

EARTH DAY SPECIAL

TURFMUTT

SAVING
THE PLANET
ONE YARD
AT A TIME!

Meet TurfMutt

Lucky was once a stray dog. He was found hurt and wandering on a highway. Now he's a superhero dog known as TurfMutt who goes on missions to spread the word about how good green spaces are for the planet. (You can call him Lucky when he's not in his superhero costume...)



PLAY THE TURFMUTT GAME AT
WEEKLYREADER.COM/TURFMUTT



OUTDOOR POWER EQUIPMENT
INSTITUTE





TEAM UP WITH **TUREMÜT**

Bust the Dust Demon

DUST DEMON

Nearly six billion tons of bare soil wash or blow away each year, making **erosion** a serious problem. The upper layer of dirt, called topsoil, holds chemicals and minerals that are good for growing things. Topsoil is a precious resource. Dust from erosion adds to air pollution and is harmful to those with allergies and asthma.

Turfgrass is a great defense against erosion. With its giant root system, it holds the soil better than any other plant. A single grass plant can have over 300 miles of roots!



Without plants to keep dirt in place, bare soil can be blown away by wind or washed away by rain.

Green spaces **provide beautiful places** to play; they help **clean air and water**, and they **act like natural air conditioners**. Learn how caring for green spaces can help **fight off the evil forces** that endanger **our green Earth**, our clean blue waters, and our sparkling air.

Turn Off Dr. Runoff

DR. RUNOFF



Without the strong root systems of plants like grass to conserve and filter rainwater, a lot of chemicals and pollutants can get into our water supply.

Runoff is a danger to our water supplies. When rainwater “runs off” hard surfaces such as roads, packed earth, and parking lots it can pick up chemicals and minerals and carry them to lakes and rivers.

One way to reduce runoff is to plant trees, bushes and turfgrass areas. Their roots decrease storm-water runoff,

trapping rainwater in the soil. This **conserved** water can then be used by the plants.

The roots of turfgrass don’t stop there! They also filter harmful chemicals and minerals from the water. Grass soaks up some chemicals and minerals for food. Our rivers and streams can be cleaner if we let grass and other plants do their job.

Cool Off HeatFreak



Have you noticed how hot a parking lot can be in summer? The bare surface absorbs a lot of heat from the sun—and radiates it into the air. It becomes a **heat island**. That's an area such as a parking lot or built-up part of a city that absorbs the sun's heat and then gives it off into the air. The air at night around a city can be 22°F hotter than the air in open, planted, grassy areas.

What can we do to stop heat islands? Adding plants, trees and grass to bare areas is a great way to start. Each grass blade, for example, acts like a mini-cooler, producing moisture and absorbing heat.

In some places, people take going green to the very top! They create green spaces on their roofs, with bushes, trees and grass.



The plantings on this city green roof give off cooling moisture.

Catch Carbon Creep



Grass helps absorb and hold onto carbon dioxide gas produced by industry, home heating, and transportation.

Many scientists are concerned that Earth's climate will change over time. Scientists say one reason the planet seems to be heating up is the buildup of a gas called **carbon dioxide** in our atmosphere. The carbon dioxide acts like a blanket that heats up Earth.

Planted areas and lawns can make a big difference. Plants, trees and grass draw

carbon dioxide from the air and store it. In the United States, turfgrass grabs and stores more than eight million tons of carbon every year.

While helping to cut down carbon dioxide in the air, grass can also help boost our supply of oxygen. That's a gas that all living things need to survive. Just one acre of grass can produce enough oxygen for 64 people a day.

Your teacher has experiments you can do to **grow your own grass**, learn how **plants absorb water**, and **see how grass gives off oxygen**.

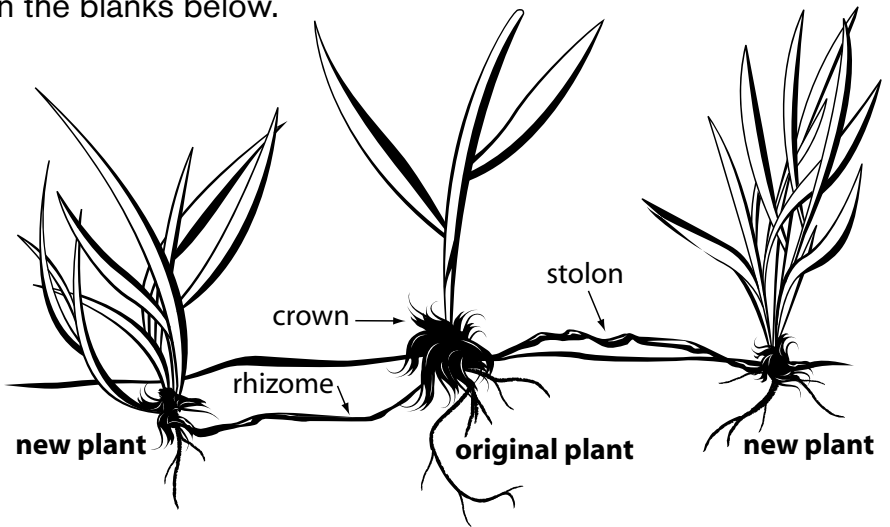


Play the TurfMutt web game at weeklyreader.com/turfmutt

Grassroots Appeal

This diagram shows how grass plants reach out to grow new grass plants. Read the diagram and the description. Then fill in the blanks below.

Some grasses have special stems that reach out to grow new plants. Rhizomes (say RYE-zomes) are stems that grow just below ground. Stolons (say STOW-lunz) are stems that stretch across the surface. They grow sideways and reach out to start up new grass plants. The original plant sends nutrients to the new one through the rhizome or stolon. This keeps up until the new plant is strong enough to live on its own.



1. A stem that creeps along the ground is called a _____.
2. A _____ is a stem that moves sideways underground.
3. Stems connected to new plants can provide _____ until the plants are strong enough to survive alone.

Turfmutt's Secret Message

Find the words below in the puzzle.
Circle each word. Look across, up, down, backwards and diagonally.
The leftover letters will spell out the answer to the riddle.

EROSION **ROOTS**
CARBON **OXYGEN**
DIOXIDE **COOL**
TURF **CONSERVE**
RUNOFF **HEAT**

B E R O S I O N R
D I O X I D E O U
T H I Y G L O B N
U E A G W T N R O
R A M E S O O A F
F T E N L O O C F
C O N S E R V E R

TURFMUTT'S RIDDLE: What do you call a cow that works in a garden?

ANSWER: A _____ - _____!