

ABOUT THIS FIELD TRIP



More than Just a Field Trip

This Field Trip is designed to give the teacher a complete science experience for students. There are 3 sections to this Field Trip. We encourage you to participate in all 3 sections and try out the provided videos and activities to give your students the most enriching and educational experience.



CLASSROOM CURRICULUM: VIDEOS & ACTIVITIES

- Introduce science concepts
- Expose students to scientific terms
- Encourage curiosity and motivate learning

GUIDED BY CUBE STAFF: ATTEND THE FIELD TRIP

- Connect science learned to real-world problems
- Interactive hands-on play and problem solving
- Data collection sheet provided as part of the experience

CLASSROOM CURRICULUM: VIDEOS & ACTIVITIES

- Inspire students to apply their knowledge
- Check for student understanding
- Reinforce concepts through repetition





Field Trip Content

Visit <u>this link</u> to access your Field Trip portal. Here you will learn all about your Field Trip and have access to videos and activities for your students. Your Field Trip portal will guide you along the way with an easy to use Timeline.





FIELD TRIP VIDEO - AFTER BOOKING, AND BEFORE VISITING

Share this special video in the classroom. It introduces science concepts, exposes your students to scientific terminology, and provides a preview of the exciting Field Trip ahead. You may choose from two options to host your

video, and both deliver the same rich, educational experience you want for your students.



LOGISTICS AND PLANNING

For Orange County ONLY: You can choose to order food from our onsite food vendor, Bean Sprouts (phone: 657-247-5880).

For Orange County and Los Angeles: Make sure to sign up your chaperones. Review your arrival and parking plan. Preview the special activity your students will

complete using a data collection sheet as part of this experience.





OPTIONAL CONTENT

Optional content is provided so that you, the teacher, can create a weeksworth of science learning from this Field Trip experience. Both before and after this Field Trip, we provide you with hands-on activities with easy to find

supplies, step-by-step instructions, and interactive videos that will be sure to capture your students' attention.



FIELD TRIP VIDEOS - AFTER VISITING

Complete the Roots and Fruits Field Trip with a short video that checks for your students' understanding of the science topics covered during the field trip experience. Assessment is built right into the fun dialogue and your students

will not even realize how much they are learning.

Celebrate Achievements: if you completed the pre-field trip video, you will be provided with special badges to distriubte to your students at the completion of their post Field Trip experience.



Next Generation Science Standards

The Roots and Fruits Field Trip correlates with these Next Generation Science Standards:

1-LS1-1: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

2-LS2-1: Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS2-2: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.

3-LS1-1: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

3-LS4-3: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

3-LS3-1: Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

3-LS4-4: Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.



Roots and Fruits



Vocabulary

Aerobic Compost - Compost created with the help of microorganisms (microbes).

Air - A tasteless, odorless, and invisible mix of gases that is primarily made up of oxygen and nitrogen.

California Native Plants - Plants that naturally grow in California; specially adapted to survive in California's climate, with our soil conditions, and with our limited access to fresh water.

Castings - Waste released by worms after digesting organic materials; rich in nutrients and microorganisms to help plants fight disease and stay healthy.

Channel - A long, narrow body of water that joins or connects two larger bodies of water.

Chemicals - A substance that cannot be broken down without changing it into something else (such as water, oxygen, or nitrogen).

Community - A group of people who live close together or have shared interests.

Compost - A process people use to easily and quickly turn decomposing organic (living) waste into nutrients and chemicals that help new plants grow and thrive.

Conservation - The protection of things found in nature, such as water, soil, minerals and wildlife.

Crops - A plant that is grown and harvested for food or other uses by people.

Decompose - A natural process that causes organic (living) material to break down into nutrients and other chemicals; when organic matter has decomposed, the nutrients and chemicals go into the ground and are used to help new plants grow and thrive.

Drip Irrigation - Pipes with holes in them drip water directly onto plants; an alternative to spray sprinklers (which can waste a lot of water).

Environment - All living and non-living things on the Earth, such as the land, air, water, plants, and animals.

Farm - Land where plants are grown or animals are raised for food.

Farmer - A person who grows plants or raises animals for human use (including to be eaten as food).

Fertilizer - A natural or chemical substance added to soil to help plants grow; manure is a great natural fertilizer.

Flower - The part of a plant that blossoms; most plants (but not all) grow some kind of flower.

Fresh Water - Water with very little salt; found in rivers, streams, lakes, ponds, ice, aquifers, and pipes running to your home and school buildings; needed for plants and animals to grow and thrive.

Fruit - The part of a flowering plant that contains the seeds; some fruits are sweet, some are spicy or "earthy" tasting (such as peppers or squash), some are juicy, and some are dry (such as nuts).

Grocery Store - A shop that sells food and household supplies.

Harmful chemicals - Chemicals that can harm humans, animals, or the environment.

Irrigation - Water added to plants by people when there is not enough rain for the plants to thrive on their own; often sprayed or dripped onto plants.

Landfill - Big holes in the ground where communities of people bury garbage.



Roots and Fruits

Leaf - One of the (usually) flat green parts that grows from a plant's stem; main job is to create food for the plant through photosynthesis.

Leak - A place where water can escape from a pipe, usually from a hole or crack.

Manure - Animal waste material (such as from cows or chickens) that is used to fertilize soil and help plants grow.

Microbes or Microorganisms - Living things that are too small to be seen with the naked eye (we need microscopes to see them); most are essential to life on Earth.

Minerals - Non-living (inorganic) substances that come from rocks, sands, and soils on the Earth.

Mold - Growing fungus on damp or decaying material.

Nectar - Sweet liquid produced by the flower of plants; birds, insects, and bats drink nectar to give them energy; the basic ingredient used by honeybees to make honey.

Nitrogen - A colorless, odorless, and tasteless chemical element found in the air; found in all living things.

Nutrients - A substance needed for healthy growth, development, and basic functions of a living plant or animal; people get nutrients from fruits and vegetables; plants get nutrients from the soil.

Organic - Something that is living or was once alive (such as plants).

Organic Farm - A farm where everything is grown naturally, without using any chemicals or pesticides.

Oxygen - A colorless, odorless, and tasteless chemical element found in the air; plants release oxygen and people breathe in oxygen.

Photosynthesis - The process where green plants use sunlight to make their own food; occurs in a plant's leaves.

Pipe - A long, narrow, round, and hollow object through which a liquid (such as water) or a gas can flow.

Plant Life Cycle - A series of steps all plants go through to grow from a seed to a fully mature (seed producing) plant.

Plants - Living things (organic) that grow from the soil and turn light from the Sun into food.

Pollen - A fine powder produced by some plants when they reproduce; usually yellow and can make some people sneeze.

Pollinate - The act of transferring or carrying pollen from one flower to another; pollination allows plants to reproduce (creating fruits and seeds).

Pollinator - Something that moves pollen from one plant to another plant; insects, birds, bats, wind, and water can all be pollinators.

Roots - A part of a plant that keeps the plant in the ground, helps the plant stay upright, takes in water from the soil, and takes in nutrients from the soil; most roots are hidden underground.

Seed - The small part produced by plants from which a new plant can grow.

Shade - A space light rays (usually from the Sun) are blocked; under or near an object (such as the leaves on a tree) that blocks Sunlight.

Soil - The loose upper layer of the Earth's surface where plants grow.

Solitary Bee - A bee that does not, has not, and will not live in a community, hive, or group; does not make honey; does not have a Queen; usually do not sting (bumblebees and honeybees are not solitary bees).



Roots and Fruits

Stem - The main part of a plant that grows up from the sound; supports the branches, leaves, flowers, and fruits that grow from the plant.

Sunlight - The light and energy that comes from the Sun; all people and plants need sunlight to survive.

Sustainability - A natural, renewable, and safe way for people to protect the environment by ensuring there are enough resources (such as clean water and air) for future generations.

Vermicompost - Compost created with the help of worms.

Vitamins - Nutrients that people need to grow, reproduce, and be healthy; we get most of our vitamins from food we eat.

Water - The clear liquid that makes life on Earth possible; all living things (organic) need water to survive.

Water Spigot - A water faucet with a device to turn water on and off; often found attached to outdoor walls of buildings for use with a hose.

Water Wise - The act of being smart about how, where, and when to use fresh water; also called "water conservation".

Windbreak - Growth of trees or shrubs that reduces the force of the wind; often seen along the sides of highways.

Worm Tea - A microbe-rich liquid that comes from vermicomposting and helps living plants to grow and thrive; sometimes called "liquid gold".

Worms - Soft, tubular, and long-bodied invertebrates (animal that does not have a backbone); no legs (move by creeping or crawling).

