

LOUISIANA SCIENCE STANDARDS INTRODUCED OR REINFORCED DURING TREES AND TRAILS FIELD TRIP

SCIENCE

5TH Grade

FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES

- **5-LS1-1:** Ask questions how water and air affect the growth of plants.
UELS1C.b: Plants acquire their material for growth chiefly from air and water.

ECOSYSTEMS

- **5-LS2-1:** Develop a model to describe the movement of matter among plants, animals, decomposers and the environment. The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants.

UE.LS2A.b: Some organisms, such as fungi and bacteria, break down dead organisms and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil.

UE.LS2A.c: Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life.

UE.LS2A.d: Newly introduced species can damage the balance of an ecosystem.

UE.LS2B.a: Matter cycles between the air and soil and among plants, animals, decomposers, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment.

MATTER AND ENERGY IN ORGANISMS AND ECOSYSTEMS

- **5-PS3-1:** Use models to describe that energy in animals’ food (used for body repair, growth, motion and to maintain body warmth) was once energy from the sun.
UE.PS3D: The energy released from food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water).
UE.LS1C.a: Food provides animals with the materials they need for body repair and growth and energy they need to maintain body warmth and for motion

EARTH AND HUMAN ACTIVITY

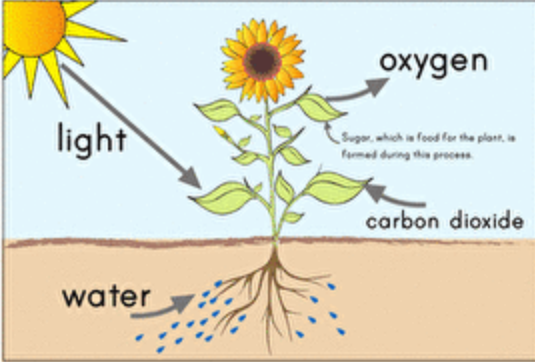
- **5-ESS3-1:** Generate and compare multiple solutions about ways individual communities can use science to protect the Earth's resources and environment.
UE.ESSEC. a: Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean and the atmosphere. But individuals and communities are doing things to help protect Earth's resources and environments.

ANCHOR PHENOMENA THAT CAN BE INTRODUCED IN THE CLASSROOM (PRE-TRIP OPTIONS)

1. When you think of the sun, what do you think of?
2. A tree is like a factory.
3. Pre-assessment on photosynthesis.

what is Photosynthesis

Look at the picture and fill in the blanks using the words at the bottom of the page.



Photosynthesis is a process where plants use _____ from the sun to convert _____ from the air and _____ from the soil into _____ to feed the plant and _____ is given out in the air.

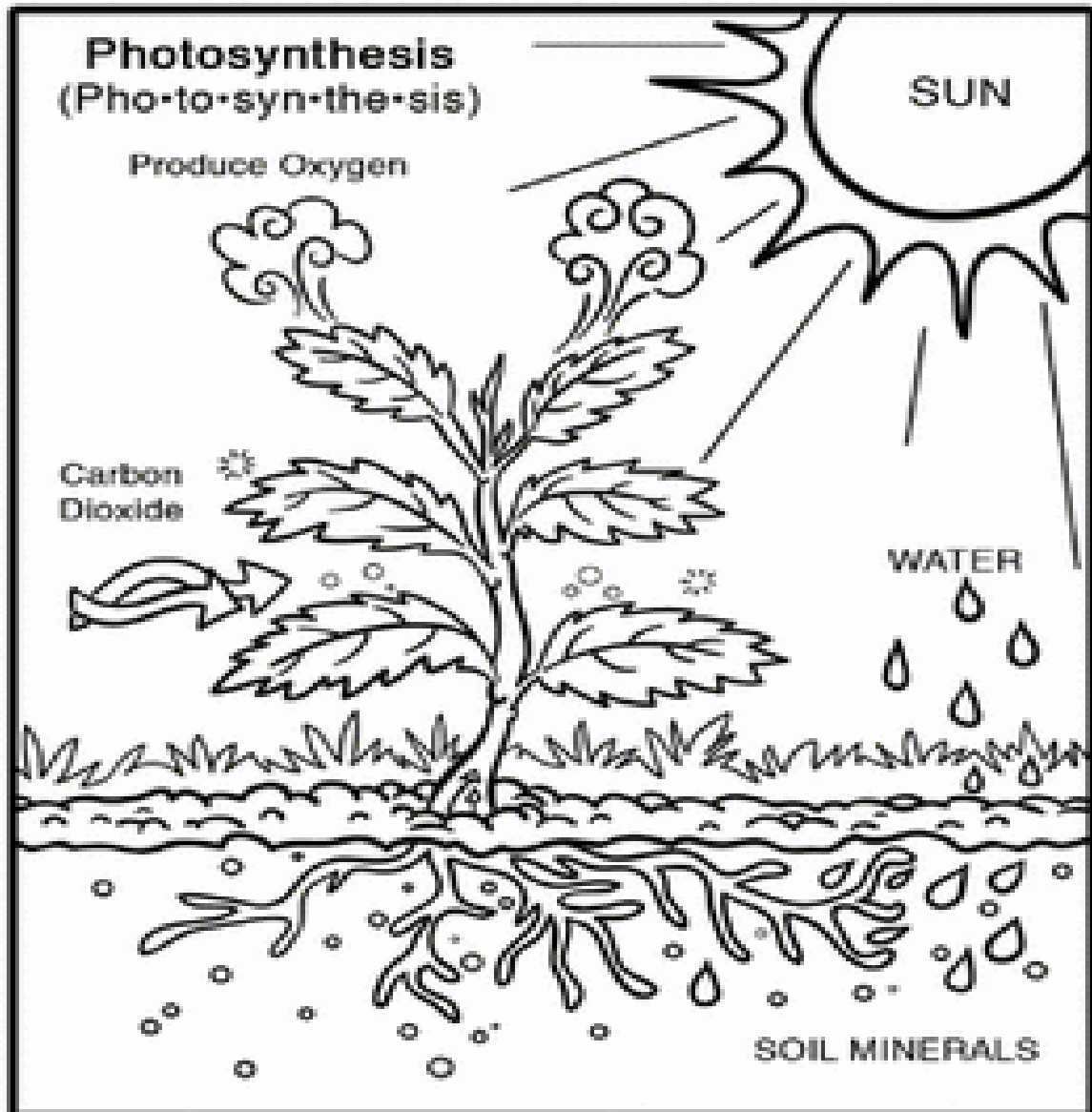
water, sugar, carbon dioxide, light, oxygen

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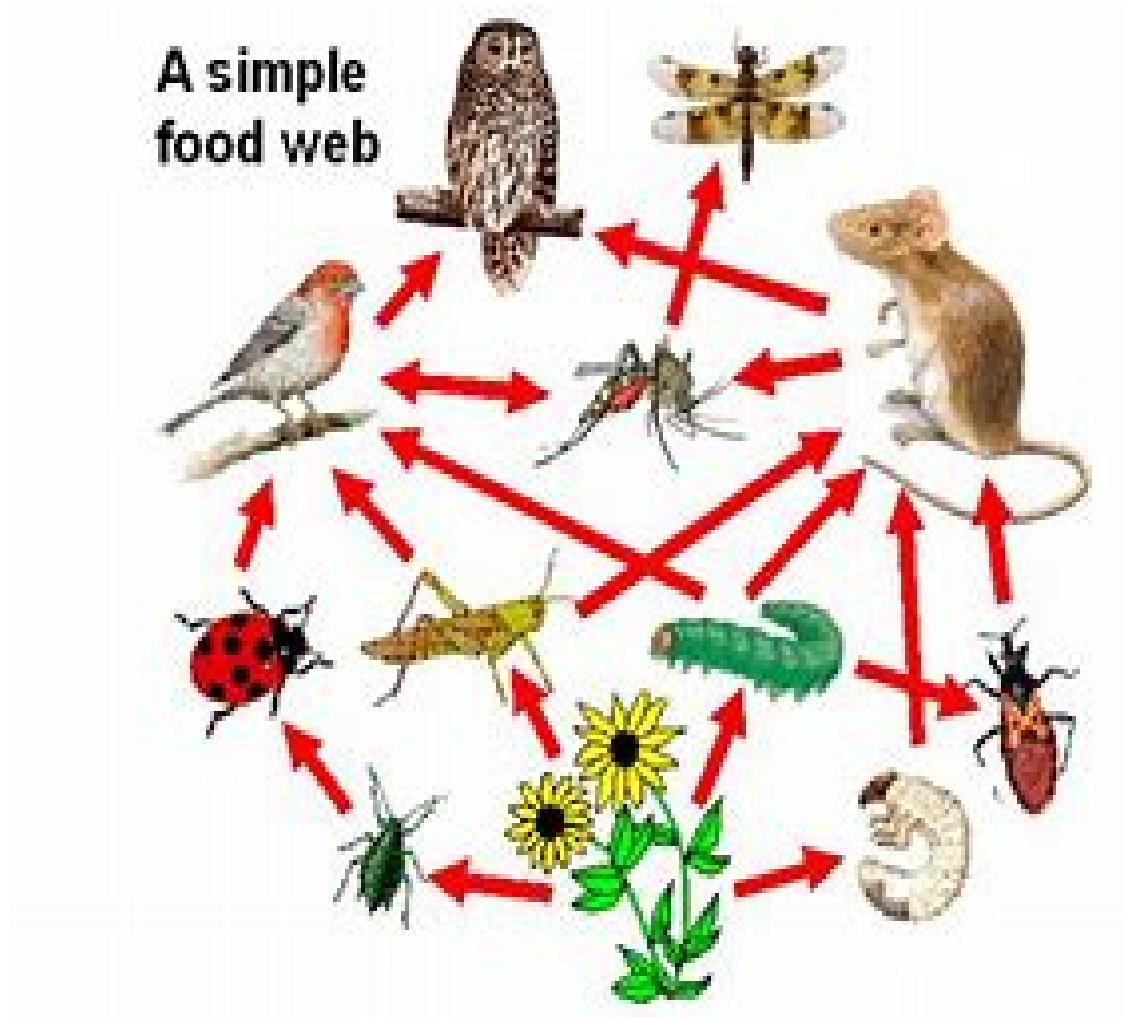
4. Detritivores eat what?
5. Move over Ninja Turtles. Link that describes the importance of the dung beetle in the food chain.
Kung Fu Dung Beetles - Narrated by David Attenborough - Operation Dung Beetle - <https://www.youtube.com/watch?v=Zskz-iZcVyY>
6. Bacteria and fungi- key players in the food web.
7. Each person has a responsibility to help conserve resources and protect the environment.

ACTIVITIES TO EXTEND CONCEPTUAL UNDERSTANDING OF PERFORMANCE EXPECTATIONS.


1. Color the picture below and describe in order the events that occur in photosynthesis.



2. Label the Organisms in the Food Web. Describe the movement of energy among the organisms in the space below.




3. Introduce students to the Journey North's citizen science project on earthworms (www.learner.org/jnorth/worm).
4. Composting in a Sandwich Bag. This is a great way to learn about recycling organic materials.



COMPOST IN A BAG

Get started growing some plants this spring by making your own compost!




WHAT YOU'LL NEED:

- Small, re-sealable plastic bag
- Straw
- Organic food waste
- Paper
- Water

INSTRUCTIONS:

1. Compost is decayed organic material that can be used as a natural plant fertilizer. To start, you'll need to gather some food waste to form the base of your compost. Leftover vegetables, fruit, coffee grounds, and eggshells can all be used. Avoid items like meat, dairy products, or processed foods.
2. To make sure the compost doesn't get too soggy, tear up some uncolored paper or cardboard.
3. Add the food waste and the paper to your bag. It should be about 60% food waste and 40% paper.
4. Place the straw in the corner of the bag and seal. This will let air get in but keep too many smells from getting out.
5. Gently mix your compost by squishing the bag. If it seems too dry add a few drops of water. In a few days you should have some rich, dark compost that you can give to a plant!
6. Keep experimenting! See what happens when you add different types or amounts of food waste, or what happens when you keep your compost in the dark or in a sunny place. The possibilities are endless!



Find more fun activities like this one for free at www.academy.animajam.com

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