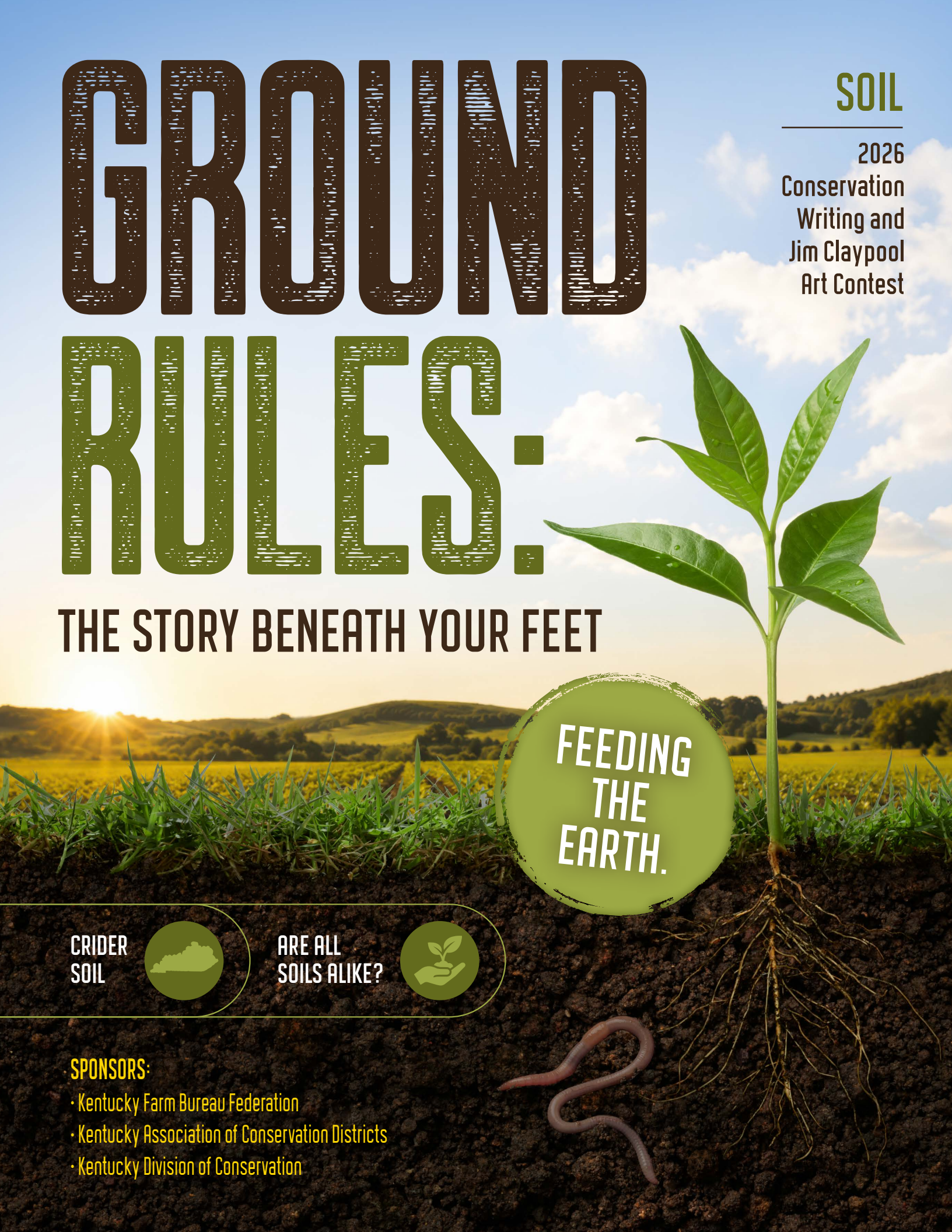
GROUND RULES:

THE STORY BENEATH YOUR FEET

SOIL

2026 Conservation Writing and Jim Claypool Art Contest



FEEDING THE EARTH.

CRIDER SOIL

ARE ALL SOILS ALIKE?

SPONSORS:

- Kentucky Farm Bureau Federation
- Kentucky Association of Conservation Districts
- Kentucky Division of Conservation

Start an Envirothon Team!

If you really dig environmental issues; grab your like-minded friends and form an Envirothon team. The statewide competition allows high school students to team up on a series of hands-on outdoor contests to solve environmental problems and test their knowledge of natural resources.

The event is made up of a team of five high school students competing in five different areas: aquatics, forestry, soils, wildlife, and a current issue. At each site, students will use their knowledge to participate in hands-on activities to complete a test.

The Kentucky Envirothon consists of two regional competitions. Top scoring teams from each of the regional competitions will move on to the state competition. The regional competitions are held in April of each year, and the state competition is held in May. Registration for next year's competition will begin in December.

CONTACT INFORMATION:

YOUR LOCAL CONSERVATION DISTRICT:
eec.ky.gov/Natural-Resources/Conservation/Pages/Conservation-Districts.aspx

DIVISION OF CONSERVATION ENVIROTHON:
eec.ky.gov/Natural-Resources/Conservation/Pages/Envirothon.aspx

Johnna McHugh: 502-782-6703 or johnna.mchugh@ky.gov

CONTACT YOUR LOCAL CONSERVATION DISTRICT FOR DETAILS.

FEEDING THE EARTH

The Earth gets hungry just like you and me, and it must be fed. To give it the nutrients it needs to flourish, consider composting! Composting is the process of recycling organic materials to be turned into nutrients that are used to enrich soil and plants.

In other words, it is nature's way of recycling. Composting is one of the most impactful actions we can take to reduce our trash levels and build healthy soil. Food scraps and yard waste currently make up 20 to 30 percent of what we throw away. Rather than letting that waste pollute the Earth in landfills before entering our waterways or terrestrial habitats, turn it into compost.

What do we mean by organic materials?

Organic materials are the ingredients used for composting. They provide food, water, and air for tiny living things called microorganisms that break down the materials into nutrient-rich soil. The materials can be wet and nitrogen-heavy greens such as fruit and vegetable scraps, crushed eggshells, coffee grounds and tea bags, or grass clippings. Additionally, they can be dry and carbon-rich browns like dried leaves, paper products (shredded newspaper, empty toilet paper rolls, and torn-up egg cartons), cardboard, or yard trimmings (small twigs and branches). However, it is important to avoid adding things like meat, fish, and bones, dairy products, cooked foods, or any item that may contain chemical additives, as these can attract animals or be harmful to the microbes that feed on the organic materials.

Making compost bins requires minimal effort, equipment, money, and expertise, and can be a very fun activity to do with your friends and family! There are many ways to compost at home, whether in your backyard or using the worm composting method. If you do not have the space for composting at home, consider participating in a local community composting program which may collect your food scraps or offer a designated location where you can drop them off.

Using compost to feed the Earth is extremely beneficial! You can add compost to your flower beds, vegetable gardens, window boxes, and container gardens. It is also great to use for tree beds, to mix in potting soil for indoor plants, or to spread it on top of the soil in your yard. Adding finished compost to your soil helps it retain moisture and healthy nutrients, reduces the potential for soil erosion, and improves overall soil health.

MAKE YOUR OWN COMPOST BIN

STEPS FOR MAKING A BACKYARD COMPOST BIN:

1. Determine how you will collect and store your organic materials.

Collect and store your fruit and vegetable scraps in a closed container on your kitchen counter, under your sink, or in your fridge or freezer. For browns, set aside an area outside to store your supply of dried leaves, twigs, or other carbon-rich material (to mix with your food scraps).

2. Set aside space for your compost pile or purchase a bin.

Choose a space in your yard for your compost bin that is easily accessible year-round and has good drainage. Puncture holes in the bottom of the bin to promote drainage. Avoid placing it right up against a fence and ensure there is a water source nearby. Your compost pile will break down in sun or shade.

3. Prepare your ingredients for composting.

Before adding your browns and greens to the pile, try to chop and break them up into smaller pieces. Doing so will help the materials in the pile break down faster.

4. Build your compost pile.

Start your compost pile with a four-to six-inch layer of bulky browns. This layer absorbs extra liquids, elevates your pile and allows air to circulate at the base of the pile. Then layer your greens and browns like lasagna. If needed, add a little water to dampen the pile. Air and water are the other key ingredients in your pile. To ensure air circulation, add enough browns and turn your compost occasionally. To maintain moisture in your pile, ensure your combined materials have the consistency of a wrung-out sponge.

5. Maintain your compost pile.

Turning and mixing your pile from time to time will help speed up the decomposition process and aerate the pile. Use a garden fork to turn the outside of the pile inward. Monitor your pile for moisture, odor, and temperature and adjust as needed.

6. Harvest your compost.

When your compost pile stops heating after turning and food scraps are no longer visible, let it cure for at least four weeks. Finished compost is typically ready in 3-5 months (or up to a year if left unattended) and should be dark, crumbly, and smell like fresh soil. When finished, sift out any undecomposed materials and return them to a new or active pile.

SO LET'S MAKE SOME SOIL

First, we need some mineral particles. Let's start with some bedrock - limestone is a common one here in Kentucky, but any bedrock will do. This will be the parent material. We'll grind it down through physical weathering windstorms, streams running through or maybe just run a glacier over it. Add freezing and thawing, and eventually the rock will become fine particles.

This produces two bigger types of particles: sand and silt. You can easily see a single particle of sand. The light-colored sand feels gritty and doesn't hold water well because it has large spaces between particles. The darker silt is a tinier particle than you find at the beach. It feels smooth and can hold water better.

The tiniest particles though, are clay. You'd need a microscope to see them. Darker still, clay feels sticky and holds lots of water. Clay minerals come from chemical weathering (Basically water running over rock or the rock's exposure to air changes the minerals into a different substance).

Then in will move some lichens, often the first to settle in such an attractive new neighborhood. Next come microscopic decomposers including bacteria, fungi, and protozoa. They use the parent material and turn decomposed organic matter into humus to make nutrients for plants.

With plants, we'll also soon have earthworms, gophers, and moles. Their burrowing helps stir the mixture, which helps us gain a balance of water and air. Soil with too much air and too little water will blow away and be inhospitable to plants. Too much water and too little air will drown plants, and we'll see all our worms gasping at the surface.

We've just made a soil that's just right, with a rich blend of pulverized rocks, organic material, water, and air.

SOIL: A NATURAL WATER FILTER

HEALTHY SOIL IS A GREAT WATER PURIFIER. IT CLEANS WATER THROUGH PHYSICAL, CHEMICAL, AND BIOLOGICAL PROCESSES.

When water flows over the ground, it can pick up whatever is in its way- litter, salt, fertilizer, animal waste, and more. When water is able to soak into the soil, it can act like a filter, catching the pollutants and naturally purifying the water.

PHYSICAL PROCESSES

Soil pores are the small spaces between soil particles. Soil pores range from large enough to see with the naked eye to microscopic. Small pores filter larger particles out of water better. However, if the pores are too small, they may block water completely. Ideal soil will have a variety of sizes to allow for water to pass through and maximize filtering of the water.

CHEMICAL PROCESSES

Soil particles can have a positive or negative electric charge which makes them act like magnets for certain chemicals. Positive charges are attracted to negative charges and vice versa, so when water carrying charged particles like calcium, magnesium, and potassium pass through soil, they are captured by oppositely charged soil particles. This traps the chemicals in the soil and allows the water to pass through, cleaner than before. As an added benefit, these trapped chemicals can improve the health of the soil.

BIOLOGICAL PROCESSES

Soil-dwelling organisms like fungi and bacteria play an important part in filtering water as well. When contaminated water enters the soil, these organisms can break down hazardous compounds into harmless by-products. Nutrients are gobbled up by bacteria and plants and don't continue into nearby streams. Microscopic soil-living predators like nematodes and protozoids actively eat germs that can make people sick.

WHEN WATER CAN'T SOAK IN

When an area is paved, rainwater can't soak into the soil, meaning it runs off into the nearest waterway without getting filtered. Pollutants then wash directly into the rivers and lakes that we need for daily life. Cities especially have a lot of paved areas, like roads and parking lots, that keep rainwater from soaking in. Making sure to include unpaved green spaces like parks, gardens, and other natural areas, is one way to help ensure that water gets a chance to be filtered by the soil and help protect our environment.

Soil on the Move

Soil plays a critical part in supporting life on earth. It supports plant growth, stores and filters water, and provides food and habitat for a vast array of plants and animals (including humans!). However, loose soil can sometimes cause problems. Wind, rain, and activities like construction can move soil from one place to another. This process is called erosion. When erosion washes soil into rivers and streams it can harm plants and animals that live in the water.

The materials washed into streams by erosion are called sediments. Sediments are made up of soil particles, plant, and animal matter. When sediments are washed into waterbodies, these particles often settle over the bottom of the river or stream covering important habitat and making it harder for aquatic organisms to breathe and find food.

When too much sediment gets into water it can make it cloudy. This is called 'turbidity'. Cloudy water blocks sunlight, making it harder for underwater plants to grow. It can also make it more difficult for fish to get the oxygen they need. Sediment can warm the water, which may lead to more algae growth and create problems for animals that need cooler water. Harmful chemicals, such as pesticides and heavy metals, can be carried into the water in addition to the sediment particles.

To prevent erosion

and keep sediments out of streams, people can use Best Management Practices (BMPs). Two common BMPs are rain gardens and rain barrels. Rain gardens use plants with deep roots to soak up extra water and reduce runoff. Rain barrels collect rainwater from downspouts before it can wash soil into rivers and streams. For more information, please visit these links:

HENV-711: Homeowner's Guide to Rainwater Harvesting: Rain Barrels and Beyond
https://publications.mgcafe.uky.edu/files/HENV711.pdf

Rain Gardens 101 - KY DOW
https://eec.ky.gov/Environmental-Protection/Water/Reports/FactSheets/DOW-RainGardens.pdf

SOIL HORIZONS

A soil horizon is a layer of soil.

A soil profile has five horizons: O, A, B, C and R.

Only well-developed or healthy soil has all of these layers.

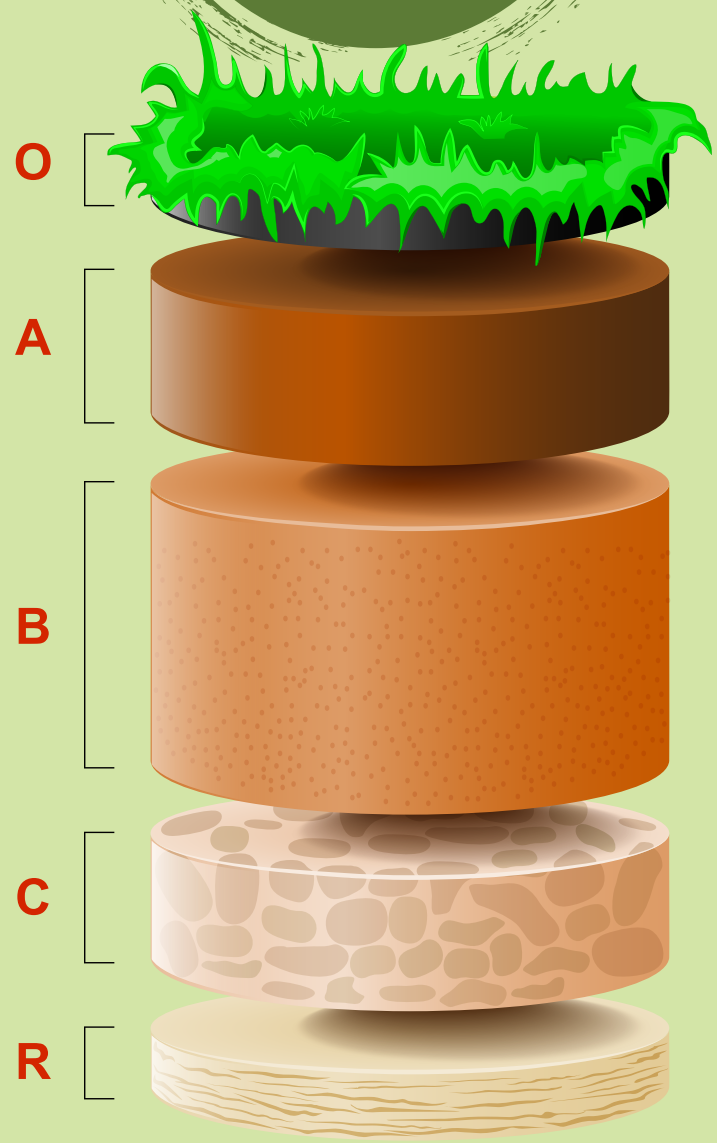
O **(Usually about 2 inches deep)** is the ORGANIC LAYER, present when forest litter is decomposing on the surface. Forest litter (fallen leaves, twigs, limbs, and decomposing plants and animals on the forest floor) cushions the blow of falling raindrops, slows runoff, and filters out pollutants. The humus (residue formed by these decomposing materials) is full of important nutrients.

A **(About 10 inches deep)** is the TOPSOIL LAYER. If plants and animals are in the soil, topsoil is formed. Minerals dissolve or leach here as water passes through. This layer is usually the most productive – plowed and planted for crops. Tree roots help hold the soil in place and filter pollutants from the water passing through. When the roots die, air, and water can take over their spaces. Tree roots also break up rock, so it can weather into new soil. Other plants (grasses, mosses, and shrubs) also hold soil in place and help filter out contaminants.

B **(About 30 inches deep)** is the SUBSOIL LAYER where most of the minerals collect from the topsoil. Creatures on the move (burrowing animals, rodents, insects and earthworms) create air and water spaces in the soil and help mix the soil. When these creatures die, they get "recycled" into organic material to enrich the soil. Microbes are examples of the many types of microscopic plants and animals (such as bacteria, algae, fungi and protozoa) that live in the soil. They break down organic matter into simpler nutrients so plants can grow.

C **(About 48 inches deep)** is a TRANSITION LAYER between soil and the minerals that will eventually become soil. Partially disintegrated mineral particles (parent material) are found here.

R **(About 60 inches deep)** is the BEDROCK LAYER (the solid layer of rock on top of or beneath the soil). Over a very long period of time, this rock fractures and weathers, making new soil.



Animals ARE What They EAT

...and *good soil* means *good food.*

Healthy wildlife depends on healthy soil. Scientists can tell a lot about an area's soil quality by looking at the size, babies, fur quality, health, or antler size of animals that live there.

Wildlife is more abundant in areas with fertile, healthy soil, which grows more food for them. Herbivores that eat plants are more varied and healthier. Carnivores that eat the herbivores are also healthier. Nutrient-rich soils produce bigger and stronger animals.

Studies have shown a connection between soil fertility and the litter size in animals such as rabbits and squirrels.

Although animals are affected by the available food, if there are soil problems, wild animals adapt different behaviors to avoid those problems.

When changes such as erosion occur rapidly, animals have trouble adapting. Sediment in streams depletes the oxygen supply, killing fish and other aquatic organisms and muddying the water for other wildlife.

The World as an Apple

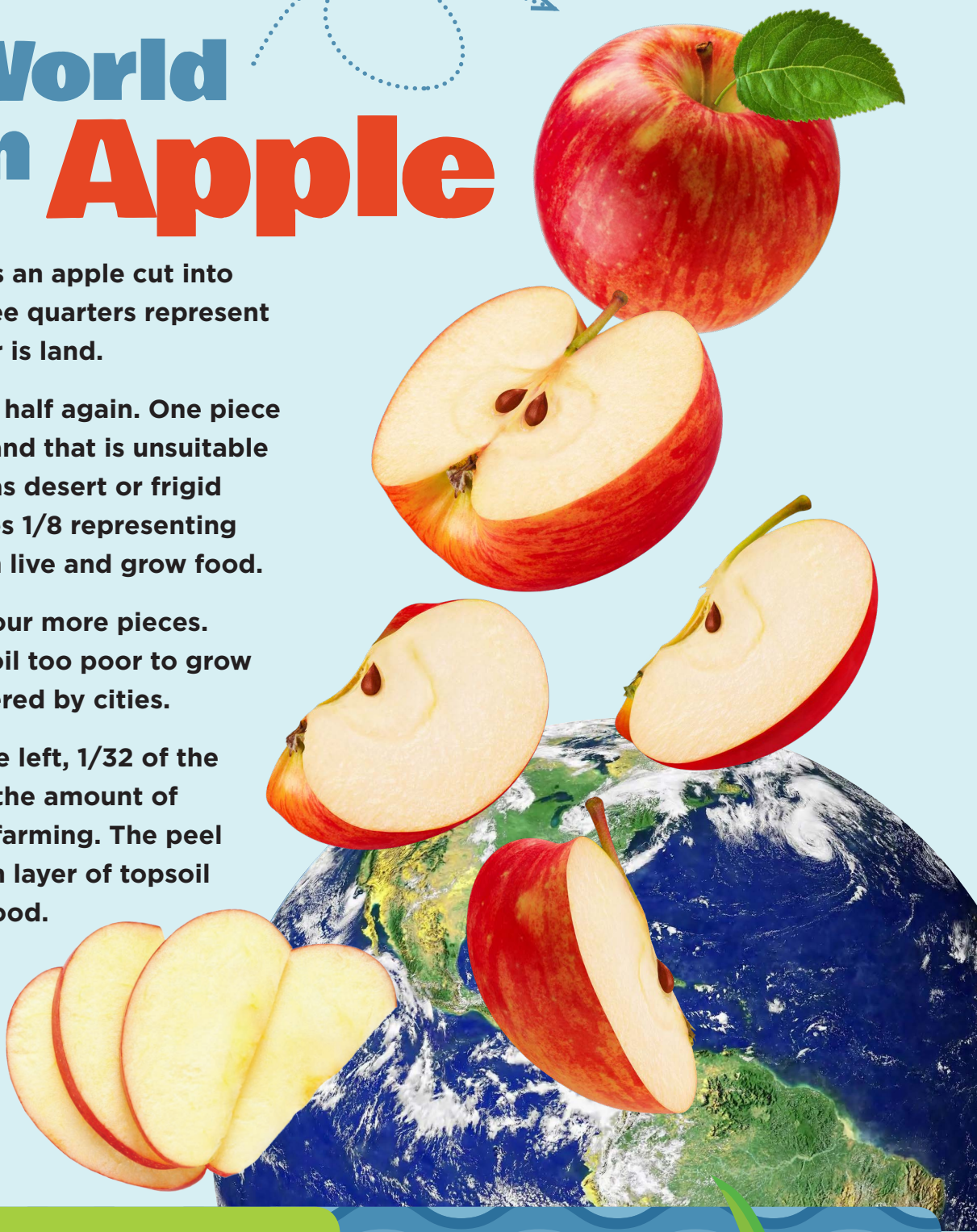


Image the Earth as an apple cut into four quarters. Three quarters represent water. One quarter is land.

Cut one quarter in half again. One piece would represent land that is unsuitable for farming, such as desert or frigid regions. This leaves 1/8 representing land where we can live and grow food.

Cut that 1/8 into four more pieces. Three represent soil too poor to grow food or areas covered by cities.

That one tiny piece left, 1/32 of the apple, represents the amount of land available for farming. The peel represents the thin layer of topsoil used to produce food.

FUN FACT!

Plants can remove 400 to 2,000 pounds of water from the soil for every two pounds of plant material.

SAVING SOIL AFTER MINING

Since 1997, federal and state laws have been in place to protect the environment from surface mining.

This can be a harmful practice as it extracts minerals and other resources from the Earth by removing soil, rock, and vegetation. Before starting the operation, coal companies develop an in-depth plan to save topsoil, control runoff, and restore the area once mining is complete. To accomplish these goals, the plans include ways to keep sediment on site and replant vegetation as soon as possible. Until the vegetation is established, companies build temporary ponds to collect sediments and control drainage. Dense plant coverage offers the best long-term erosion control.

Overall, the projects return the area to more useful purposes, such as farming, forests, businesses or homes. On many abandoned surface mine lands, plans to reforest the land have also been successful in preventing soil erosion while sequestering carbon dioxide from the atmosphere. Improper surface mining can create many environmental problems; therefore, a good plan can preserve the soil for other land uses after mining is complete.

SEEING THE SOIL FOR THE FOREST

There's a saying that "you can't see the forest for the trees," but you also would not see forests without the soil. Forests could not exist without soil. It is a big part of almost everything a tree does that allows it to live. Trees don't just use soil, though. They play a key role in forming strong soils. Trees rely heavily on good soil to thrive, and soils are enriched by the life cycle of a tree so that the two parts of the ecosystem are working together to create stronger, healthier forests.

Soils do so much for the trees of a forest. Soil provides them the support they need to grow tall. It holds water and air that the tree's roots can find and take up. It contains nutrients trees need to have access to for survival. Soil has bacteria trees need to convert nitrogen to ammonia, which it can then turn into proteins to grow. To the extent that humans rely on trees for different aspects of daily life, we are also relying on the soil that enables trees to function.

The relationship between forests and the soil is not just a one-way street, though. Soils also benefit greatly. While trees do take up a lot of nutrients from the soil, they also give back. When a tree loses its leaves in the fall or dies and slowly decomposes, it becomes part of the organic matter that forms soil and enriches it with carbon and other nutrients. Trees also provide habitat for countless species of animals that enhance the soil, too, by emitting waste and providing organic matter when they die. The trees of the forest and the soils they help form are an excellent example of how all of nature is connected and works together to sustain life.

Crider Soil

Kentucky's State Soil Represents the Best

Our state soil is not only a state symbol, but also, the focal point for important issues such as the conservation of soil and water, agricultural production, water quality, and land management. The Crider soil series was chosen as the state soil because it was established in Kentucky and occurs on nearly a half-million acres in 35 counties. It's widely distributed throughout the state with diverse geology, and it's one of the state's most productive agricultural soils.

The Crider series consists of very deep, well-drained moderately permeable soils on uplands. These soils were formed in a mantle of loess (a fine-grained silt or clay) and in the underlying limestone residuum. Slopes can range from zero to 20 percent.

Many people assume that all soils are more or less alike. They're unaware that there are often great differences in soil properties within even short distances. For most uses, the ideal soil would be nearly level and easy to work. But most soils fall short of that. Many are shallow, stony, wet, dry, sandy or clayey, or have other adverse features. Some of these differences can be seen by almost anyone, but others can only be seen by those trained in the field of soil science.

Crider soils typically occur in the Pennyroyal and outer Bluegrass regions of Kentucky. Soil is one of Kentucky's most important natural resources. Livestock, tobacco, grain, pasture, hay, and timber are all marketable agricultural products derived either directly or indirectly from the soil.

However, the value of Kentucky's soil resources aren't limited to agricultural production. Soil is also used as a foundation for houses , as building material for roads and dams, as a storage area and filter for groundwater, and as a disposal area for waste. Even our state tree and state flower need soil to grow.

STATE TREE:
Tulip Poplar

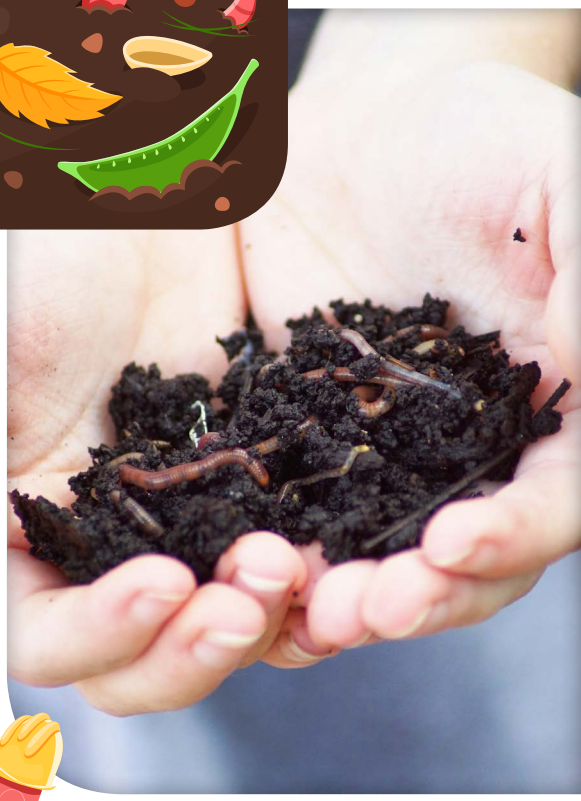
STATE BIRD:
Northern Cardinal

STATE DRINK:
Milk

STATE ROCK:
Kentucky Agate

STATE FLOWER:
Goldenrod

THE SECRET LIFE OF Earthworms



Earthworms work to improve the soil

by adding important nutrients. As earthworms tunnel through the soil, they ingest and digest organic matter. While slithering through the soil, they leave behind waste in their tracks, or burrows, which add to the supply of nutrients available to plants. They also bring rich sub-soil to the surface, again helping plants to flourish. These creatures also produce natural fertilizer, in the form of castings. Plants love castings because they contain nitrogen, phosphorus, potassium, and many micronutrients that help them grow. A soil that is well-managed can support up to 25 worms per cubic foot, which translates to superior-quality fertilizer for plant health.

Worms make other contributions, such as adding compounds to the soil to regulate pH levels, and they loosen and aerate the soil, allowing in much needed oxygen. Their tunnels also provide access to deeper soil levels for other small organisms that promote the health of plants.

CREATE YOUR OWN WORM FARM

If you want to see earthworms in action, you can create your own worm composting bin (or worm farm) at home!

1. MAKE OR BUY A WORM BIN.

You can purchase a worm bin or make your own using untreated wood or plastic storage bins. The bin should have a tight-fitting lid and be a dark color to keep out light. If using plastic storage containers, drill air holes around the upper sides of one bin near the lid and drainage holes on the bottom of the same bin.

2. CHOOSE A SPACE FOR YOUR WORM BIN.

You can keep your worm bin indoors (under a sink, in a closet or basement) or outdoors in the shade.

3. MATERIALS FOR YOUR WORM BIN.

a. **Worms –** You need to source specific species of worms, as out of 9,000 species of earthworms, only seven are suitable for composting. One of the most used is the "red wriggler." It is essential to use a suitable species. Do not use worms you might find in the wild or purchase at a bait shop.

b. **Bedding –** For bedding, utilize browns, like shredded newspaper, office paper, or dried leaves. Place it in your bin and fluff it up. Fill the bin almost halfway with moist bedding and then add a handful of soil.

c. **Food –** You can feed your worms most greens such as fruit and vegetable scraps, coffee grounds, or crushed eggshells. Avoid citrus fruits, odorous foods like onions and garlic, meat, dairy products, greasy foods, bones, and pet waste. Chop up scraps into small pieces before adding them to the bin to allow for faster decomposition.

4. START YOUR BIN AND FEED YOUR WORMS.

Place worms on top of the bedding in the bin. Once the worms have settled in the bin, add some food scraps on the surface of the bedding. Each time you add food scraps, make sure to cover them with two inches of bedding.

5. HARVEST AND USE YOUR WORM COMPOST.

After three to six months, you will be able to harvest your worm castings, which lie at the bottom of your worm bin. This type of compost doesn't need to be cured and can be used immediately or stored for future use.

BEST MANAGEMENT PRACTICES IN KENTUCKY:

HELPING EROSION ISSUES

Forests are important in Kentucky. They help our economy, provide homes for animals, and offer great places for recreation. However, taking care of forests can be tricky because we need to keep the soil safe. If we are not careful, soil can wash away, causing erosion issues, or cause the soil to lose nutrients, which has a negative impact on the environment. Kentucky has the Agriculture Water Quality Act that includes Best Management Practices (BMPs) for forestry, with emphasis on timber harvests. The BMPs help keep the soil stable and our forests healthy. These BMPs are laws in Kentucky, with inspections of timber harvests done by the Kentucky Division of Forestry. In 2000, the Kentucky Forest Conservation Act passed legislation, and the division has been inspecting the timber harvests since.

Why Is Soil Stability Important?

Soil stability means keeping the soil in place and healthy. It is important because it helps soil erosion, helps trees grow, and keeps water clean. Stable soil also means fewer landslides and less dirt ending up in our streams and rivers, which can harm aquatic life and plants. In forestry, keeping soil stable involves being careful about how we cut down trees, build roads, and other practices that might disturb the soil.

Kentucky's Best Management Practices

Kentucky's BMPs are guidelines to help protect the soil and protect water quality. These practices help loggers, landowners and foresters take care of the land. The main goals are to keep soil from being disturbed too much, protect water, and keep the landscape natural. Kentucky is a diverse state, with farmland to steep, cliffy areas. The BMPs are designed for all types of land with regard to water quality. Additional practices may be required on the steeper slopes where erosion is worse.

Kentucky also has BMPs in place to protect special streams. All streams and rivers have a Streamside Management Zone, but certain creeks have even extra protection. Sediment from eroded soil can cause damage to some of our threatened and endangered species; hence, these streams require staying extra distances away from them to protect the water from sedimentation. They limit the trees cut in this zone to help keep shade on the stream, which also helps keep erosion minimized with more trees left.

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KEY STRATEGIES IN BMPs

1. **Minimizing Soil Disturbance:** One of the ways to maintain soil stability is to minimize the disturbance caused by machinery during timber harvests. This can be achieved by:
   - **Planning roads and trails to follow the land's natural shape.**
   - **Using low-impact logging techniques and equipment.**
   - **Avoiding work when the ground is wet and soils are more prone to erosion.**

2. **Erosion Control Measures:** To stop soil from washing away, BMPs suggest:
   - **Installing water control structures on logging roads.**
   - **Using barriers like silt fences or straw bales to catch dirt.**
   - **Seeding disturbed areas.**

3. **Water Quality Protection:** Protecting water quality is a key concern, as soil erosion can lead to sediment in our streams and rivers. BMPs require:
   - **Protecting the streams with Streamside Management Zones.**
   - **Using elevated crossings like bridges that do not disturb the water flow.**

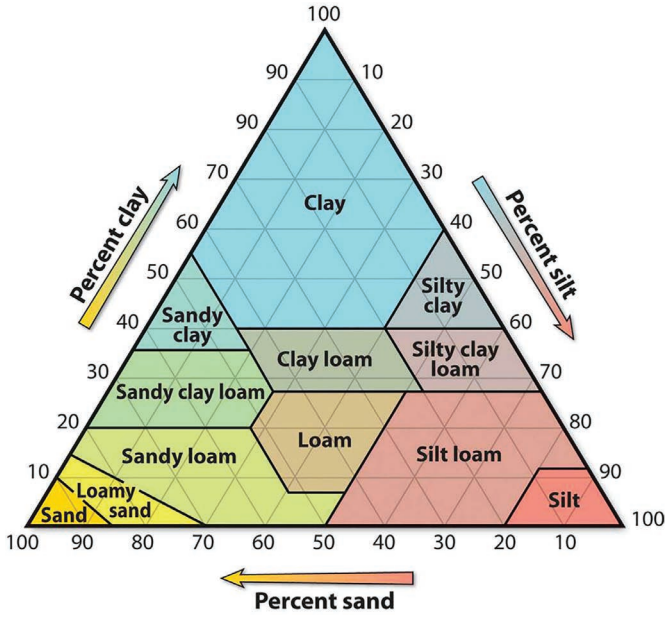
4. **Regular Monitoring and Maintenance:** It's important to keep an eye on how things are going:
   - **Checking roads and water crossings often.**
   - **Fixing any areas of potential erosion as soon as they are found.**

BENEFITS OF BMPs

Following BMPs provides benefits for the environment and the forest industry. They help forests stay healthy, which is good for animals and plants. They also keep water clean, which benefits both wildlife and people. In addition, when people see that the forest industry cares about the environment, it makes the industry look good.

In conclusion, Kentucky's best management practices are essential for keeping soil stable and reducing erosion. By following these guidelines, we can make sure our forests stay healthy for the future. The use of BMPs helps us enjoy the economic benefits of forestry while taking care of the environment. We should all use the land responsibly.

ARE ALL SOILS ALIKE?



Just as humans are a result of genetics and environment, so are soils. While soils don't have parents like we do, they do have parent materials. These materials are like soil's version of DNA. Soils are formed from parent material and by the results of environmental influences that have occurred in their past.

Parent materials of soils are rocks and minerals that have been broken up into tiny pieces forming sand, silt, and clay. Soils can be many different colors because they can come from many different rocks and minerals.

The composition percentage of sand, silt, and clay determines the soil's texture as we can see with a soil texture triangle. The more sand present will make the soil feel gritty, more clay will feel sticky and elastic, while more silt will feel velvety and smooth. Each soil forms as a unique expression of five soil-forming factors:

People have certain talents and abilities and so do soils. Some soils are deep, well drained, highly productive, and are great for growing the crops that become our food. Others may be shallow and not very fertile, but can be used for other purposes such as forests or recreational areas. When we look at family pictures we see different people with unique talents, and we can certainly do the same with soils.

There are over 70,000 different types of soils in the United States. The next time you travel around Kentucky, notice the different types of plants growing on the different types of terrain and know that there are more than likely different types of soil beneath each section. Just as our Commonwealth is diverse from the mountains in the East to the Mississippi flood plains in the West, take pride in knowing that our soils are also diverse.

CLIMATE

VEGETATION (ORGANIC MATTER)

TOPOGRAPHY

PARENT MATERIAL

TIME

SOIL HEALTH IN A WARMING WORLD

Earth's temperature has risen by approximately 1.5 degrees Celsius since the Industrial Revolution. While this may not sound like much, it is negatively affecting the soil we depend on.

As a result of these warmer temperatures, weather patterns are changing, leading to more severe weather events and drought. Scientists call this issue climate change. These changes hurt farming, food supplies, and natural ecosystems. Learning more about these effects can help us make choices that better protect the planet and its vital natural resources.

The most significant impacts of climate change on soil health are:

INCREASED EROSION: Heavier rainfall leads to soil erosion by increasing surface runoffs that deplete the topsoil. Without cover crops and no-till practices, the topsoil will wash away. This not only reduces agricultural productivity but also contaminates our precious waterways.

CHANGES IN SOIL ORGANIC MATTER: Organic matter is made from broken down plants and animal parts. It helps keep soil healthy and supports plant growth. When temperatures rise, the organic matter breaks down faster and releases carbon dioxide into the atmosphere. This adds more greenhouse gases to the atmosphere which intensifies climate change.

ALTERED NUTRIENT CYCLES: Climate change upsets the natural balance of nutrients in the soil. Higher temperatures cause nutrients such as nitrogen to abandon the soil and enter the atmosphere, leading to pollution. Changing rainfall can also affect how plants get the nutrients they need to grow properly.

To improve overall soil health and lessen the effects of climate change, there are many things that you can do to be the change that protects our planet. Most notably, consider composting—the process of breaking down waste and other natural materials to produce healthy soil. Gardening can also help reduce reliance on large-scale farming operations that degrade the soil. Plant materials can then be added to a compost bin that helps plants grow again. It is also important to support local farmers who use conservation practices in their farming operations.

2026/GROUND RULES: THE STORY BENEATH YOUR FEET

Conservation Writing and Jim Claypool Art Contest I RULES

STATE WINNERS:
First: $250; Second: $150; Third: $50

REGIONAL WINNERS: $50

COUNTY LEVEL WINNERS: $25

** State/Regional winners will receive a personalized certificate. County winners that win regional or state awards will only receive one check for the top prize.*

RULES

1. Kentucky students grades 6-12 are eligible to compete in the writing contest. Students up to grade 5 may compete in the art contest.
2. A student may not enter both the art contest and the writing contest during the same year.
3. An entry must be created by one and only one student. Any entry submitted by more than one student will be disqualified.
4. All entries become the property of the contest sponsors. The decisions of the judges at all levels of competition are final.
5. Top three writing entries and/or artworks from your school must be submitted to your local county conservation district by Dec. 1, 2026.
6. ARTWORK: Student entries shall be 8 ½" X 11". Entries may be digital or submitted on any color or thickness of paper, such as cardstock, art paper, or printer paper. All artwork must be two-dimensional (2-D). Three-dimensional (3-D) artwork will not be accepted. Artwork may be rendered in any medium: pencil, ink, charcoal, pastel, crayon, paint, photography, etc. Mixed media and collage work is acceptable as long as all pieces are securely glued to the surface of the work. All entries must convey at a glance an accurate understanding of the information provided in the tabloid, the theme of the competition, and persuade the viewers of the need for good soil conservation practices. All entries must be the original work of the student.
7. WRITING: Entry may not exceed 1,000 words and must be written in ink or typed on one side of paper only. No photographs or artwork may be included with the written work. The written entry should demonstrate an accurate understanding of the information provided in the tabloid and inform the reader about soil conservation. Students should write from the perspective of an informed writer to a less informed reader and may be in the form of a letter, article, editorial or speech. The work should be from the student author and avoid plagiarism from this source or other sources. ALL sources should be reputable and cited appropriately.
8. The entry form to the right must be completed and attached to your entry.

HELPFUL HINTS

- Keep entry simple and sincere.
- Be creative and original. Avoid plagiarism by using original words and ideas. Plagiarism is defined as the act of stealing and passing off the words of another as your own without crediting the source.
- Consider an area of soil conservation that is important to you, your family and your community.
- Draw from your personal interests or experiences.
- Writing entry should take the form of informational.
- Think about conservation issues in your community, farm, subdivision or city.
- DO NOT use this tabloid as your only source.
- Interview people in your community about changes in soil uses and soil health.
- Find ways to improve soil health issues in your community. TAKE ACTION!

POINT SYSTEM FOR ART

- **50 points** - Purpose/Audience. (Appropriate communication style to reach audience, establishes and maintains a purpose; and holds to subject in community. Theme clearly conveyed at a glance.)
- **30 points** - Composition/creativity/craftsmanship. (Layout, originality, and quality of work, such as neatness.)
- **20 points** - Language/correctness. (Word choice, usage, spelling, punctuation, capitalization.)

POINT SYSTEM FOR WRITING

- **30 points:** Purpose/Audience (establishes and maintains a purpose, communicates with audience, employs a suitable tone)
- **20 points:** Organization (logical order, coherence, transition organizational signals)
- **20 points:** Idea Development/Support and Evidence of Research (student's original work shows sources of research, sources are cited)
- **30 points:** Correctness (spelling, punctuation, capitalization), Language (word choice, usage), Sentences (varied in structure and length, constructed effectively, complete and correct)

ENTRY FORM

Conservation Writing and Jim Claypool Art Contest

Name (Miss, Mr) _____

Parent's Name _____

Home Address _____

City _____ Zip _____

Home Phone ( ) _____

Age _____ Grade _____ Teacher _____

County _____

School _____

School Phone ( ) _____

☐ I hereby certify that I have read the rules and helpful hints and this entry is the original work of:

_____
Student Signature

_____
Parent/Guardian Signature (required)

_____
Teacher or Principal Signature (required)

GROUND RULES:

THE STORY BENEATH YOUR FEET