The Reason for Fruit

A fresh, sweet apricot is a treat. Peaches, plums, cherries, and apricots are favorite summer **fruits**. They are delicious and healthful. But watch out! There's a pit in the middle.

The pit of a peach or an apricot is too big and hard to eat. You have to eat around it and throw it away. The pit is an interesting part of the fruit. The pit is actually a **seed**. Do you know what is inside a seed? It's a baby plant waiting for a chance to grow.

Some fruits are not usually thought of as fruit. For instance, avocados and olives are fruits. Avocados and olives are not sweet. So why are they called fruit? Avocados and olives are fruit because they have seeds. The part of a plant that holds the seeds is the fruit. Have you seen what's inside an avocado? It has one huge seed.

Peaches

An avocado

Apricots

Olives with olive seeds

How Many Seeds?

Peaches, plums, and other pitted fruits have one seed. Other fruits have many seeds. Some grapes have three or four seeds. Apples, pears, green beans, and oranges might have six or seven seeds. That's quite a few chances for a new plant to grow.

Some fruits have dozens of seeds. Have you ever counted the seeds in a watermelon? How about in a tomato, pumpkin, or pomegranate? The kiwi fruit might have the most seeds for its size. It has hundreds of seeds.

Pomegranates

Tomatoes

Watermelons

Kiwi fruit

Green beans

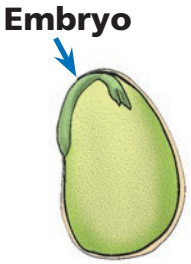
Why Do Plants Make Seeds?

No plant lives forever. Some plants live for thousands of years, like giant redwood trees. Others live for only a few months, like the annual blanket flower. But each plant dies when it gets old.

Because **organisms** die, every kind of organism must **reproduce**. When plants reproduce, they make new organisms just like themselves. Peach trees make new peach trees. Tomato plants make new tomato plants. Watermelon plants make new watermelon plants. Every kind of plant makes baby plants to replace those that get old and die.

Redwood trees

Seeds are the reproductive **structures** of most plants. Every seed contains a baby plant, called an **embryo**. The embryo in the seed is in a **dormant**, or resting, stage. You can see the embryo if you are careful. Soak a large seed in water overnight. Then carefully open the two halves of the seed. The embryo will be stuck to one side of the seed.



Blanket flowers

The Function of Fruit

The fruit that holds a plant's seeds is often large. The seeds in apples are much smaller than the apple. The seeds in pumpkins are smaller than the pumpkin. Fruits are also bright colors. Some cherries are red, and some grapes are purple. Why are the fruits so large and colorful?

The structure of the fruit has several **functions**. These functions help the plant **survive** and reproduce. The developing seeds need to be **protected** from weather and **predators**. Large fruits provide a protective covering that keeps the embryos in the seeds safe.

After a seed starts to grow, it needs water, light, and minerals. Sometimes the baby plant tries to grow right beneath the **parent** plant. When that happens, the baby plant has to compete with the larger parent plant. A new plant has a better chance to survive if it can move away from the parent plant. Here's where it helps to be colorful.

Purple grapes

Cherries

A pumpkin

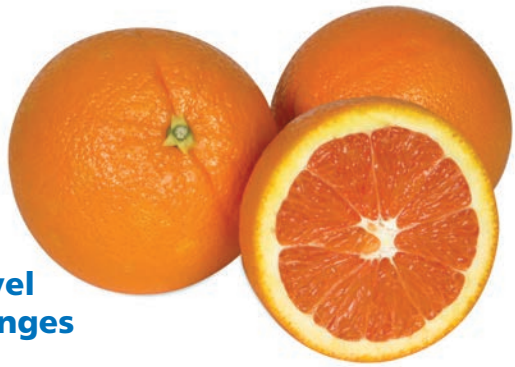
Brightly colored, sweet fruit attracts animals. The animals carry the fruit away to eat it. But sometimes they don't eat all the seeds. They drop them far away from the parent plant. The fruit helps the plant reproduce by attracting animals to carry the seeds to new locations.

Seeds come in all sizes and shapes. Fruits come in all sizes and colors. Even though there is a great variety in seeds and fruits, their purpose is always the same. Seeds and fruits are structures that help plants survive and reproduce.

What do Thompson grapes, bananas, and navel oranges have in common? They are all seedless fruits. Sometimes an individual plant will bear fruits that don't have seeds. This is not a good thing for the plant. You probably know why. It is nice for people because seedless fruits are easier to eat. That's why seedless fruits are found in the market. Did you ever wonder how plants that don't have seeds reproduce?

Bananas

Thompson grapes



Navel oranges

Thinking about Fruit

1. What is a fruit?
2. How does a plant's fruit help it survive and reproduce?
3. What is a seed?
4. What function does a plant's seed have?

Glossary

adaptation any structure or behavior of an organism that allows it to survive in its environment

antenna (plural **antennae)** the thin feeler on the head of an animal like a crayfish, an isopod, or an insect

aquatic referring to water

behavior the actions of an animal in response to its environment

beneficial good or advantageous

biologist a scientist who studies living organisms

camouflage an adaptation that allows an organism to blend into its environment

carapace a hard outer shell that covers the main part of the body of an animal

carnivore an animal that eats only animals

cartilage the smooth, flexible material that connects some bones and gives shape to some body parts

chromosome a structure that carries genes

chrysalis the hard-shelled pupa of a moth or butterfly

contract to become smaller or shorter in length

cotyledon the plant structure that provides the germinated seed with food

crustacean a class of mostly aquatic animals with hard, flexible shells

detrimental harmful or bad

DNA (deoxyribonucleic acid) a material that carries the genetic messages of heredity

dormant inactive or resting

egg the first stage in an animal's life cycle

embryo the undeveloped plant within a seed

endanger to be at risk of becoming extinct

environment everything that surrounds and influences an organism

evidence data used to support claims. Evidence is based on observations and scientific data.

exoskeleton any hard outer covering that protects or supports the body of an animal

fingerprint the ridges in your skin at the tip of your fingers. Arches, loops, and whorls are fingerprint patterns.

flower a plant structure that grows into fruit

food chain a description of the feeding relationships between all the organisms in an environment

fossil any remains, trace, or imprint of animal or plant life preserved in Earth's crust

fruit a structure of a plant in which seeds form

function an action that helps a plant or an animal survive

gastropod the family of snails

gene a message carried by a chromosome

generation a group of organisms born and living at the same time

genetics the study of how living things pass traits to their offspring

herbivore an animal that eats only plants or algae

hibernate when animals sleep through the winter

inherited trait a characteristic that is passed down from generation to generation

invasive an organism that thrives in a new area but causes problems to the organisms in that ecosystem

joint a place where two bones come together

leaf (plural **leaves)** a plant structure that is usually green and makes food from sunlight, water, and carbon dioxide

life cycle the sequence of changes or stages an organism goes through as it grows and develops

ligament tissue that connects bone to bone

mast year a year when trees produce a lot of seeds

mature fully developed

migrate when animals move from places with cold weather to places with warm weather

molt to shed an outer shell in order to grow

muscle tissue that can contract and produce movement

nutrient a material needed by a living organism to help it grow and develop

offspring a new plant or animal produced by a parent

omnivore an animal that eats both animals and plants

organism any living thing

paleontologist a scientist who studies fossils

parent an organism that has produced offspring

petrify to change into stone over a long period of time

pincer an animal's claw used for grasping

population all organisms of one kind that are living together

predator an animal that hunts and catches other animals for food

prey an animal eaten by another animal

proboscis a long, strawlike mouth

protect to keep safe

pupa the stage of an insect's life cycle between the larva and the adult stages

reproduce to have offspring

riparian along a river or stream

root the part of a plant that grows underground and brings water and nutrients into the plant

sediment pieces of weathered rock such as sand, deposited by wind, water, and ice

sedimentary rock a rock that forms when layers of sediments get stuck together

seed the structure in a fruit that holds the undeveloped plant, or embryo

stem any stalk supporting leaves, flowers, or fruit

structure any identifiable part of an organism

survive to stay alive

swimmeret a small, soft leg under the tail of a crayfish

tendon ropelike tissue that connects muscle to bone

terrestrial referring to land

thrive to grow fast and stay healthy