Join the Erosion Patrol Team

Erosion Patrol
n.c. member

Student Packet Contents

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Amazing Soil Stories
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EROSION PATROL VOCABULARY LIST

Aggregates - Broken rocks of different sizes used to control erosion.

Agricultural Erosion - The loss of soil from overgrazing livestock, not rotating crops and poor conservation practices.

Big Problems - Loss of topsoil, loss of habitat, loss of clean drinking water, pollution of our planet.

Buffer - Trees and shrubs used to protect the land and water against sediment pollution.

Conservation - The wise use and protection of our natural resources.

Conservation Tillage - A farming method to protect the soil by leaving ground cover throughout the year. (Such as stalks and leaves left after harvesting a crop.)

Contour Plowing - To plow, plant, cultivate and harvest along the curve of the land to reduce erosion. The crop is planted horizontally along the curve of the field instead of up and down the field.

Crop Rotation - Growth of different crops each year on the same land to help keep soil productive.

Ecology - The science of the relationship between plants, animals and their environments.

Environment - Everything that surrounds us.

Erosion - The loosening and movement of soil by wind, water, and other forces.

Fertilizer - It enriches soil for plant growth, but may pollute water if applied incorrectly.

Forest Erosion - The loss of soil from not using good erosion control in the forest and during forest timber harvesting practices.

Ground Cover - Any plant or other material that provides a protective mat (like a blanket) to prevent erosion.

Gully - A deep, wide channel. Large amounts of soil are lost when gullies are formed.

Harvest - To gather a crop from a field, orchard or pasture.

Habitat - An area in which plants and animals live, grow and reproduce.

Irrigation - The practice of watering land and crops using ditches, pipes or streams.

Logging - Removal of the trees from an area of land.

Mineral - A natural substance that is not vegetable or animal.

Nutrient - Something that provides nourishment for an organism to live. It can be food or chemicals.

Natural Resources - Found in nature – fish, forests, minerals, soil, water, wildlife.

Organic Matter - Plant and animal material in different stages of decay (decomposition) that may be part of the soil.

Organism - A living being (people, animals, insects).

Parent Material - Minerals, rock and organic materials that break apart to form soil.

Particle - A very small piece or part of something bigger.

Precipitation - Forms of moisture that fall to the earth (rain, snow, sleet and hail).

Productive Soil - Soil that can support the growth of crops and animals.

Reclamation - When a worn out surface mine is restored as near as possible to the condition it was in before the mining started. It involves filling in holes and replanting grass, trees and shrubs.

Reservoir - A body of water, often a lake, in which water is collected or stored.

Rill and Gully Erosion - Where water forms channels that carry soil away.

RipRap - Large stones of various sizes used to control erosion.

Row Crop - Agricultural crops such as corn and soybeans grown in rows.

Run Off - Water that Flows off of land and into streams, rivers, lakes and other water-ways.

Sediment - Solid materials, both mineral and organic, that have been moved from one place to another by air, water, gravity, or ice.

Sediment Basin - A depression in the earth made to catch sediment and allow water to flow.

Sediment Trap - An erosion control device that traps sediment before it washes into the water. A sediment trap is like a small sediment basin.

Sheet Erosion - Particles of soil carried away in flowing water.

Silt - A fine grained, sediment, with particles between the size of sand and clay.

Silt Fence - Fences of plastic, burlap and wood, used to keep soil from washing into the water.

Soil - A naturally occurring mixture of minerals, organic matter, water and air. This composition forms the surface of the land.

Soil Compaction - Soil particles packed together by heavy weight applied to the soil surface. Usually caused by large equipment like tractors and bulldozers.

Soil Survey - To identify, map and explain types of soil in an area.

Splash Erosion - Erosion caused by raindrops hitting bare ground and knocking soil particles apart.

Stream and Channel Erosion - Serious rill and gully erosion, commonly found on steep slopes with heavy erosion damage.

Surface Mining or Strip Mining - Mining where the mineral is removed from an open pit in the ground.

Terracing - An erosion control practice in which ridges or steps are built on a steep slope to slow down the water and increase soil moisture.

Till – To plow the land in preparation for raising crops.

Turbidity - Cloudy water caused by sediment entering streams, lakes, rivers and water-ways. The result of erosion and sedimentation.

Urban Erosion - Highways, houses, malls, office buildings and anything people build that may cause serious erosion.

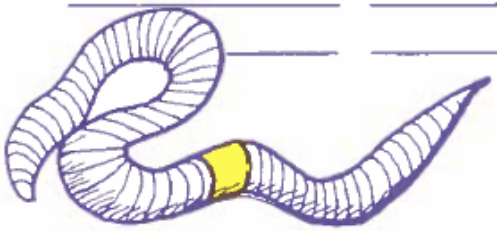
Vegetative Covering - Vegetation such as grass, trees, and plants that protect soil from erosion.

Weathering - The breaking down of rocks and minerals by wind, water, and living things.

Windbreak - Plants growing closely together to protect the soil from the force of strong winds. They reduce soil erosion and provide a habitat for wildlife.

Which things do you think would be good or bad for soil?
Put the words in the list under the correct heading.
Add some words of your own.

	GOOD	BAD
Example:	mulch (protective layer)	clear cutting/logging
trees		
hard rain		
roads		
roots		
strong winds		
rocks		
flowers		
earthworms		
moles		
cows		
fertilizer		
grass		
crops		
dead animals		
trash		
baking sun		
mushrooms		
leaves		
cement		
all terrain bikes		



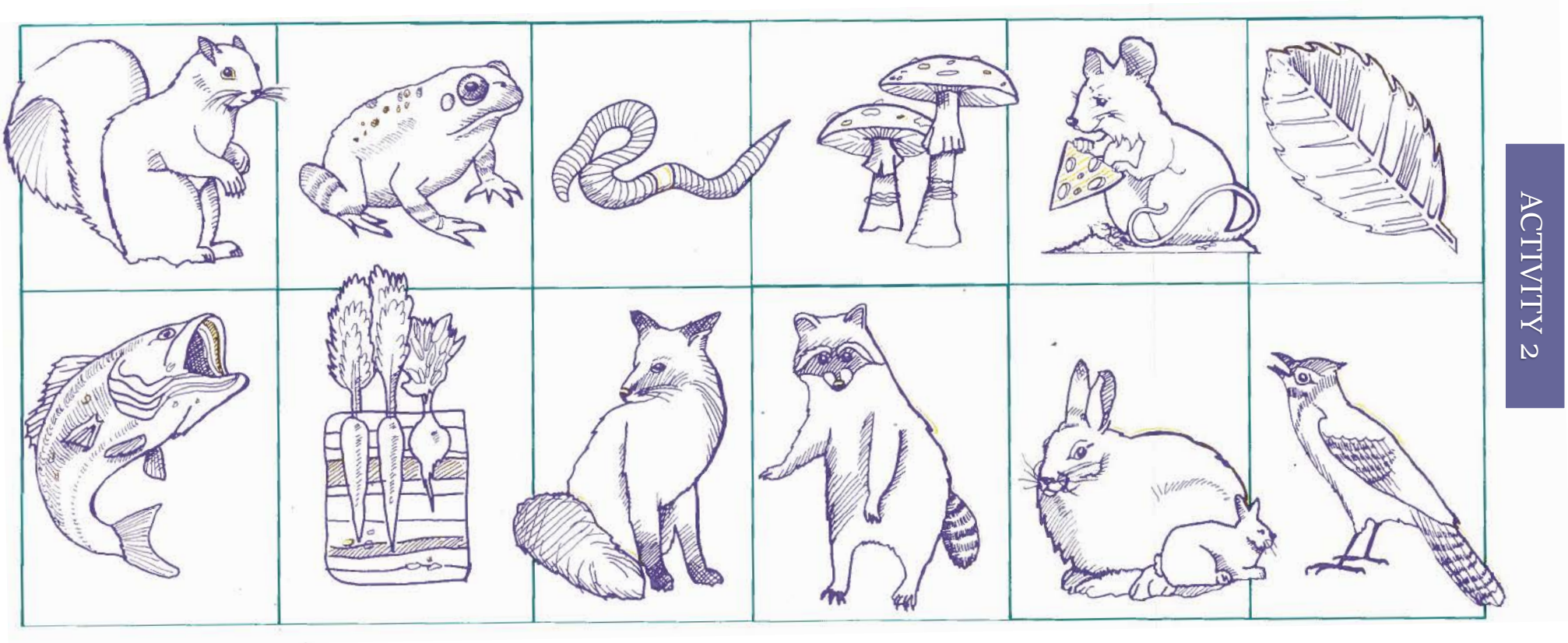
ACTIVITY 1

Select two words and tell why you put them under that heading:

If We Lose the Soil, They Lose Their Home. ©

Soil is one of our most precious resources. It is import ant for every living thing.

How do each of these creatures/items depend on the soil?



ACTIVITY 2

Join the Erosion Patrol Team and help protect our soil by learning and caring about it.

because I like to swim in clean water.

because we live in the forest that grows in the soil.

because clean water tastes good.

because I eat plants that grow in soil.

because I need soil to grow.

10 Reasons Why We Need To Stop Soil Erosion.

Draw a picture of an animal, a person, an insect or a plant that might give the reason listed under the box. Can you think of more reasons why it is important to protect our environment and save our soil? The Erosion Patrol is on the lookout!

because I like to work in my garden.

ACTIVITY 3

because I like flowers that grow in the soil.

because I eat insects that live in the soil.

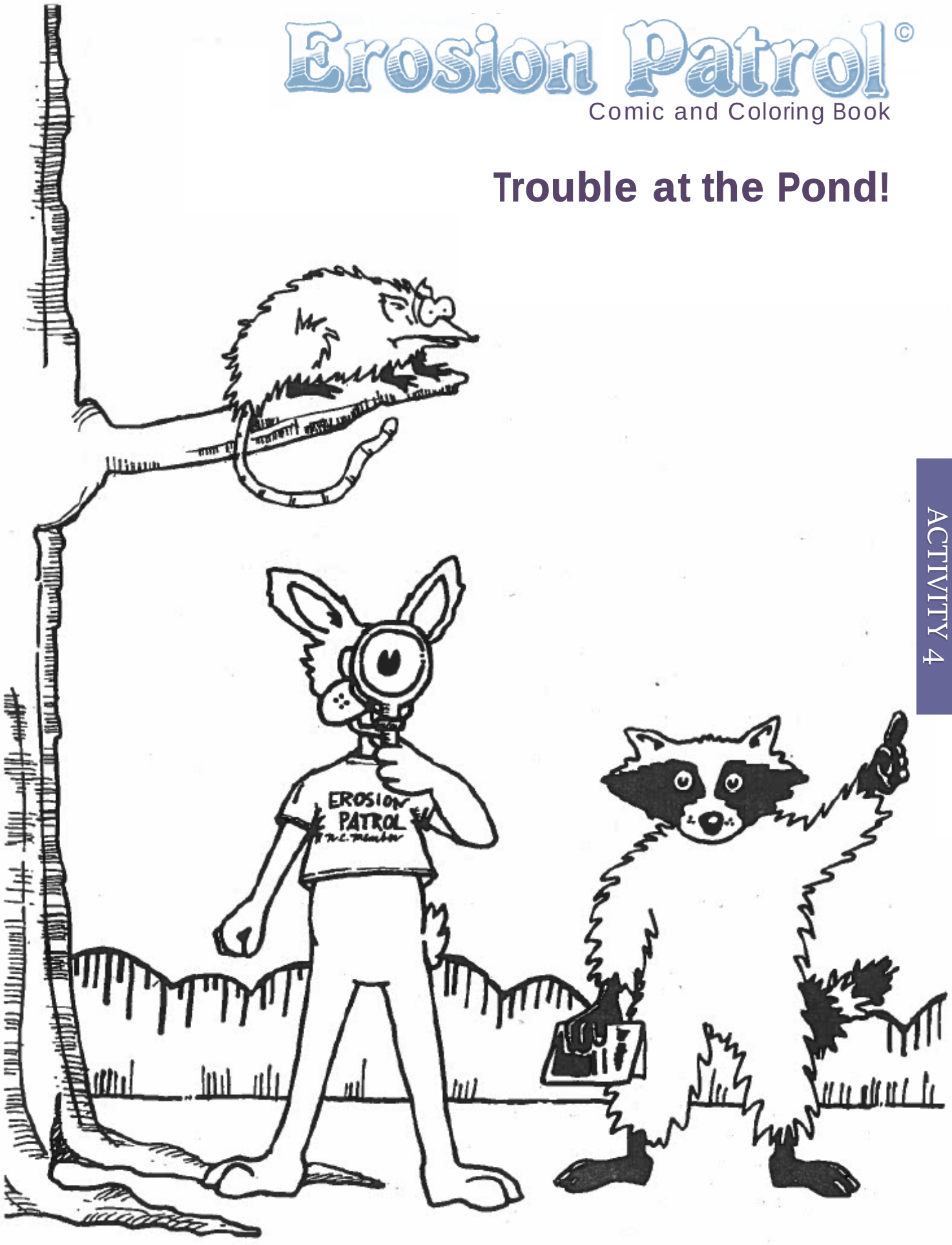
because silt makes me muddy.

because all living things need soil.

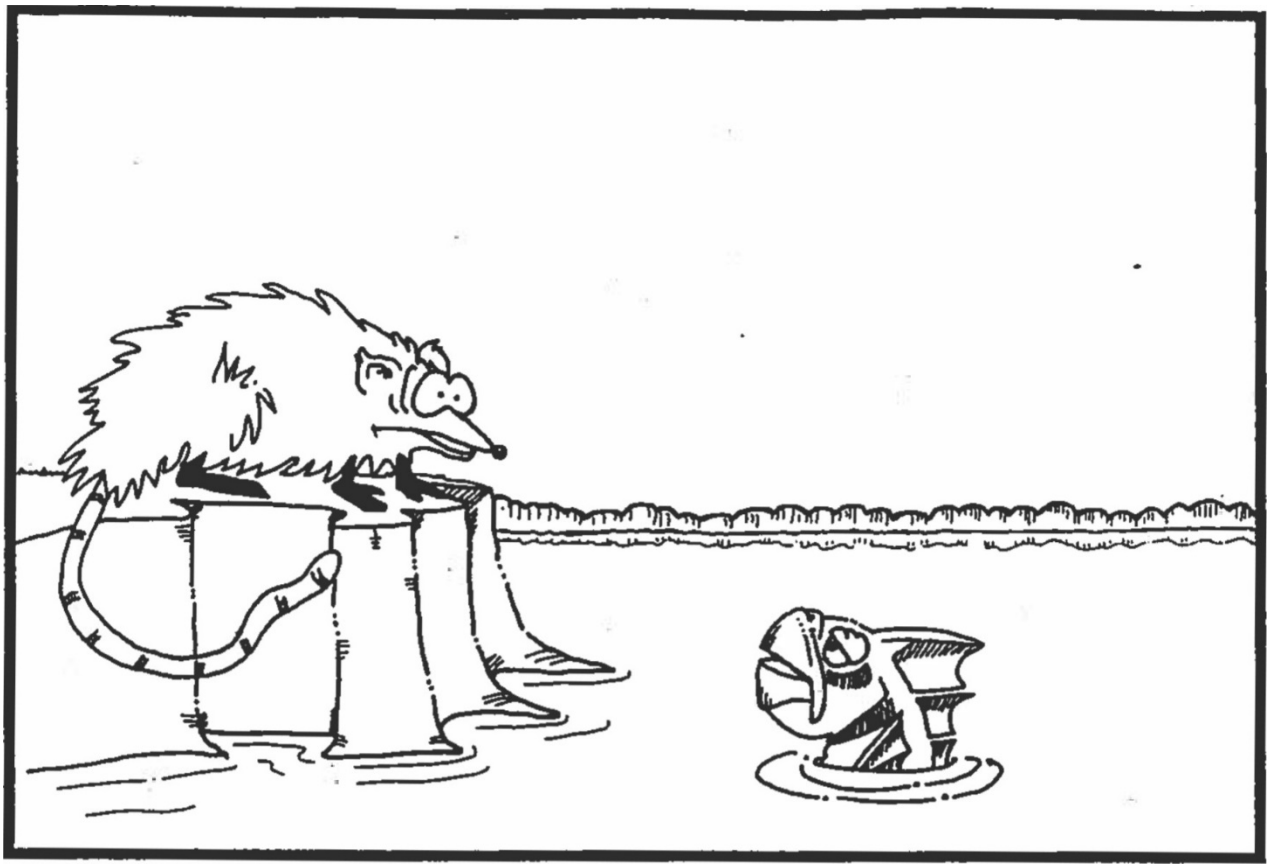
Erosion Patrol©

Comic and Coloring Book

Trouble at the Pond!



ACTIVITY 4

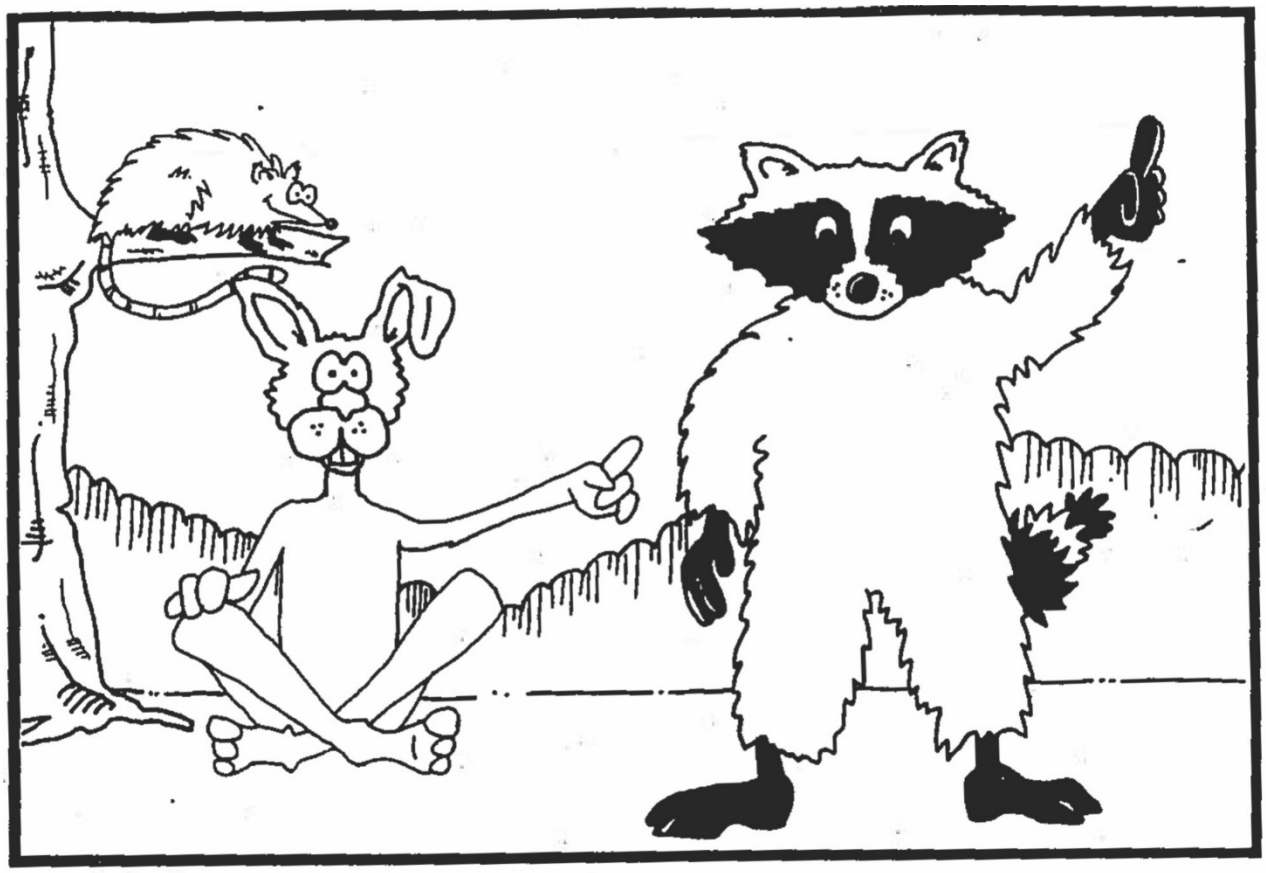


Edward Fish struggles to breathe! The pond is murky, cloudy and horribly muddy. Ed is wheezing as he swims slowly to the pond's edge. Luckily, there's Clementine Opossum.

"HELP! gasps Edward. Il l can't breathe! The pond is so muddy today...". Edward is weak and can barely tell Clementine about the condition of the pond.

"You look terrible, Edward! Hang on," says Clementine, "This looks like a job for the Erosion Patrol."

Clementine runs as fast as an opossum can run, until she reaches the clearing in the woods where the Erosion Patrol makes its secret headquarters.

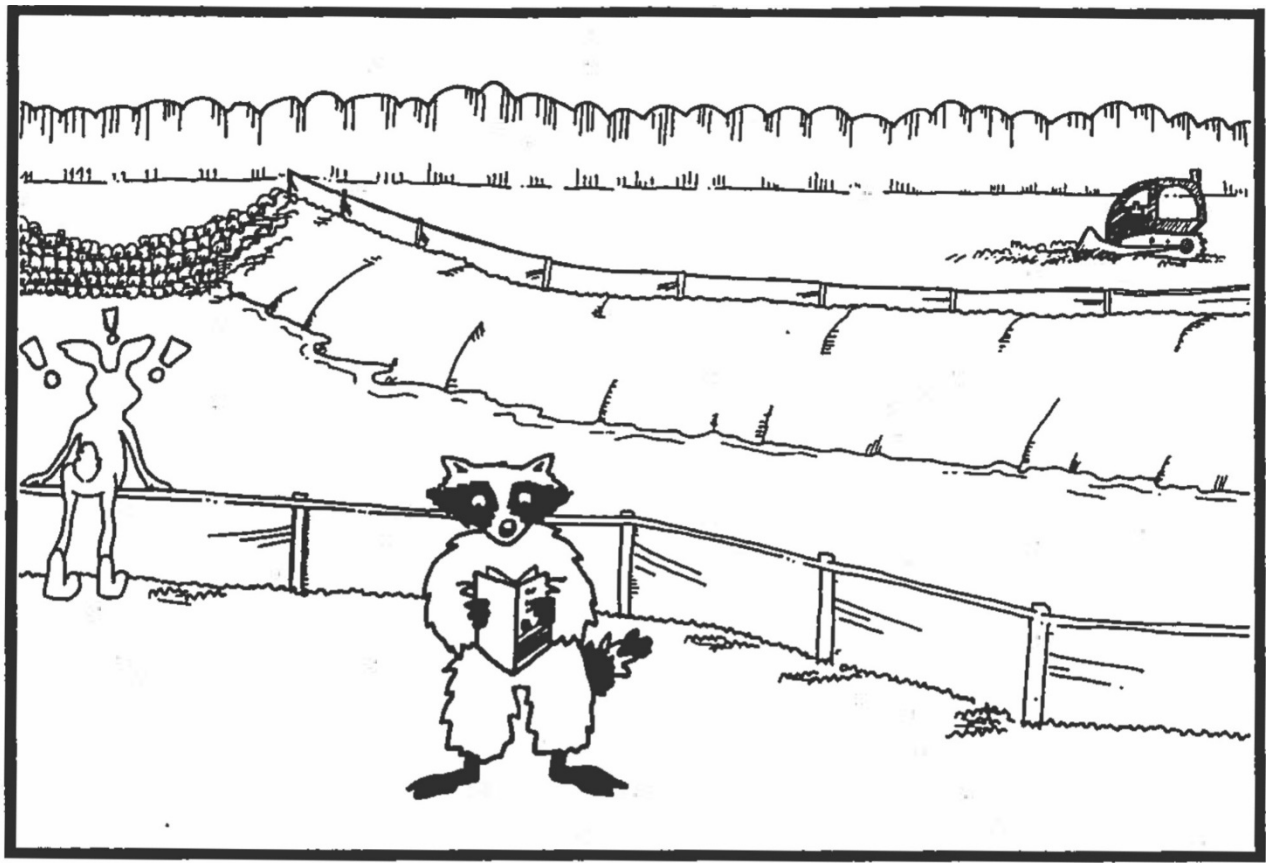


Once there, she tells Chico Raccoon about the trouble at the pond.

"But what can it be?", asks Hopper Rabbit.
"Sedimentary, my dear Hopper!" says Chico. "We are dealing with **erosion**."

"Edward's pond has a bunch of sediment in it. That's what makes the water muddy. Muddy water makes it hard for Edward fish to breathe. The sediment in Edwards pond reduces the amount of oxygen in the water and also hurts his gills", says Chico. "We can start to look for the cause of all that sediment at the new construction site."

He opens his Erosion Patrol Field Notebook to a clean page.

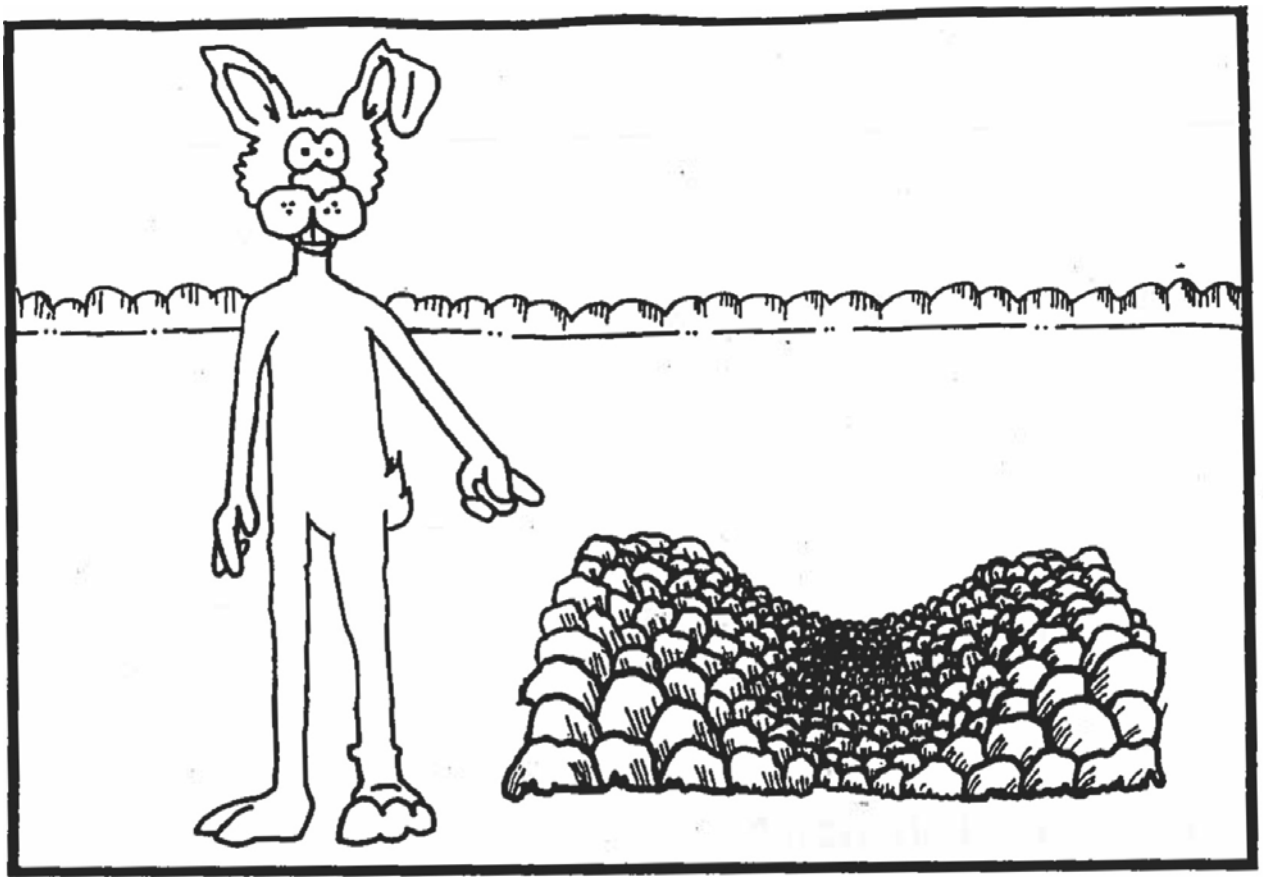


The Erosion Patrol finds the construction site and begin their investigation. "Clementine, you check out the **silt fences**, make sure each section is secure. Hopper, you check for **sediment traps** and **riprap channels**. Make sure everything's in order."

Hopper hops over the silt fence. "Right away, Chico," he says.

Color the **silt fences** *black*. How does a silt fence help keep sediment from entering the pond?

People can cause **urban erosion** by building things that disturb the land. Highways, houses, malls, office buildings and anything else people build may cause serious erosion to occur. The Erosion Patrol knows that it's important to protect the soil and ponds like Edwards.



While Edward is struggling to breathe, the Erosion Patrol is hard at work, trying to discover the cause of all the sediment in the pond. At the new construction site there are **silt fences** and **riprap channels**.

Color the **riprap channels** *gray*. Explain how you think riprap could keep soil from washing away.

Hopper points to the **riprap channel**. "Everything checks out okay here, Chico. Let's go check the farm."

Next, the Erosion Patrol heads out to the farm. Edward is depending on them!

What our furry heroes have been up to...

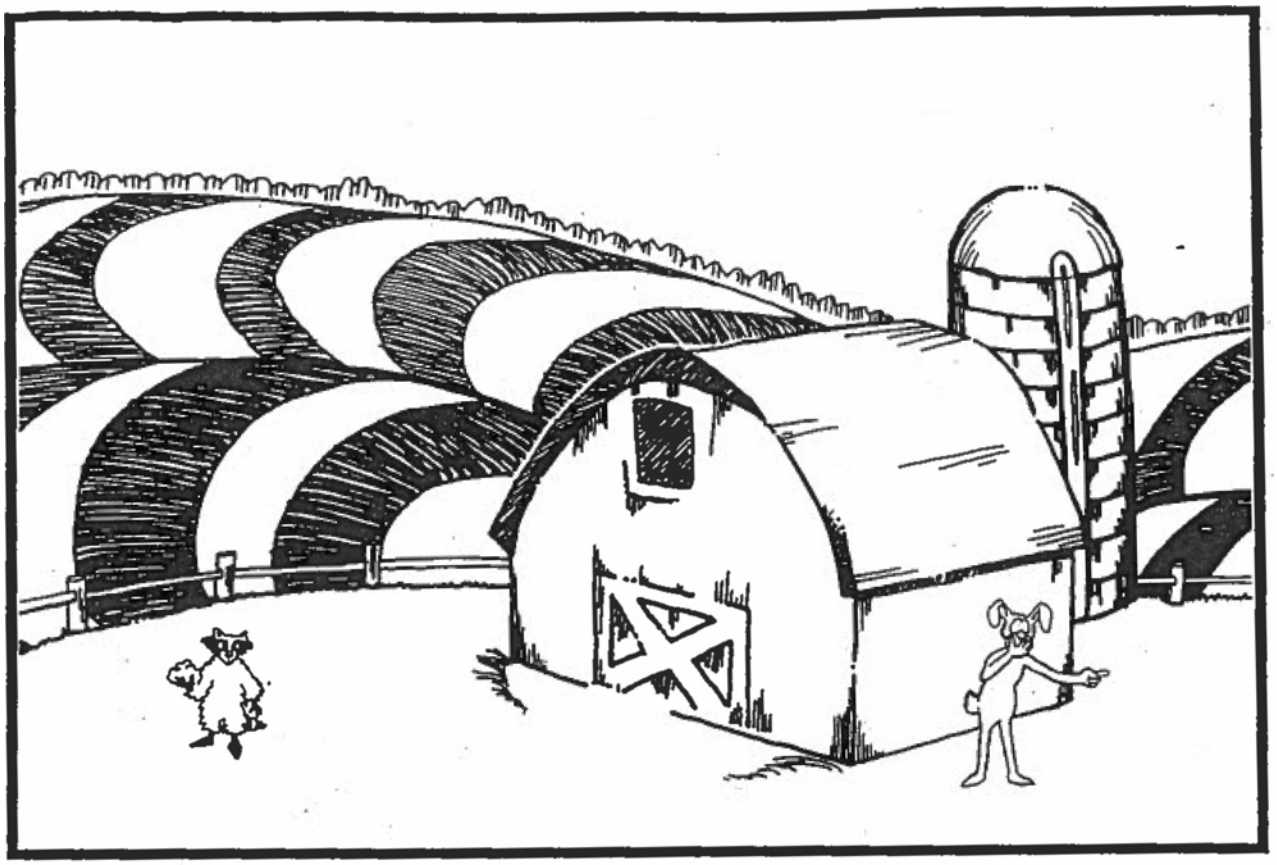
Bad news at the pond for Edward Fish, who couldn't breathe due to all the sediment in the pond. Clementine Opossum came to his aid with the help of the other Erosion Patrol members - Hopper Rabbit and patrol leader Chico Raccoon. Yesterday the team visited the new construction site and checked the silt fences and riprap channels. All sedimentation controls appeared to be in order.

Next the Erosion Patrol heads to the farm...

Agricultural erosion happens when animals overgraze their fields, or when farmers plow their land incorrectly. Most people don't think there is a right or wrong way to plow a field! The right way to plow a field is called **contour plowing**. Contour plowing means that the farmer plows along the natural curve of the land. This keeps the soil from washing away when it rains. It also means the seeds that the farmer plant won't wash away, either!

Color the contours *green*.

Another problem the farmer faces is "wearing out" the soil. Soil has **nutrients** in it that help plants grow. Different plants need different nutrients, so when the farmer plant the same crop in the same field year after year after year...the crop uses up all of the nutrients that it needs and doesn't replace them.



Farmers **rotate** the types of **crops** they plant to prevent the soil from losing all of its nutrients. This is called crop rotation. **Crop rotation** means planting different things in different places each year. For example, one year a farmer may plant corn in a field and the next year might plant soybeans in that field.

Chico and the Erosion Patrol search the farm for possible erosion sources. After all, Ed is counting on them to find out why his pond is so muddy!

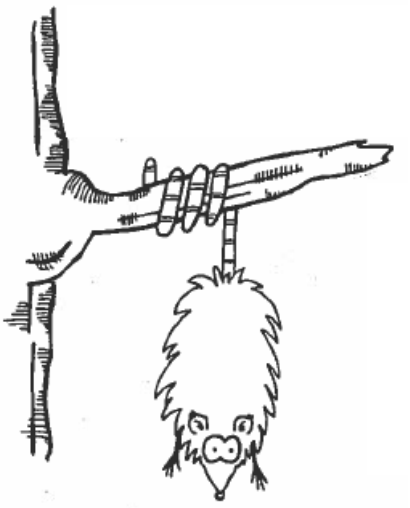
"Hey Chico, over here!" yells Hopper. "Take a look at this streambank!"

What does Hopper see? Could it have something to do with the mysterious trouble at the pond? The Erosion Patrol is hot on the trail!

When we last saw our furry heroes...

The Erosion Patrol was out at the farm trying to locate possible sources of erosion. It is crucial that they put a stop to this erosion-for Edward's sake!

Erosion occurs when rain strikes bare soil. A heavy rain running downhill picks up loose soil and carries it away. A lot of valuable topsoil is lost this way.



Where does it go? Most of the time it winds up in lakes and rivers where soil and water mix to make mud! So when the lakes and rivers get clogged with mud, the fish and wildlife have big problems.

There are special names for the kinds of erosion that rain can cause. When a raindrop first hits bare soil, it causes **splash erosion**. A lot of splashes add up to a lot of water, and a layer of soil, like a sheet, washes away. This is called **sheet erosion**.

Sheet erosion can lead to **rill and gully erosion**. The water and the loose soil scrape away more and more soil particles, carving out deep gullies where valuable topsoil used to be! The Erosion Patrol will look for rills and gullies because they are evidence of erosion that can be documented in their Field Notebook.

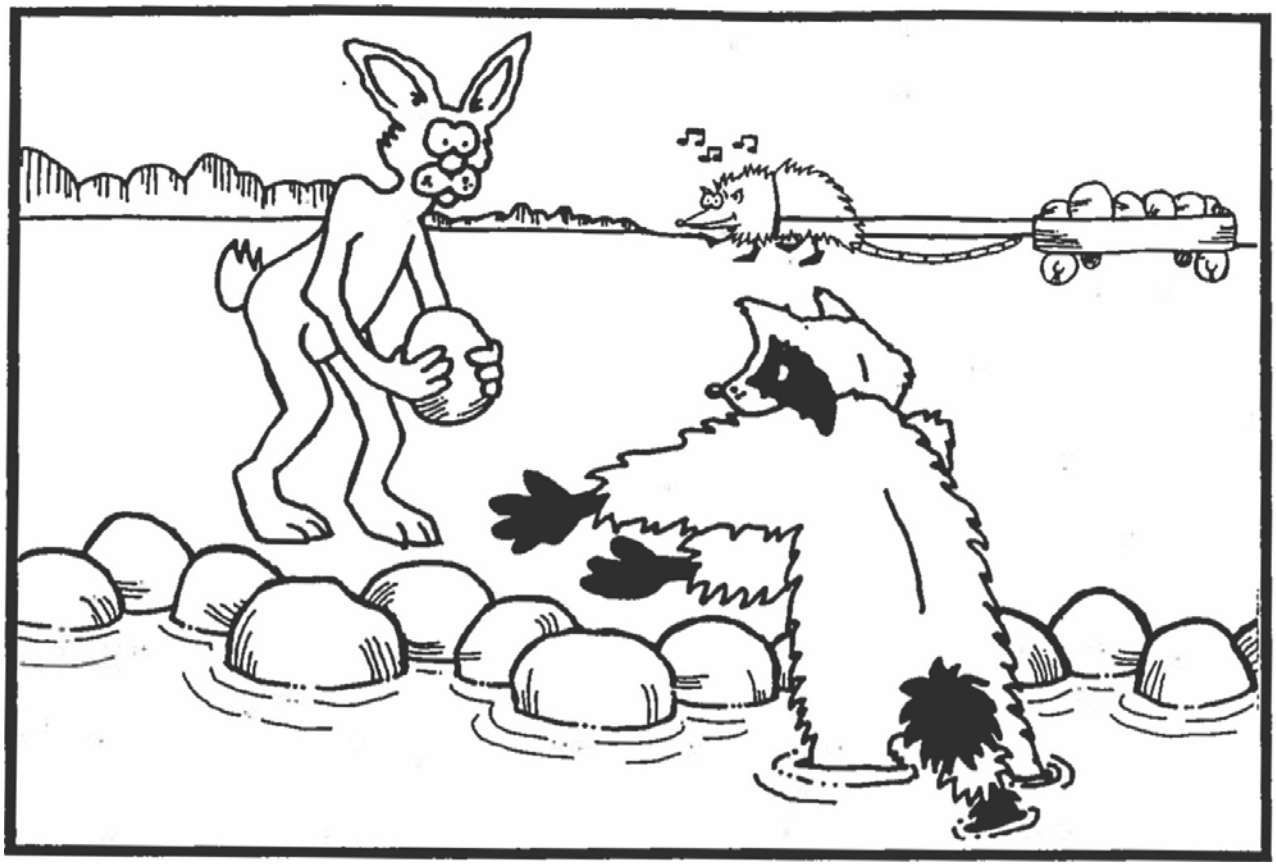
Clementine makes a big splash.

"Whoa!" says Hopper. "I think we've found some serious erosion." What kind of erosion has Clementine found?

"We can use **riprap** to repair this stream bank. We've lost a lot of soil here," says Chico Raccoon.

Hopper hands Chico another piece of riprap. "The riprap will slow the water down and it'll keep the soil from washing away, right Chico?"

"Sedimentary, my dear Hopper."

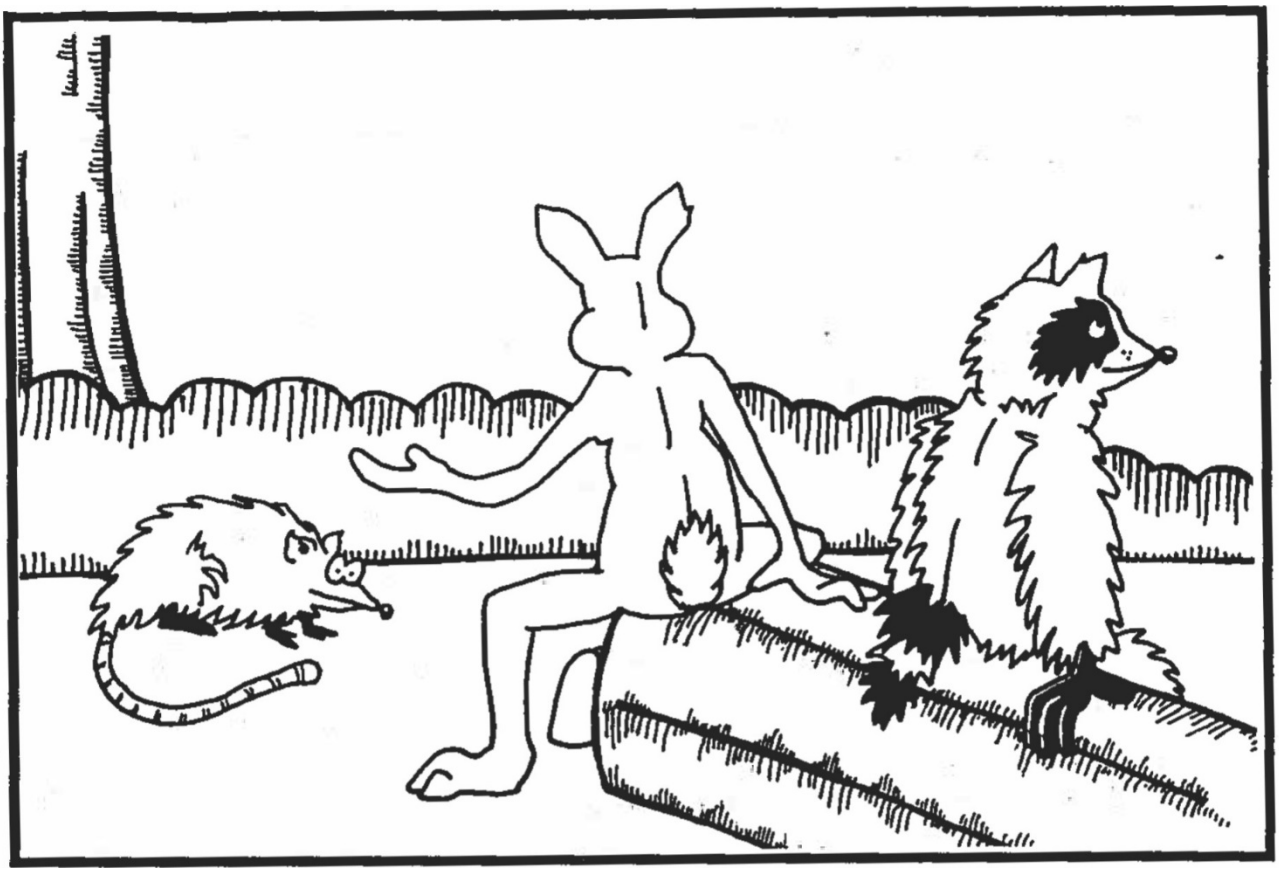


Clementine found some erosion, all right. What could have caused the bank to erode like that?

How will the **riprap** help? Color the **riprap** *gray*.

There is probably more erosion going on somewhere else. Next, the Erosion Patrol will go into the woods to look for **forest erosion**.

Edward Fish is struggling to breathe! There isn't much time left! The Erosion Patrol must hurry!



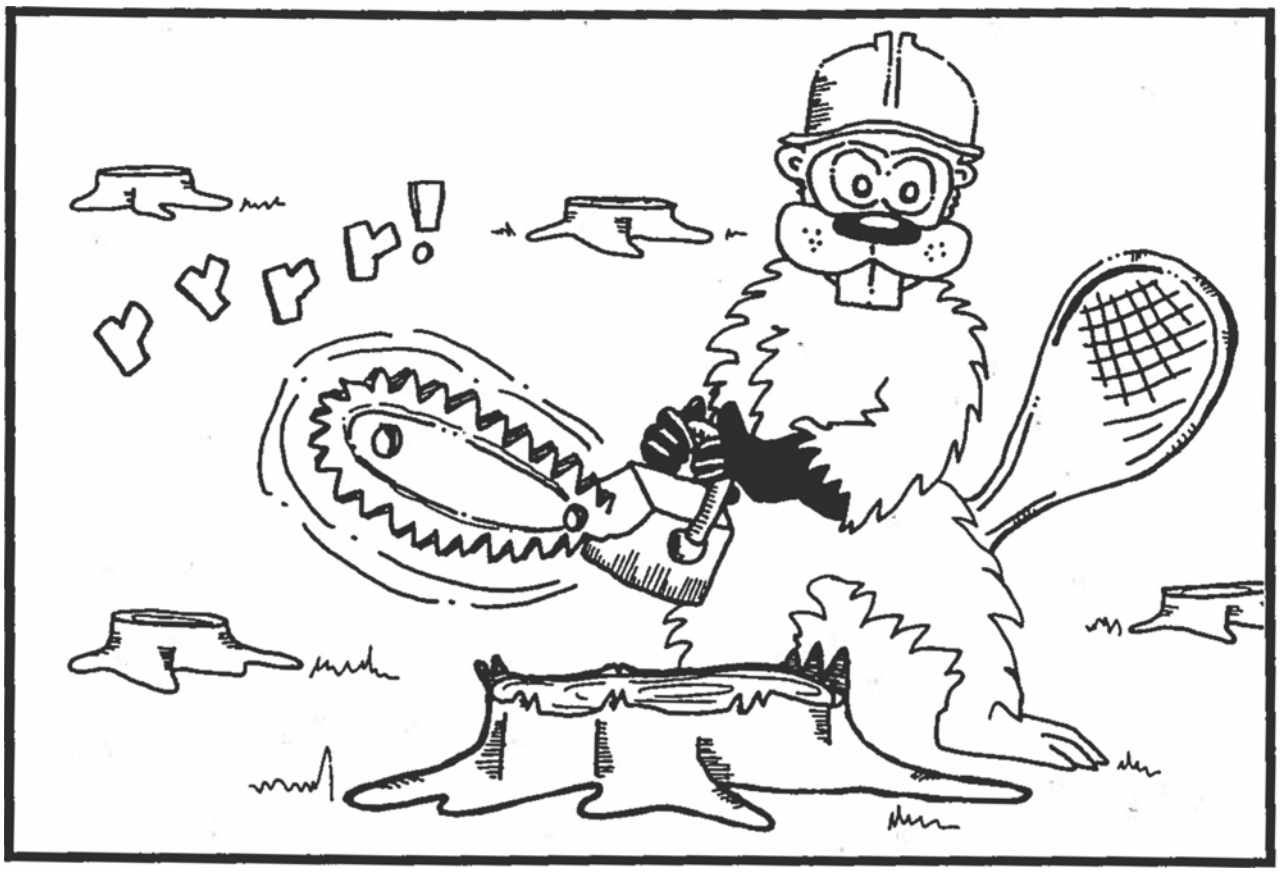
When we last saw our furry heroes…

The Erosion Patrol found some erosion at the farm, but they suspect there is more to be found in the forest. The gang is back at the secret headquarters, making plans.

"Frankly, that gully and stream erosion was pretty bad, but I don't think it's the only erosion around here, Ed's pond is gross!"

Hopper agrees. "We've got to take a look in the forest! There is such a thing as **forest erosion** that happens when trees are harvested to make wood products."

Clementine notices a buzzing noise not too far away.

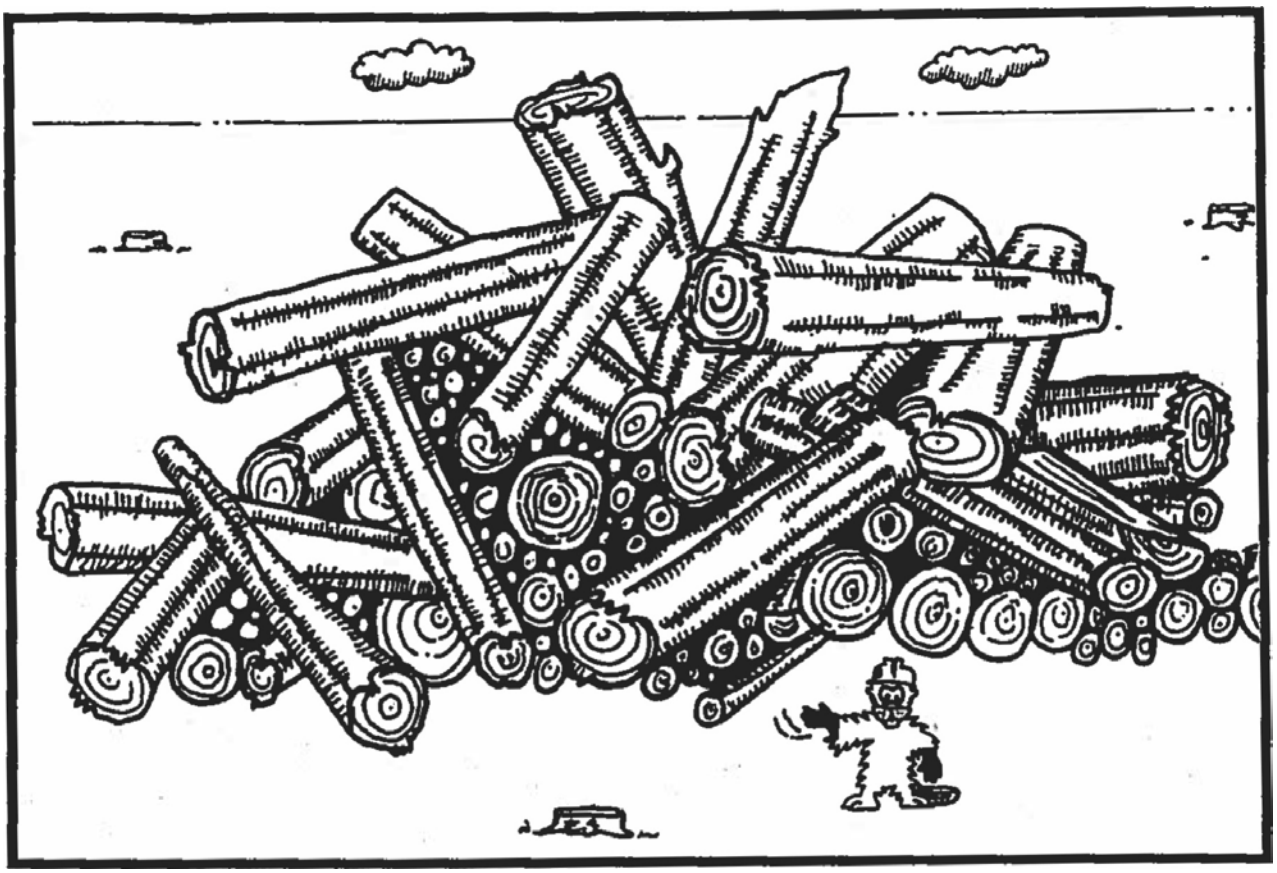


"Whoa! What happened to this part of the forest? Where have are the trees gone?" asks Hopper.

"It looks like a clear case of timbering without good erosion and sediment controls to me," announces Chico. "And a very bad case at that. "

"Hey! You two! Watch where you're going!" Cries Rackney Beaver over the roar of his chainsaw. "Get outta my way!"

Logging, also called **timbering**, without controlling runoff and stabilizing uncovered areas, can cause significant erosion, especially if the topsoil is thin or the logging activity area is on a steep slope.



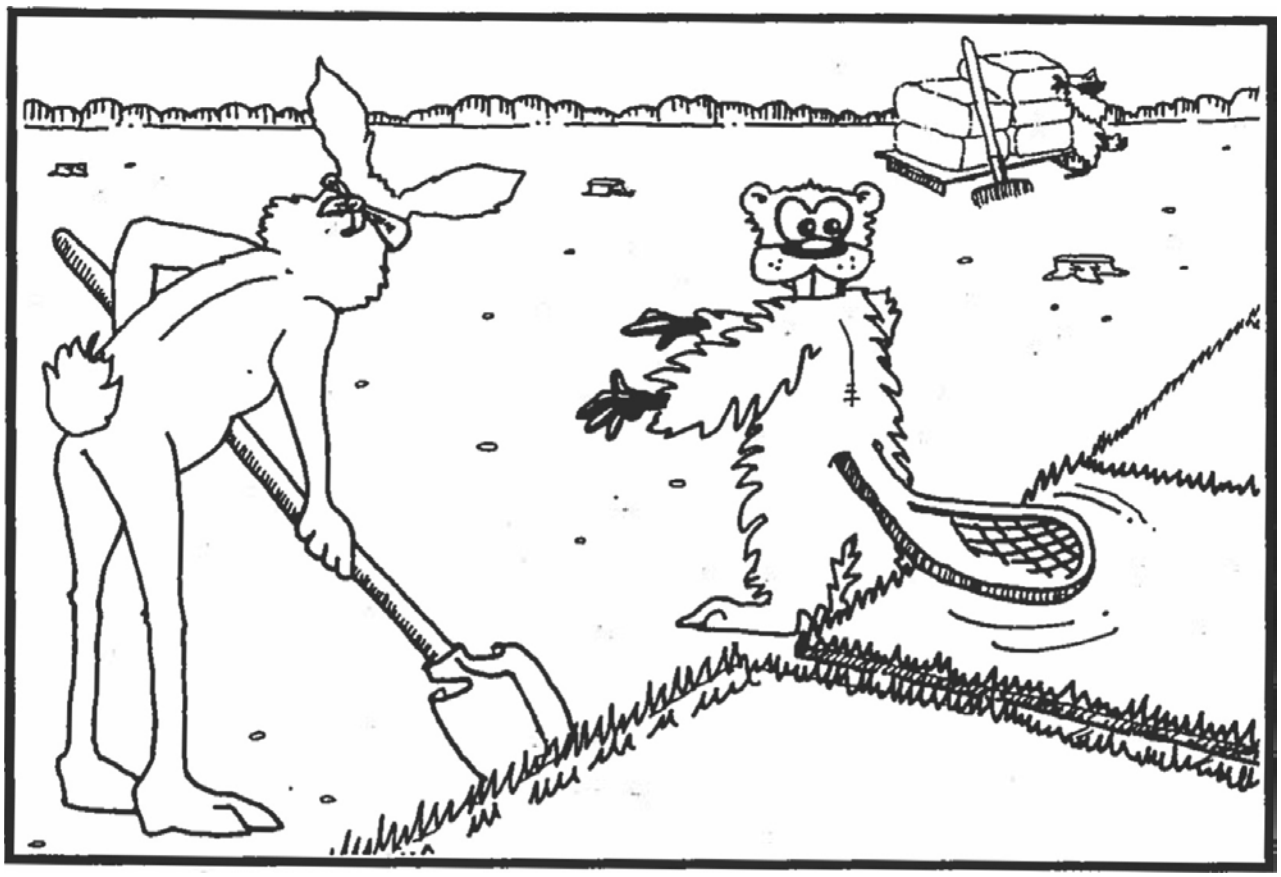
Rain can cause soil to wash into rivers and lakes. The soil needs **vegetative covering** or **ground cover** for protection.

Trees, grass and plants are called **vegetation**. Their roots help hold the soil in place.

Color the **vegetation** *green.*

Obviously, Rackney doesn't practice good erosion and sedimentation control. Now he has a real mess on his paws. Can you find any evidence of erosion?

"First things first," says Chico. "We must establish a **ground cover**. We need to plant grass." Clementine mumbles, "Rackney's sawed down all the trees, now we need to plant grass on all this disturbed soil."



Hopper sighs, “it will take us all day to prepare this soil so that the grass we plant will grow!” Rackney starts preparing the soil by churning it with his tail and adding fertilizer so that the grass has enough nutrients. "Now I wish I had used good sediment and erosion control practices!", says Rackney.

Rackney and the Erosion Patrol will work all day on the cleared forest site.

Color the new **vegetation** *green*.

Next, the Erosion Patrol will check into one more possible source of erosion - the old mine!

When we last saw our furry heroes...

The Erosion Patrol taught Rackney Beaver why it is important to use good erosion and sediment control practices whenever the soil is disturbed.

“The way we treat the land affects us all! There is only so much land, and after we use it up there won't be any more. We've got to work together! Save our soil! Protect our planet!”

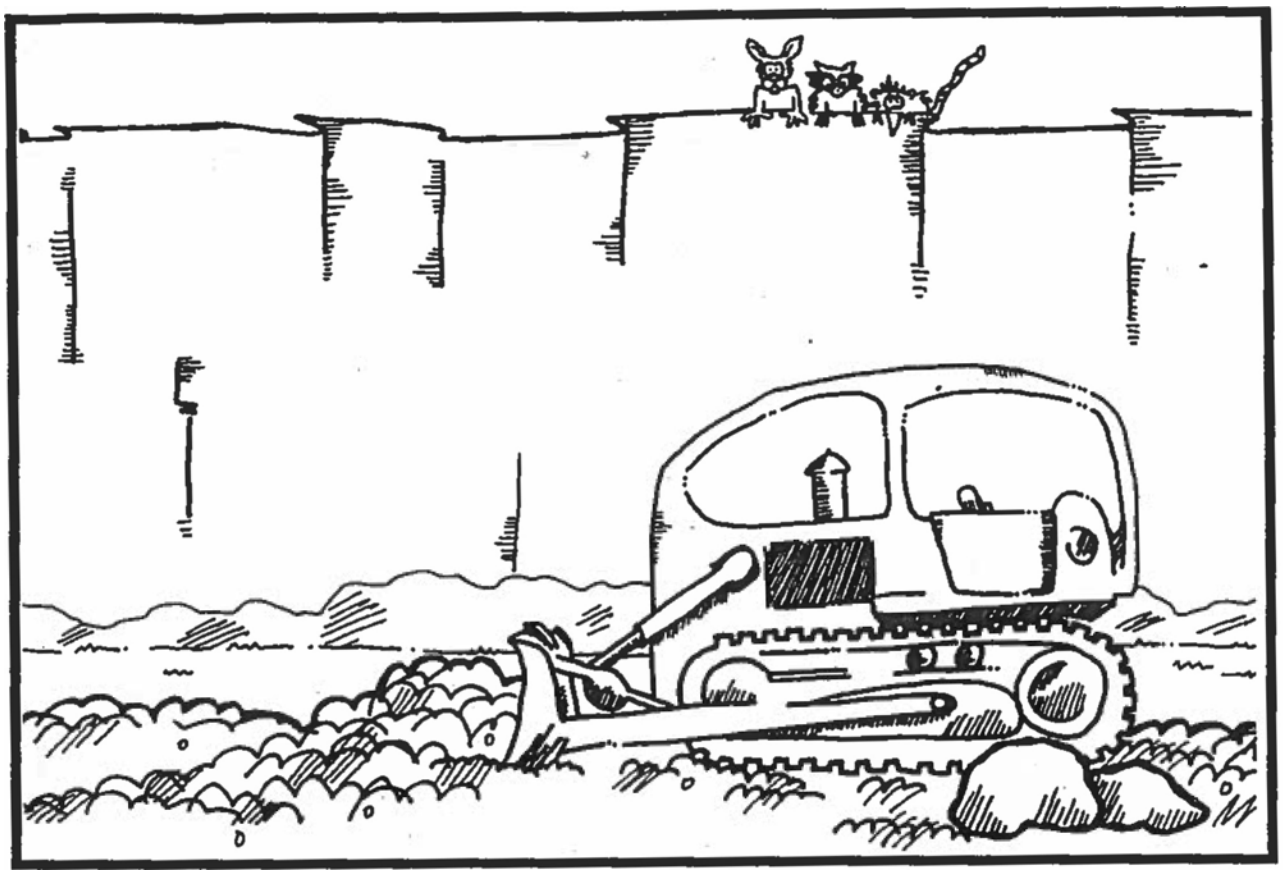
“We still need to investigate the old mine,” says Clementine. “There could be more erosion there.”

Not all mines are underground. **Surface mining** is exactly that, mining for things just under the surface of the ground. It's also called **strip mining**. Sand, gravel and sometimes coal are mined at the surface.

In order to get to the materials to mine, the entire top layer of ground is removed. Trees, plants and grass are uprooted at the surface mining site. Miners dig out the topsoil and put it in a big pile.

Steps need to be taken to make sure that the pile stays put and doesn't wind up in Ed's pond. For example, grass can be planted on the pile or sediment fences can be placed around the pile. The Erosion Patrol will look for those types of measures around the topsoil pile on the mining site.

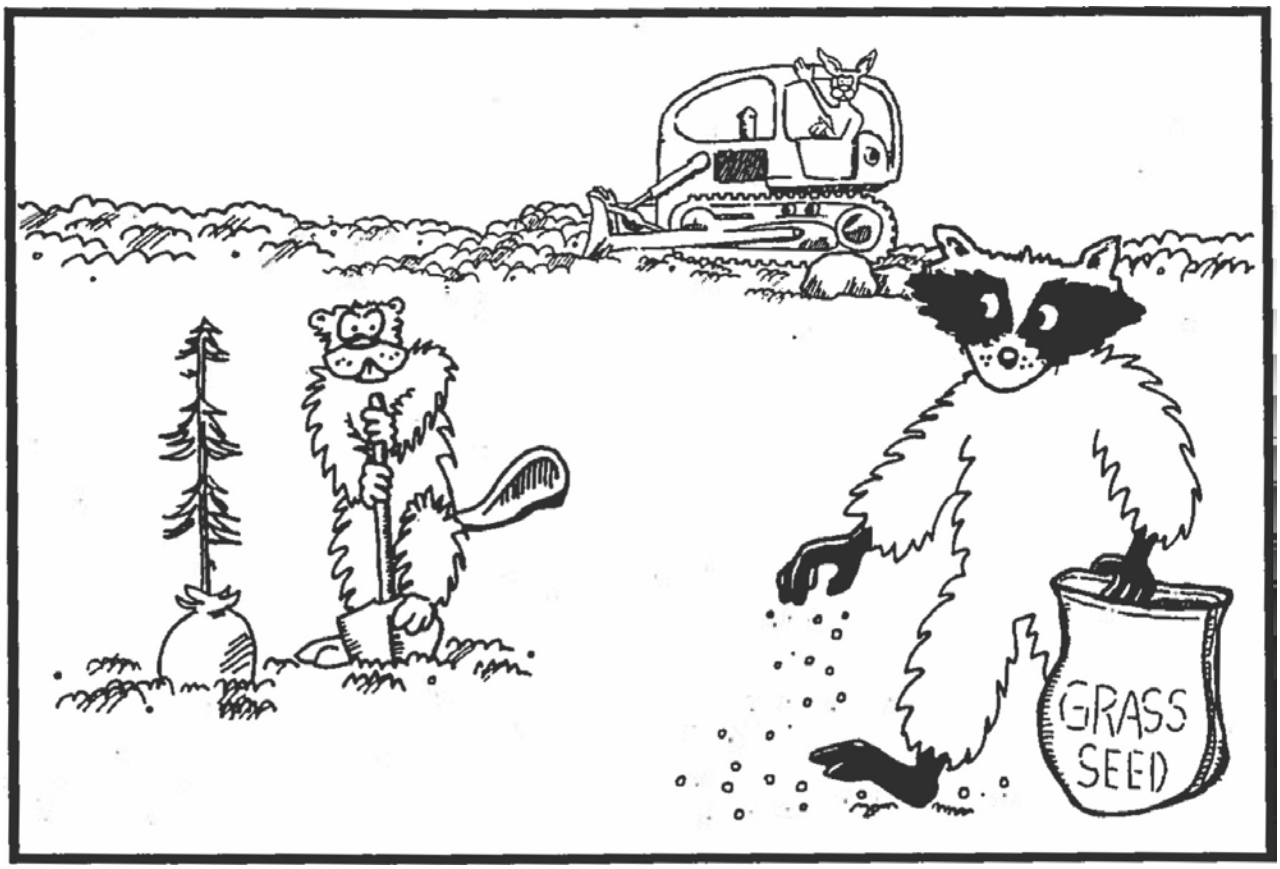
Heavy trucks are needed to move all the soil. When it rains, the trucks drive over wet ground and **soil compaction** happens. It is difficult for plants to grow in compacted soil, and water isn't absorbed easily. A visible sign of soil compaction is water sitting on the soil surface.



“The old mine hasn't been used for years and years. **Reclamation** hasn't started yet, and a lot of soil erosion has filled the stream,” says Clementine. Reclamation involves restoring a mine when they are done so that it looks like it did before the mining started. Reclamation allows the disturbed site to be stabilized so that erosion will not occur.

Can you think of any reclamation practices that you or the Erosion Patrol might use?

"We need to get going. Hopper, you drive the bulldozer," says Chico. "Push those rocks around! Let's get this old mine looking like it used to look!"

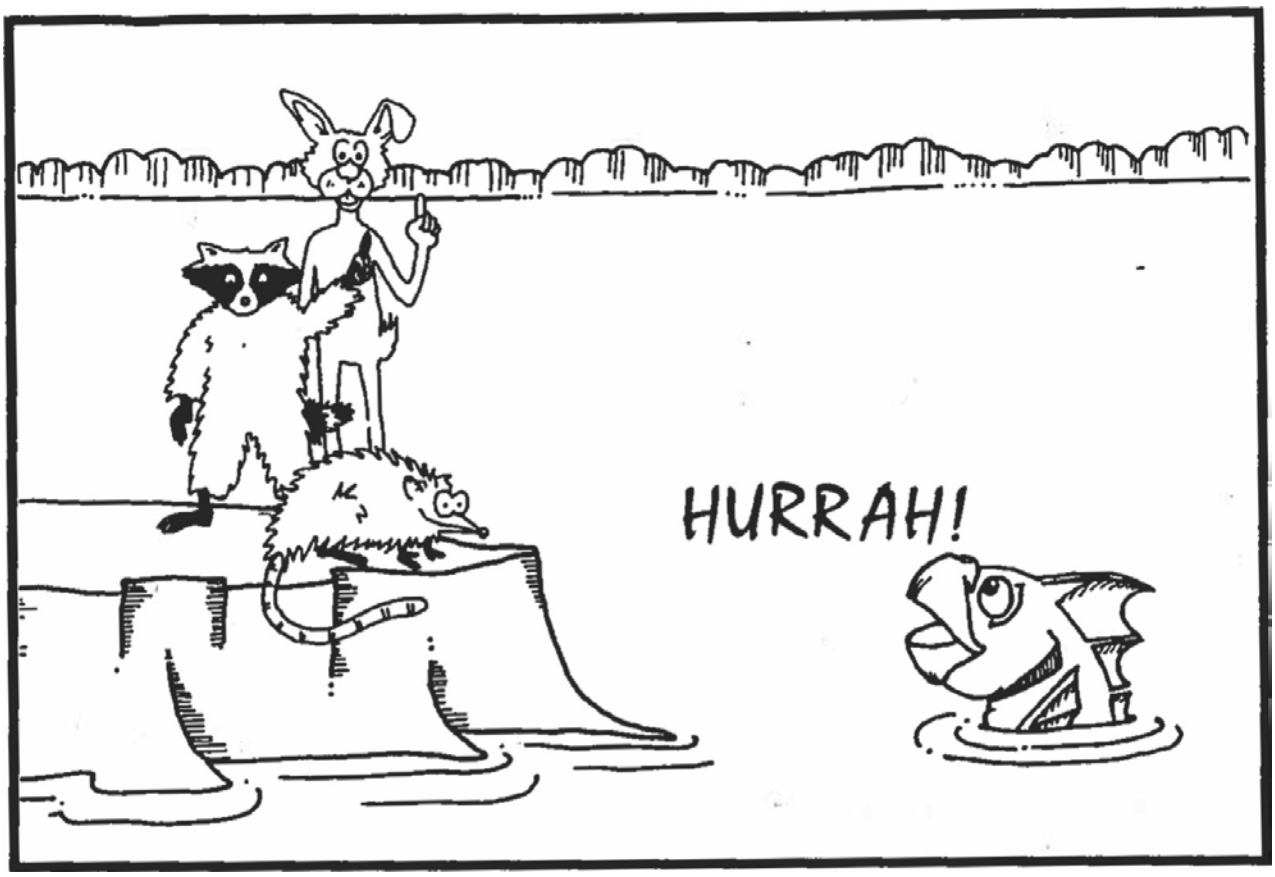


Hopper molds the land back into its original shape with the bulldozer. Rackney and Clementine plant trees while Chico plants grass seed. These are things used by miners to reclaim a surface mining site.

“I believe this old, worn-out mine was one of the causes of Ed's muddy pond," says Hopper as he bulldozes.

"Sedimentary, my dear Hopper," says Chico. "But it's a combination of a lot of erosion factors that makes Ed's pond muddy. Good **reclamation** of this mine will certainly help, though."

How will planting trees and grass help the old mine's erosion problem?



Back at the pond, Edward Fish breathes a sigh of relief.

“Thanks, Erosion Patrol,” says Edward. “It's wonderful to have clean water again."

Color Ed's fresh pond *blue*,

"We must take care of our soil! If we take care of our soil, our soil will take care of us," says Chico.

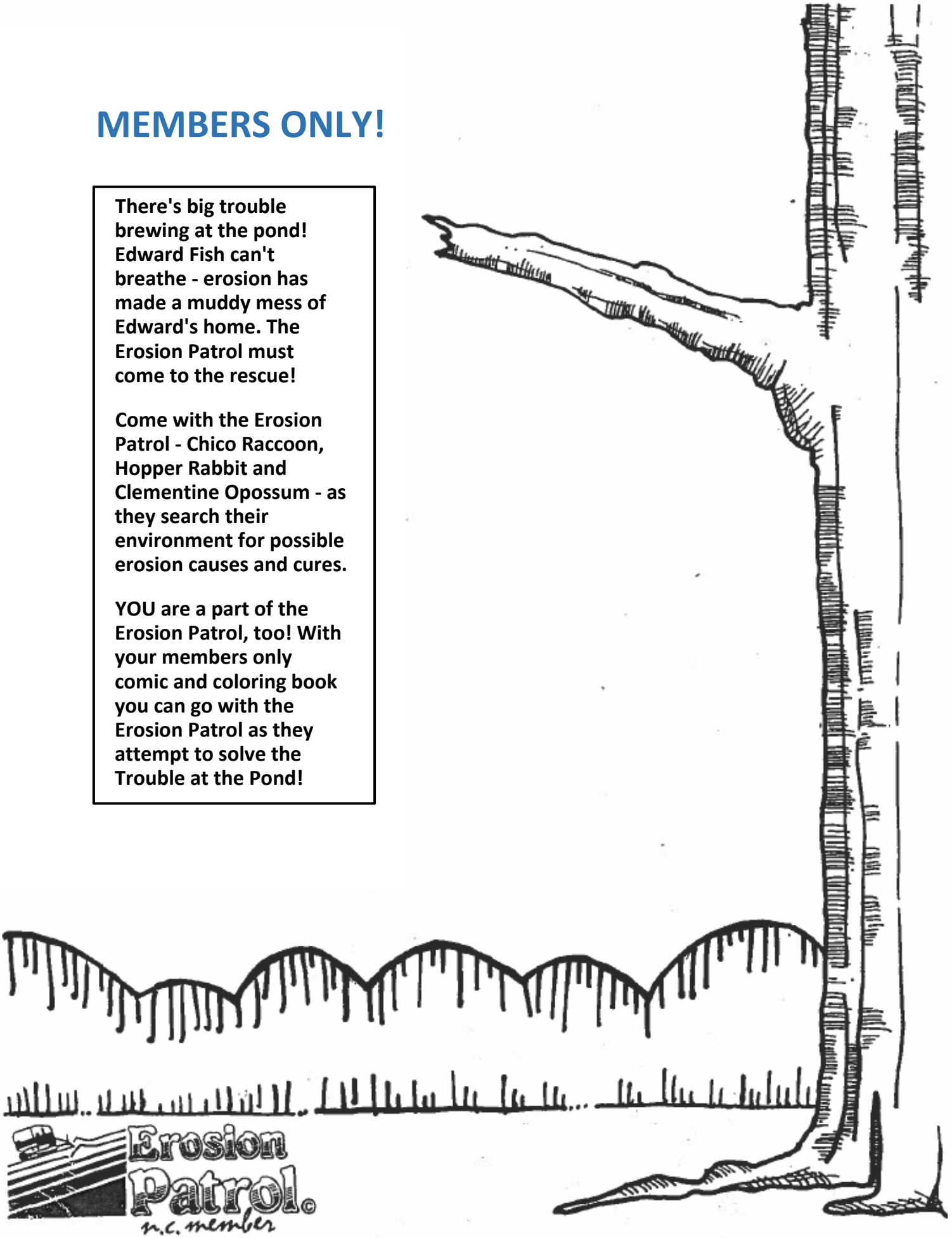
"It's what we do, Ed," says Clementine.

MEMBERS ONLY!

There's big trouble brewing at the pond! Edward Fish can't breathe - erosion has made a muddy mess of Edward's home. The Erosion Patrol must come to the rescue!

Come with the Erosion Patrol - Chico Raccoon, Hopper Rabbit and Clementine Opossum - as they search their environment for possible erosion causes and cures.

YOU are a part of the Erosion Patrol, too! With your members only comic and coloring book you can go with the Erosion Patrol as they attempt to solve the Trouble at the Pond!



P T N A H M O E S F C X A Z X A Z C
L O C A H E J K I L C N A Q W T Y A
F A B U I L D I N G H N A R O A D S
O M M E T A M I N I N G Q T K L A W
R D X Z Q R K O P M D R W C N R H R
E N K D W L L I S P Z A F S B M L A
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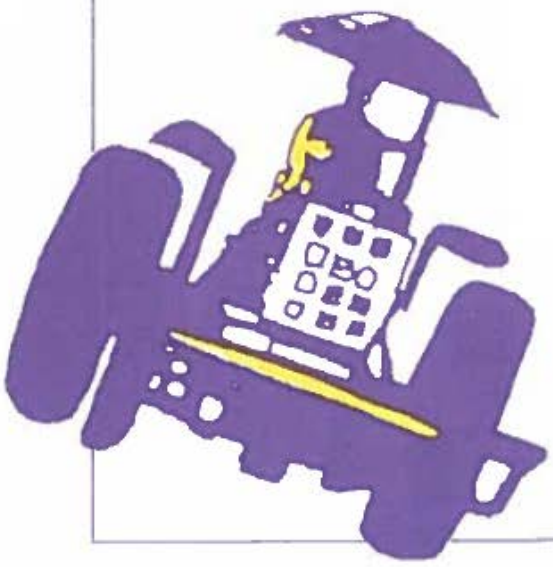
Y Q Z D F L O O D K S G S W Z Q Z J

ACTIVITY 5

What are the sources of erosion?

The 10 words below are hidden in this puzzle. Try to find them and circle them across, down and diagonally.

BUILDING, ROADS, MINING, STORES, FLOOD, FORESTRY, GRAZING, FARMS, RAIN, WIND



The Process of Erosion and Sedimentation

Observe how erosion occurs on bare soils that are exposed during land disturbing activities. Also observe and understand how sedimentation results from erosion.

Activity Time: 1 Hour

Materials:

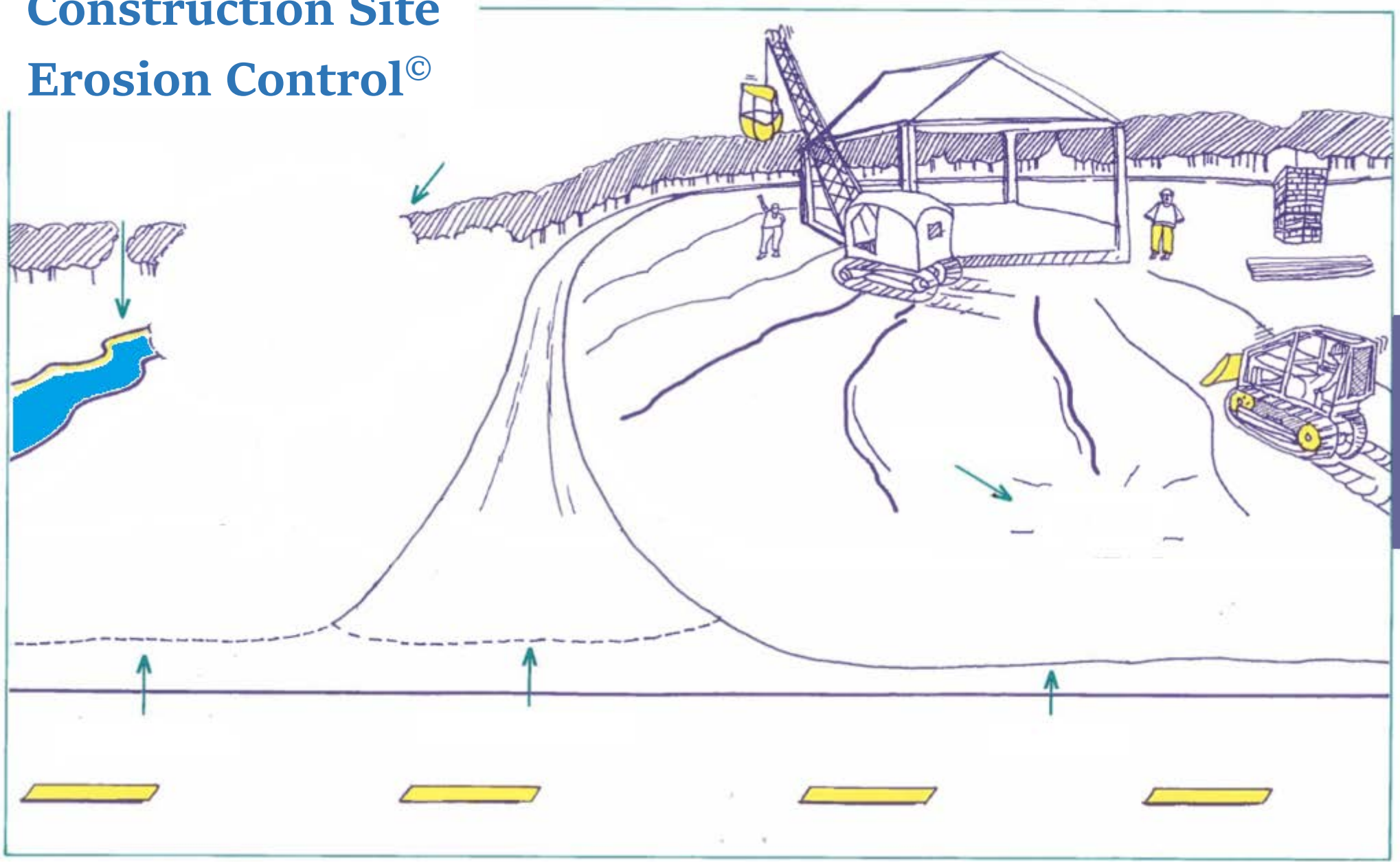
- 2 Aluminum pans
- Soil
- Water (use a jar with a lid such as a soda bottle)
- Clear Cup
- Dixie Cup
- Ruler

Procedure:

1. Cut holes (approximately the size of a dime) along one side of one aluminum pan (pan 1). Place the holes at a uniform height across the top of the one side.
2. Gather soil from your lawn or near your school with the aid of an adult. Place soil uniformly in the pan (pan 1) to bottom level of the holes.
3. Poke 5 small holes in the bottom of a Dixie cup. Place the second aluminum pan (pan 2) under the pan with soil (pan 1) so that the holes are directly over the pan.
4. Slightly elevate the end of pan 1 that does not contain holes. Hold the Dixie cup over the soil at the elevated end. Make sure the holes in the elevated pan (pan 1) are directly above the second pan (pan 2).
5. Add enough water from the bottle to fill the Dixie cup and simulate rain on a bare soil surface. Observe how the water moves across the soil. Collect the water that leaves the soil in pan1 in the empty pan (pan 2) below.
6. Pour the soil and water that left the site into the clear glass.
7. Observe the quality of the water leaving pan 1. Allow the soil to settle and measure, with the ruler, how much soil eroded and resulted in sedimentation in the glass.

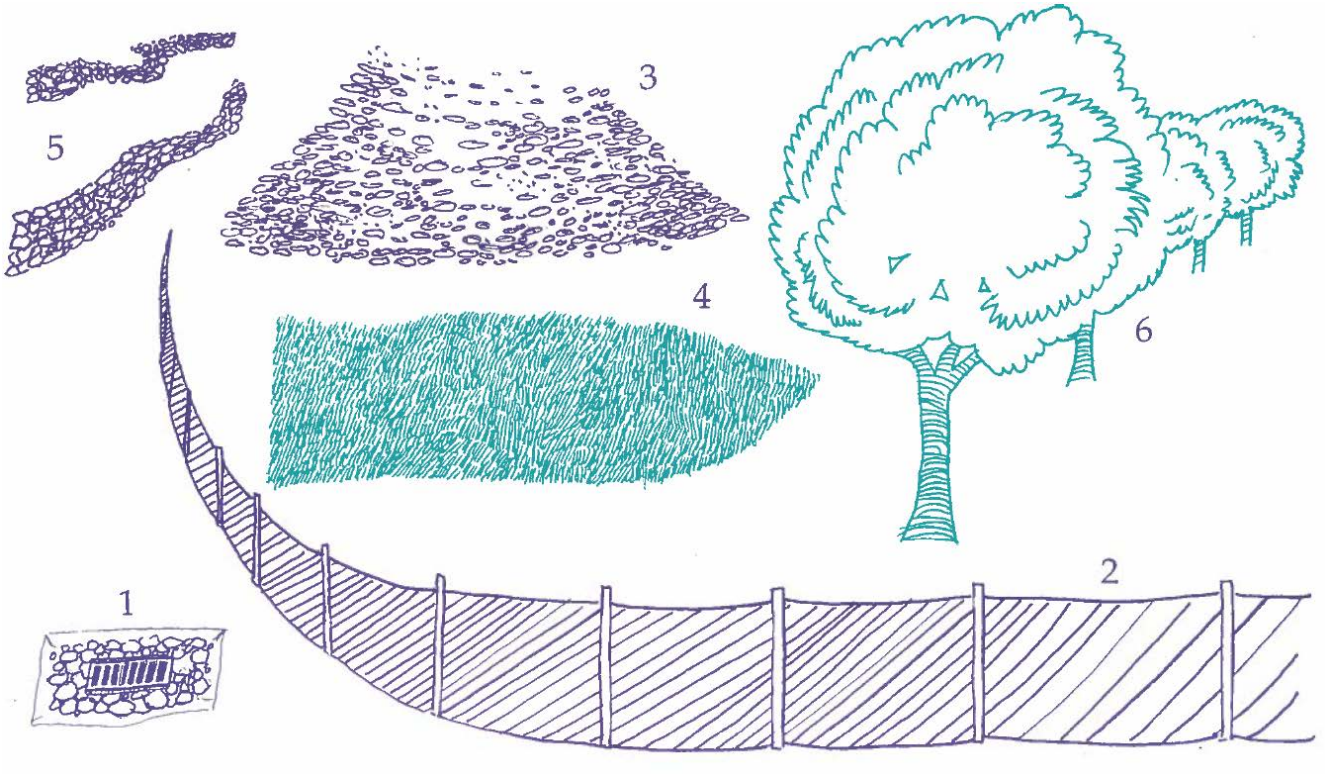
Activity Sheet

Construction Site Erosion Control©



Devices Sheet

Below are erosion control devices for construction sites. Cut them out and paste them in the proper place on the construction site poster.



We Must Protect Our Soil!

Did you know: That it takes 500 years to form one Inch of top soil? That a large variety of animal life can live in an acre of soil? And that earthworms can digest tons of soil in one year?

The United States is losing 64 billion tons of soil each year due to erosion...that's enough soil to load 320 million dump trucks! If you were to park them end to end, they would reach to the moon and almost all the way back again! This eroding soil is blown into our air and it is washed into our rivers and lakes where it causes pollution. What causes our soil to erode away?

Here's an experiment that shows you one cause of soil erosion, and a way to stop it.

You will need:

- 2 cans to sprinkle water or 1 container and the water to refill it
- A timer or watch with a second hand
- 2 small hills of dirt that are about the same size, one bare and the other one with good cover, like grass, leaves or moss

Sprinkle one container of water on the bare hill. Record the amount of time it takes for the water to get to the bottom of the hill. What happens to the dirt?

Now pour water on the hill with some ground cover. How long does it take for the water to get to the bottom of this hill? What about the dirt...What condition is it in compared with the bare hill?

Based on your observations. what effect does good ground cover have on erosion? Can you explain why?

ACTIVITY 8

What's the Right Way to Plow Your Garden?

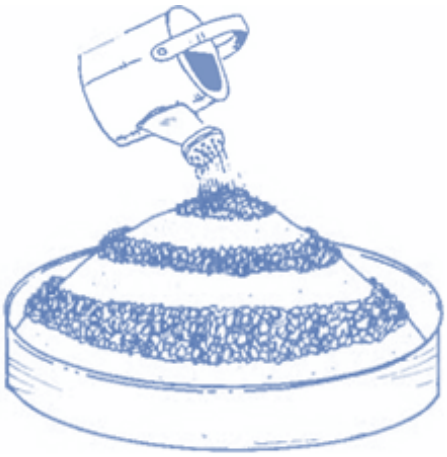
If your garden is on a slope, plant your vegetables along the curve, or contour of the land rather than up and down, or against the slope. This will help slow down water runoff and decrease the rate of soil erosion.

Here's an experiment that will show you how contour plowing works.

You will need:

- 2 9-inch pie pans
- enough soil to fill them equally
- A sprinkle watering can (to make one, punch several small holes in the bottom of a Dixie cup)

Put equal amounts of soil in the pie pans, forming a mound. With a pencil or your finger make furrows, or plow, up and down in one pan and in circles in the other one.



Sprinkle about half of the water from the watering can (or one full Dixie cup of water) over the pan with the up and down furrows. What happens to the soil?

Now sprinkle the other half of the water from the watering can over the pan with the furrows plowed in circles. How long does it take for the water to reach the bottom?

Compare the condition of the soil. Which pan had more erosion occur? Can you explain why?

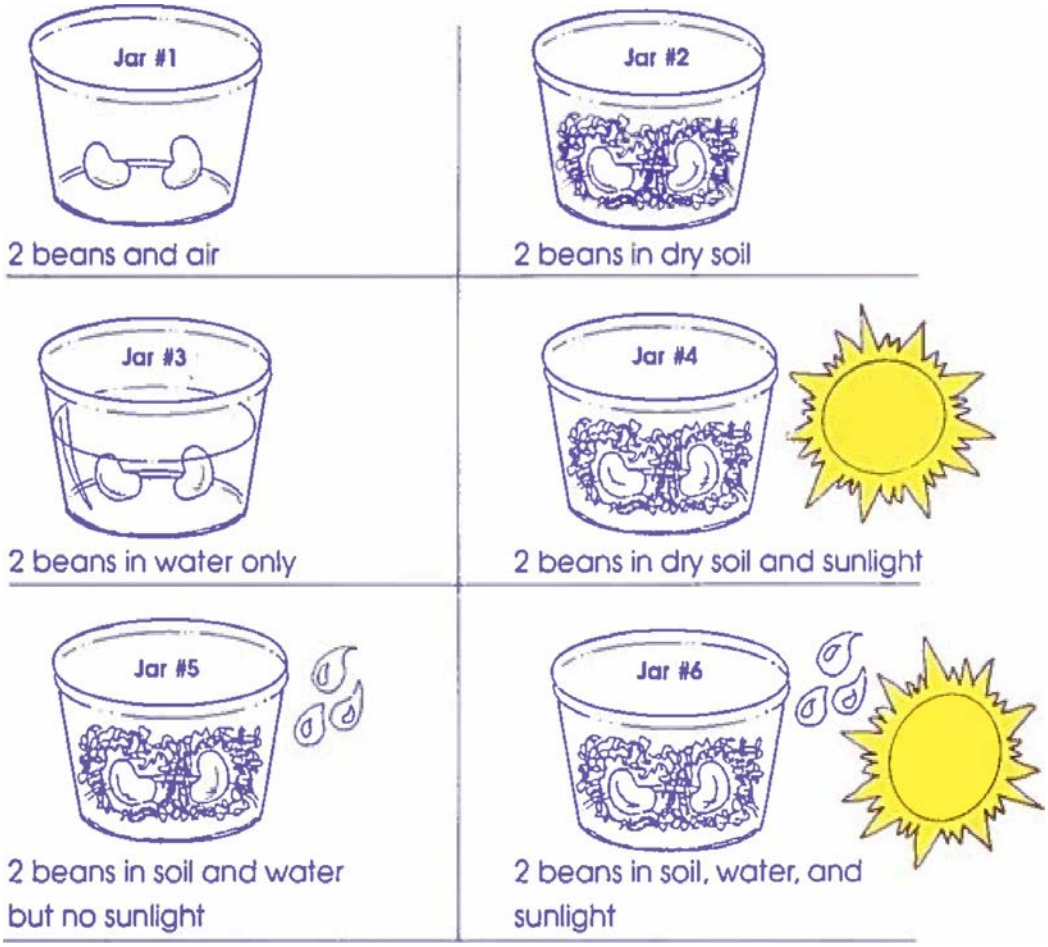
What Do Plants Need?

Here's an experiment that shows you what plants need in order for them to grow!

You will need:

12 lima beans (soak them overnight)
6 small, clear plastic or glass cups/jars
soil, water, and sunlight
activity sheet (next page)

Arrange the beans like this:



Label your cups/jars. Check your beans every day. Water jars 3, 5 and 6 (not too much!) and keep notes on your activity sheet about what happens. Based on your experiment, what DO plants need to grow?

Activity Sheet---What Do Plants Need?

Day of the Week	Add Water?	Observations?					
	Yes/No	Jar 1	Jar 2	Jar 3	Jar 4	Jar 5	Jar 6
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday/Sunday							
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday/Sunday							
Monday							
Tuesday							
Wednesday							

Field Notebook - Direct Observation

1. What type of erosion did you find?
2. How did the erosion begin?
3. What effect will the erosion have on plants, trees and animals?
4. What river basin did you find the erosion in?
   Hint: Use NC DEQ's interactive River Basin App to check.
   (https://www.eenorthcarolina.org/educator-resources/river-basin-program)
5. Draw a picture of the erosion problem that you found. Draw arrows pointing to the name of all the things that you think could be affected by this erosion.
6. What would you do to stop this erosion?

Share your erosion discovery with your classmates. Have your teacher draw a chart comparing what you found with that of your classmates.
Discuss these questions as a class:

7. How were the sources of erosion different?
8. Did the erosion problems that you found start in a similar way? If not, how were they different?
9. Could the erosion have been prevented by practicing similar types of erosion control?
10. Will plants, animals or people be affected by this erosion? If erosion has an effect on one part of our environment, could it also have an effect on others?

The Official

Erosion Patrol©

Field Notebook

This field notebook is for you to take with you when you're out on Erosion Patrol.

When you see a place where erosion is happening, write down a few notes and draw a quick picture of it.

Think about the possible sources of erosion, and try to find ways to keep it from happening.

By keeping track of your patrols you can keep track of erosion and help keep your environment safe.

Here is a drawing of what I saw:

The Sedimentation Control Commission would like to encourage safety when visiting construction sites. Do not attempt to enter a construction site without a teacher, an adult, or a parent/ guardian. Children should never enter a construction site alone because it is very dangerous. Ask your teacher or parents to take you if you want to make observations because they can ask permission from the construction company and will obtain any safety gear, like a hard hat or orange vest, that may be required.

The Erosion Patrol Oath

The Erosion Patrol
has a job to do.
We protect the land
and the water too.

What I saw:

What kind of erosion is it?

- ☐ Agriculture
- ☐ Urban
- ☐ Forestry
- ☐ Natural

What can I do to stop this erosion?

Here is a drawing of what I saw:

I, _____, promise to:

Save the soil---
it's not just dirt you know.

Our soil is needed
so that things can grow.

I promise to guard it
for all that I'm worth---

Living things work together:
all sharing the earth.

What I saw:

What kind of erosion is it?

- ☐ Agriculture
- ☐ Urban
- ☐ Forestry
- ☐ Natural

What can I do to stop this erosion?

Here is a drawing of what I saw:

What I saw:

What kind of erosion is it?

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- ☐ Urban
- ☐ Forestry
- ☐ Natural

What can I do to stop this erosion?

Wheel of Erosion

Electronic version:

NC DEQ Wheel of Erosion

To assemble paper version:

Glue the game to a stiff poster board.
Cut the arrow out, and glue it to a piece of board.
Punch a hole in the center of the game, and attach the arrow with a brad/tack.
Make sure the arrow will spin freely.

Game Rules

Divide the class into two or four groups, depending on class size.
Toss a coin to see which group goes first.
The first group spins.
A question is selected from a list by the number pointed to by the arrow.
The harder the question the higher the number.
If the group is unable to answer the question, the other group may try to win the point. If no group can answer the question the teacher can provide the answer.
The first group to total 125 points wins.

5 Point Questions

5.a. What is a riprap channel?
5.b. What are two natural causes of erosion?
5.c. Name one type of groundcover?
5.d. What is your environment?
5.e. What is productive soil?
5.f. What is nonpoint source pollution?

10 Point Questions

10.a. What is a watershed or drainage basin?

10.b. What is Erosion?
10.c. What do plants need in order to grow?
10.d. What is a buffer strip?
10.e. Which soil surface will erode the most when rained on? a grass covered surface or bare soil
10.f. What is reclamation?
10.g. What is involved in reclamation?
10.h. Name one cause of accelerated erosion?

15 Point Questions

15.a. Name five things that would lose their homes from erosion.
15.b. Name five things we get from the soil.
15.c. How many years does it take to form one inch of topsoil?
15.d. What is conservation?
15.e. What is a reservoir?

20 Point Questions

20.a. What is contour plowing?
20.b. Soil is a threatened natural resource? True or False
20.c. Which is the best way of planting crops? On the contour or down the slope?
20.d. Why is crop rotation important?
20.e. What is runoff?

25 Point Questions

25.a. How does ground cover protect the land?
25.b. What is rill erosion?
25.c. What are three erosion control devices used on construction sites?
25.d. How do you prevent forest erosion?
25.e. Define sedimentation.

30 Point Questions

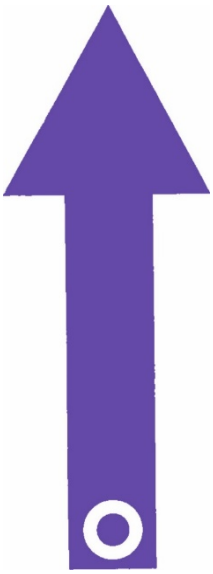
30.a. How might you prevent splash erosion?
30.b. What is a silt fence and how is it used?
30.c. What is irrigation?

35 Point Questions

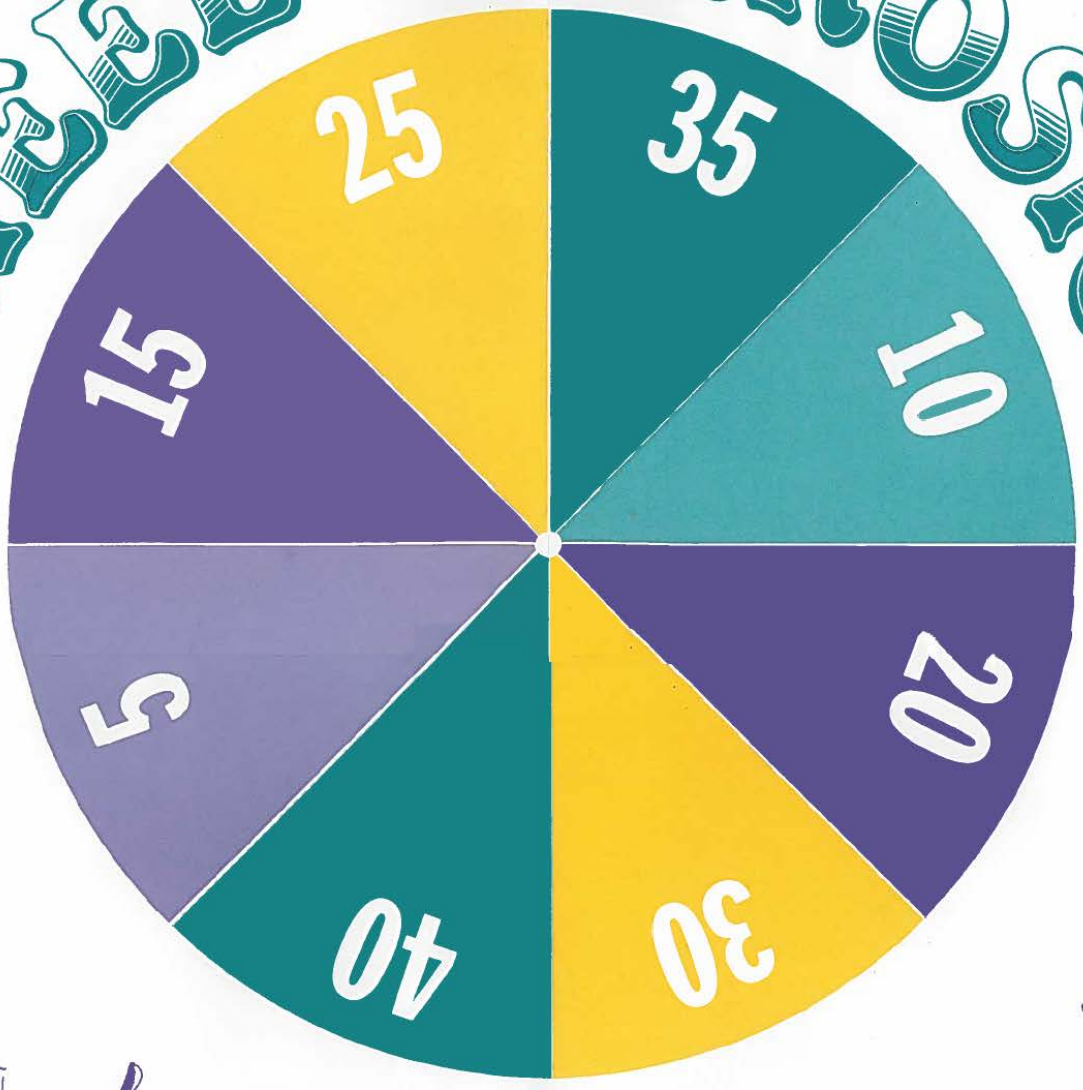
35.a. Name three ways to prevent erosion.
35.b. What is advanced rill erosion?
35.c. How do trees and plants protect the soil?
35.d. Why is a nutrient important?
35.e. What is soil made of?

40 Point Questions

40.a. If you were a farmer what would you do to prevent erosion?
40.b. Why is our soil so important?
40.c. As an Erosion Patrol Member, what can you do to prevent erosion?
40.d. What are four good reasons to practice soil conservation?
40.e. After strip mining, what can be done to help reclamation occur?



WHEEL OF EROSION©



BE A WINNER
SAVE OUR SOIL

As a member of the North Carolina Erosion Patrol

I, _____, promise to:

Save the soil---
it's not just dirt you know.
Our soil is needed
so that things can grow.
I promise to guard it
for all that I'm worth---
Living things work together:
all sharing the earth.

_____
class instructor

Chico Raccoon

Chico Raccoon
Erosion Patrol Leader ©

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For Additional Information on Erosion and Sedimentation Control,

Visit NC Department of Environmental Quality Website:
NC DEQ Erosion and Sediment Control

Or contact the current Sediment Education Engineer/Specialist:
DEQ DEMLR Contact Information

Sediment Education Engineer/Specialist
Land Quality Section
1612 Mail Service Center
Raleigh, NC 27699-1612