



Schoolyard Nature Fun Facts

“Wow” your students with everyday things in the school yard and sneak in a little science!

Trees

- Trees can ‘talk’. Through their roots, they use chemical means to communicate about predators like insects and other things that are important to them. They also use fungi in the soil to help relay their messages throughout the forest.
- A living tree is 99% dead. The only live parts of a tree are the leaves, buds, root tips, and cambium—the thin green layer just under the bark, which transports food and water. All of the wood built up in the previous years of a tree’s life is composed of dead cells.
- A large, leafy tree can take up as much as 100 gallons of water a day.
- In a phenomenon called *allelopathy*, some trees’ roots release chemicals into the soil that suppress the growth of other plants. Walnuts are famous for this, but hackberry and tree-of-heaven do it, too. This is an adaptation that allows the tree to reserve all the nutrients and water for itself and reduce competition.
- Trees are the longest-living organisms on Earth, and never die of old age. Methuselah, in California’s White Mountains, is over 4,800 years old.
- Pine cones have genders. Male pine cones shed pollen, while female pine cones make seeds. When the wind blows pollen into the female cones, you guessed it – the seeds become pollinated.

Worms

- Each individual can produce both eggs and sperm.
- Their poop becomes a part of the soil and contains many nutrients for plants.
- Earthworms, jumping worms and night crawlers are “exotic” – they come from Europe. Our primary native worm is the red worm.
- Some species of earthworm can reproduce without a partner. Called *parthenogenesis*, this form of reproduction comes in handy in habitats where partners are difficult to find or conditions are continually in flux.

Ants

- They are extraordinary builders.
- There are more than 12,000 of species of ants worldwide.
- They can carry 20 times their own weight.
- Some queen ants can live for many years and have millions of offspring.
- Ants do not have ears, but they sense vibrations.
- When ants fight, it is often to the death, They may fight for territory or food.

Grass

- There are over 6,000 different species of grass in the world. Some examples we know well are rice, wheat, corn, oats and sugarcane.
- Sizes vary from short lawn grasses to grasses as tall as 120 feet or 40 meters.
- The first-ever lawn mower was invented in 1830 and relied on people-power to spin the cutting cylinder. Just 190 years later, self-driving lawn mowers can now mow your lawn on its own.
- Because of the high demand for artificial grass in such places as sport arenas, the grass producing industry is multi-million dollar business.
- Bamboo is a type of grass. Pandas feed on bamboo and grow to become quite large!
- Grass has been used to make things like paper and fabric. Even houses are sometimes constructed with bamboo and straw.

Goldenrod

- Does not cause hay fever or allergies. The pollen is too heavy to become airborne. People generally are more reactive to ragweed, which is less obvious (being mostly green, not as big, and basically nondescript) but blooms around the same time.
- Like other plants, when it evapotranspires, tiny droplets of water exit the leaves (via stomata) into the air. You can capture a little of this moisture by putting a ziplock bag around plant leaves for several hours.
- Many pollinators love it because it blooms late in the summer and into the fall, when fewer sources of food are available.
- The Latin name is *solidago*.

American Robin

- Lay blue eggs.
- Males have darker gray caps on their heads.

- Can locate a worm in the ground by feeling its vibrations. Because they have good eyesight, they can also see the tip of the worm as it emerges from the ground.
- In addition to worms, they sometimes eat insects and snails.
- Are a type of thrush and so are related to bluebirds and other thrushes.
- Can raise up to 3 broods of young each summer (though two is more common).

Spiders

- Have 8 legs and 8 eyes.
- Are not insects (or bugs) – they are arachnids.
- Have blue blood, based on copper, not iron.
- Spider silk is liquid and only becomes solid when it contacts air.
- Ounce for ounce, spider silk is 5 times stronger than steel.

Moss

- Not the first plant on earth, but very ancient.
- Live all over the world.
- Tend to live in moist environments, which helps with the movement of spores when they reproduce.
- Do not reproduce with seeds, only spores.
- Do not have roots. The tiny fibers that look like roots are hairy protrusions called *rhizoids*.
- While most species prefer damp and shaded environments, often woodlands, some mosses thrive in desert areas, as well as in ice-covered regions like Antarctica.
- May have caused an ice age. According to Professor Tim Lenton, when these plants started to cover the land, they altered the bedrock's composition, causing it to react with carbon dioxide on a massive scale. The decrease in greenhouse gas in the atmosphere (because it had interacted with the bedrock) cooled the planet, leading to an ice age and the *Ordovician-Silurian Extinction Event* - the second largest extinction event in earth's history.
- Many moss leaves are just 1 cell thick.

Rocks

- The study of rocks is called geology.
- Crystals grow from molten minerals, or minerals that are dissolved in liquids, such as water. Of the earth's rocks and minerals, 85% are formed from crystals.

- **All about Granite**

- Granite is the most abundant rock in the continental crust of the Earth. It is exposed in cores of many mountain ranges in large areas known as *batholiths* and in core areas of continents known as *shields*.
- The mineral crystals show that it cooled slowly from molten rock material, occurring beneath the Earth's surface, and requiring a long period of time.
- If granite is exposed at the Earth's surface, it is because the granite rocks were uplifted and the overlying sedimentary rocks were eroded.
- In a simple course about rocks, granite may be defined as a coarse-grained, light igneous rock composed mainly of feldspars and quartz, along with mica and amphibole minerals.
- A rock specialist will identify the exact composition of the rock, and many experts will not use the term *granite* to describe the rock unless it contains a certain percentage of minerals. They may call it an *alkali granite*, *granodiorite*, *pegmatite*, or *aplite*.
- The commercial definition, used by sellers and buyers, usually refers to rocks with visible grains that are harder than marble as *granite*. They may call gabbro, basalt, pegmatite, gneiss, and many other rocks granite.
- Granite's fame comes from many world-famous natural exposures including Stone Mountain, Georgia; Yosemite Valley, California; Pike's Peak, Colorado; and White Mountains, New Hampshire.
- Granite has been used for thousands of years, both indoors and out-of-doors for buildings, bridges, paving, monuments, landscaping, tiles, countertops, and many other applications. In addition, it may be used as crushed stone in road construction.