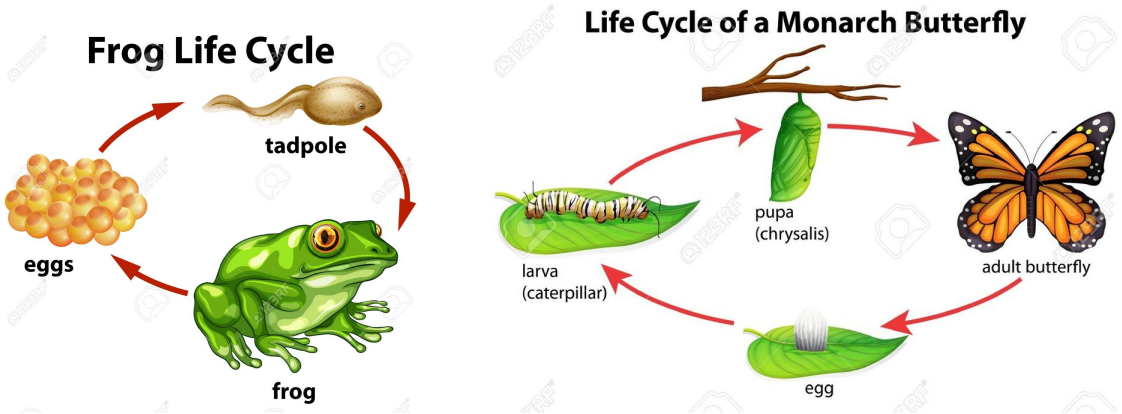
All living things are able to go through certain life processes.

They can grow, take in nutrients, breathe, reproduce, eliminate waste, and die. These life processes are also known as the requirements for life.

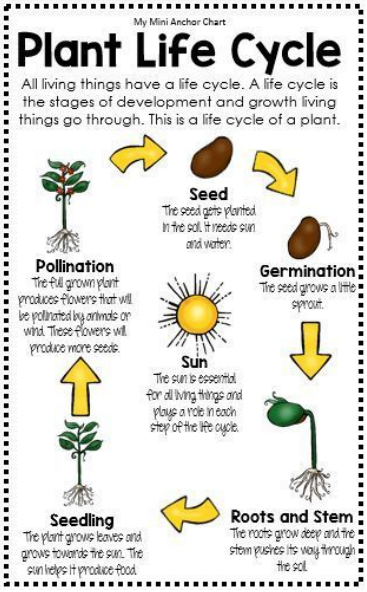
Growth - Most animals are born as smaller versions of what an adult looks like. As they grow their bones get larger and bigger, they grow more hair, and are able to take care of themselves by getting food, shelter, and water. All living things grow and have a **life cycle**.

Some animals are born as one type of organism and as they grow they go into a changing state called **metamorphosis**. Tadpoles change into frogs, caterpillars change into butterflies, and mealworms turn into beetles. This is their way of growing and changing.

Watch the brainpop video on Metamorphosis. (login:girlsprep password:brianpop)

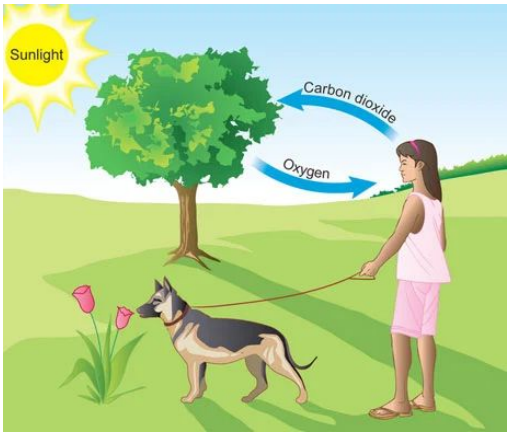


Plants can grow from a seed into a flower, tree, or bush. Plants reproduce by producing flowers and fruits that have seeds. The seeds then grow into plants. Other plants develop outgrowths that can grow into adult plants.



Nutrition - All living things need nutrients to survive. Animals take in food as a nutrient to give them energy. Plants get their nutrients from the soil, which helps them grow and perform photosynthesis, **Photosynthesis** is the process by which plants make their own food.

Breathing - All living things do some type of breathing. Most animals take in oxygen through their mouths. Fish breathe through gills. Both **inhale** (take in) oxygen, which is used to create energy. Oxygen is found in the air all around us. Animals **exhale** (give off) carbon dioxide, which is used by plants. Plants take in carbon dioxide and give off oxygen.



Reproduction - All living things are able to produce **offspring**; we usually call them babies. Some offspring are born looking like their parents. Some offspring are born as one form and change over time into an adult form.
Eliminating Waste - All living things must be able to get rid of the solid waste they produce. Animals take in food to get nutrients. After their bodies have used the nutritious parts of the food they must get rid of the left over material that they cannot use. All animals get rid of this solid waste after passing food through their digestive system. The waste leaves the body in the form of feces. This waste, when mixed into the soil, can be very helpful to growing plants.

Animals get rid of the gaseous waste by exhaling carbon dioxide through their mouth and nose. Plante get rid of chemical waste through their roots. Plants get rid of gaseous waste through their leaves in the form of oxygen.

Practice:

1. The process where animals bones get longer and bigger is called
    a. growth
    b. reproduction
    c. breathing
    d. nutrition.

2. Give an example of a living that goes through each type of growth.

Type of Growth	Living Thing
Looks like parents	
Metamorphosis	

3.
4. Explain why living things need nutrients to survive.

    _____

    _____

_____
_____
_____

Exit Ticket https://testing.illuminateed.com/auth/quick?access_code=UWUNR2V

1. Frogs and butterflies look very different from when they are born. The changes they go through are called
    a. skipping.
    b. metamorphosis.
    c. fading.
    d. Breathing.

2. Oxygen is given off by _____ and taken in by _____.
    a. animals, animals
    b. plants, animals
    c. animals, plants
    d. plants, plants

Friday, March 27, 2020
Lesson 3 - Photosynthesis
Objective: SWBAT explain the process of photosynthesis.
Question of the Day: What is photosynthesis?

Plants are living organisms. Plants require air, water, nutrients, and light in order to live and survive.

Plants contain little green particles called **chloroplasts**, which are made up of **chlorophyll**. Plants are **producers**, the only living organism that can make its own food. Chlorophyll is used for **photosynthesis**, the process by which plants make food. The process of photosynthesis happens inside of the plant's **leaves**.

Other living organisms depend on plants to survive. Plants provide animals with food and gases (oxygen) that their bodies need to grow, breathe, and make energy.

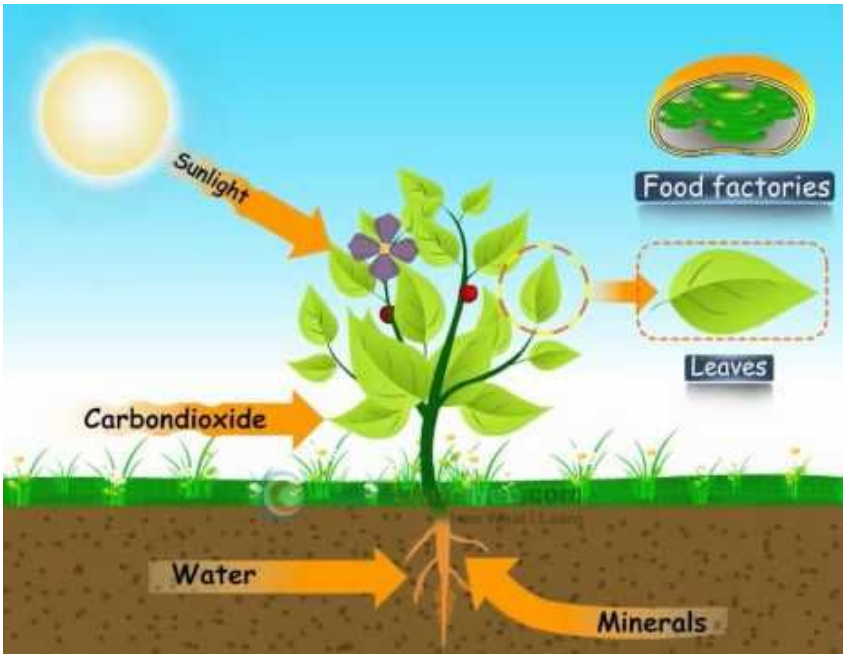
Photosynthesis

Watch the brainpop video on Photosynthesis. (login:girlsprep password:brianpop)

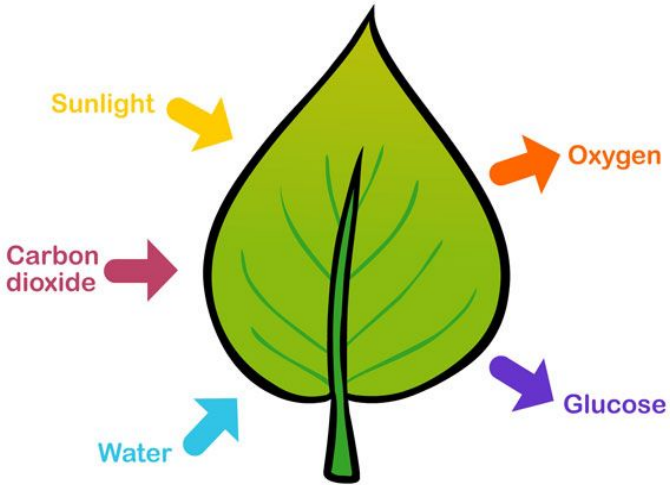
Photosynthesis is a process by which plants make their own food in their leaves and give off oxygen and water that they are not using. The food made by the plant is a form of sugar called

glucose. Oxygen is a gas that is needed by many animals in order to survive. Humans inhale oxygen and exhale carbon dioxide.

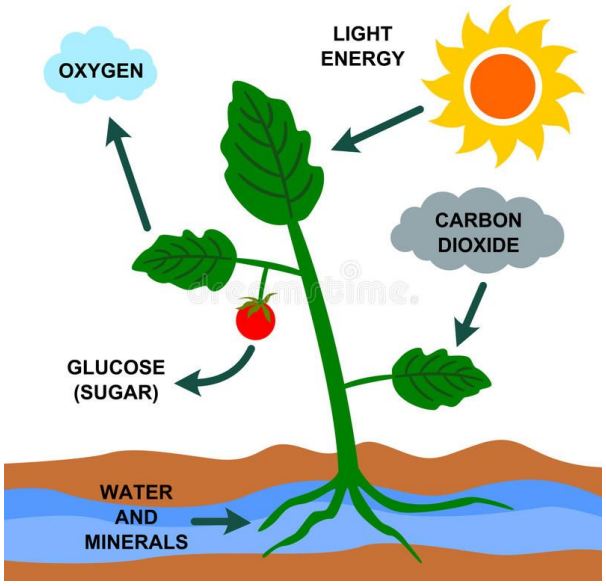
Water + Carbon Dioxide → Energy from Sunlight → Glucose + Oxygen



Air - The leaves of the plants take in carbon dioxide from the environment they give off oxygen, which animals need to survive.

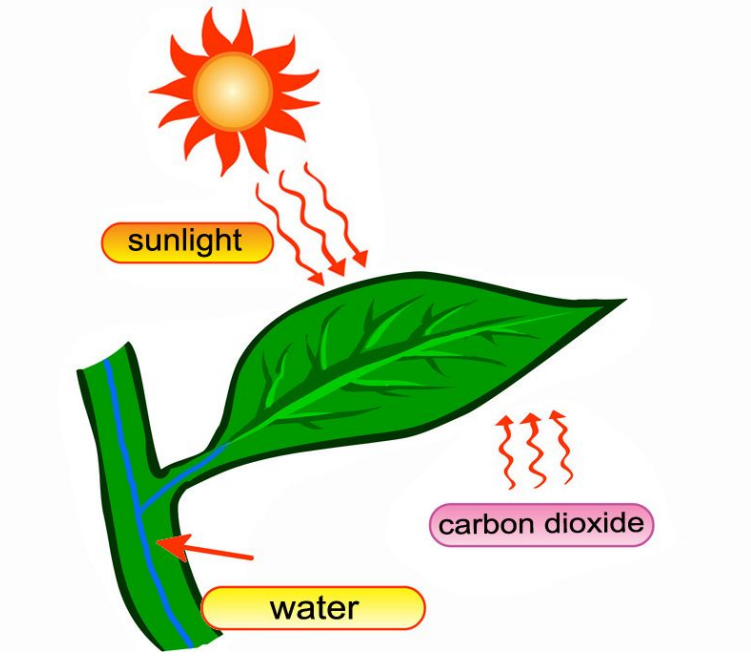


Water - is taken in from the environment through the roots in the ground and is necessary for the plant to produce food.



Nutrients - are taken in through the roots from the soil and help the plant survive.

Light - is provided by the sun. The **sun** is the **main source of energy** for all living things. It is absorbed (taken in) by the leaves and is necessary for the plant to produce food. Light provides the energy for the entire process of photosynthesis.



Practice:

1. What is the process plants use to make food?
    a. Respiration

b. Digestion
c. Photosynthesis
d. propagation

2. When plants make food, they give off _____ and _____.

3. Explain how photosynthesis is important to plants and animals.
_____
____
_____
_____
_____
_____
_____
_____
_____

Exit Ticket https://testing.illuminateed.com/auth/quick?access_code=FKVG4B7

1. Green plants get the energy they need to make food from
   a. Water
   b. Air
   c. soil
   d. Sunlight

2. What structure is the part of the plant responsible for photosynthesis?
   a. Flower
   b. Stem
   c. Leaf
   d. root