

OPERATION BACKYARD



Backyard

97

STEWARDSHIP

SOIL BUILDERS

Every living thing in your backyard depends on **soil**. Plants use minerals in soil to grow. Animals eat plants and use them for homes and nests.

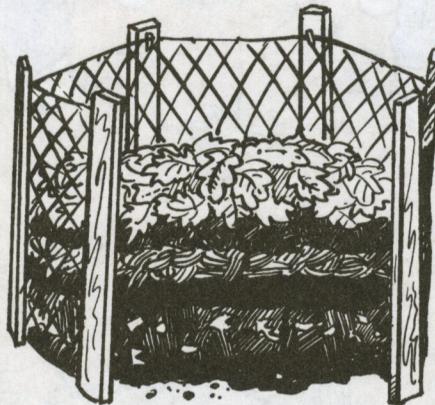
You can improve the soil in your backyard with a **compost pile**. Making **compost** is like cooking. You supply the ingredients, like leaves and grass clippings. You add water, and stir the ingredients to let in air. Tiny organisms help turn the ingredients into new soil.



Making compost is easy!

1. Add organic matter like leaves and grass clippings.
2. Keep moist.
3. Turn occasionally to allow air in.
4. Remove composted soil from bottom of pile.

Use compost to build healthy soil. Spread it around the base of shrubs and trees. Then gently work it into soil. Here are some easy ways to build a compost pile in your yard.



Goal - Children will explain how composting forms soil and be able to construct a compost pile.

Related Activities

- Discuss the benefits of backyard composting, including keeping leaves and grass out of landfills, building soil without expense of fertilizer, and providing food and shelter.
- Earthworms are important producers of compost. They eat plant parts and produce rich and fertile castings. Add worms to a compost pile for faster soil production.
- Make a **worm farm**. Poke tiny holes around the bottom of a five gallon plastic bucket. Fill halfway with shredded newspaper, shredded leaves, peat moss or straw. Add vegetable and fruit waste from your kitchen. Add 10 or more worms. Moisten gently. Keep a lid on the bucket. Every few days add new food material. After two weeks, examine the contents. What happened to the original materials? How many worms are there?

Tree Treasure

A tree in a yard is a real treasure!
Fill in the names of the parts of the tree shown below. Then match each tree part with the way it makes a yard better.



PART OF TREE

BENEFIT

1. _____
2. _____
3. _____
4. _____
5. _____

- A. Holds branches high, moves water and food around tree.
- B. Hold soil in place to prevent erosion
- C. Provide shade, block wind, clean air.
- D. Provide food for wildlife.
- E. Supports leaves and helps them reach light, home for wildlife.

Look at the steps in planting a tree shown below. Number the actions in the order you do them.



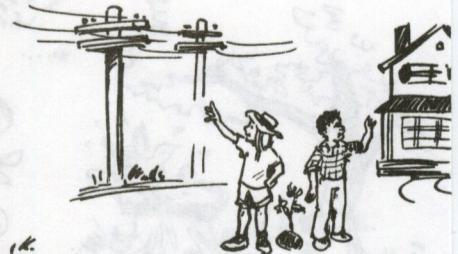
- A. _____
Dig a hole as deep and twice as wide as roots.



- B. _____
Carefully place roots in hole.



- C. _____
Place compost in bottom of hole.



- D. _____
Select a location.



- E. _____
Thoroughly water tree. Water regularly.



- F. _____
Fill the hole with soil, pressing it firmly down.



- G. _____
Add mulch to keep roots moist.

Goal - Children will explain how trees improve backyard environments and how to plant a tree.

Related Activities

- Ask children to take a "tree census" of their yard or neighborhood. Ask them to list the types of trees that grow there, and how many of each tree are there. Ask them to note how different trees grow better in different conditions (for example, in full sun, under other trees, near water, etc.)
- Help children identify a likely site for tree planting in their backyard, schoolyard or neighborhood. Select a variety of tree to plant there. Help plant the tree. Plan regular watering. Observe the growth of the tree.
- Visit a local nursery or call a natural resources agency to learn what trees grow well in your area. Which trees provide homes and food for wildlife?

Answers
Above
1. Leaves or canopy, C
2. Fruit or nuts, D
3. Branch, E
4. Trunk, A
5. Roots, B
Below
A 2 B 4 C 3 D 1 E 7 F 5 G 6

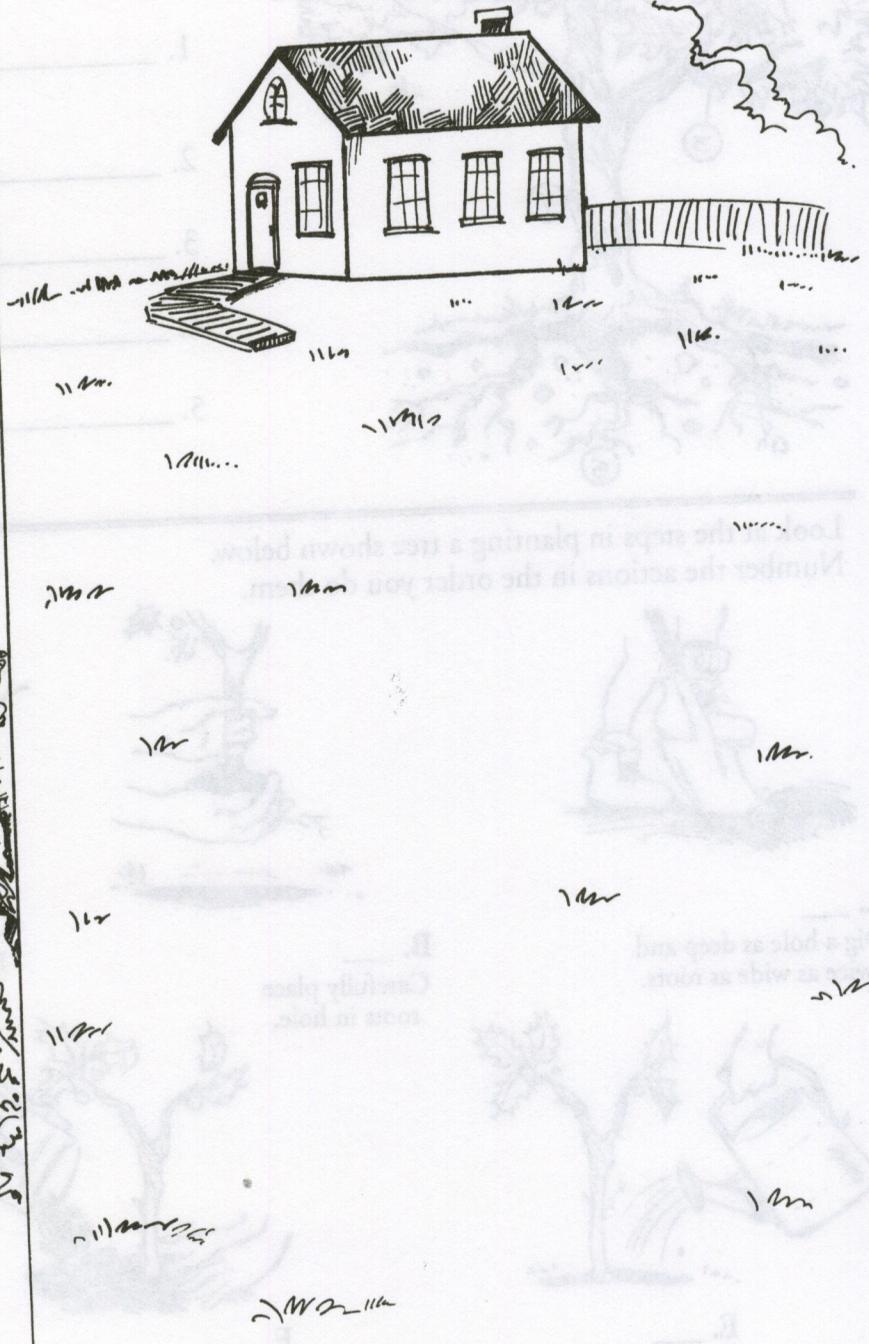
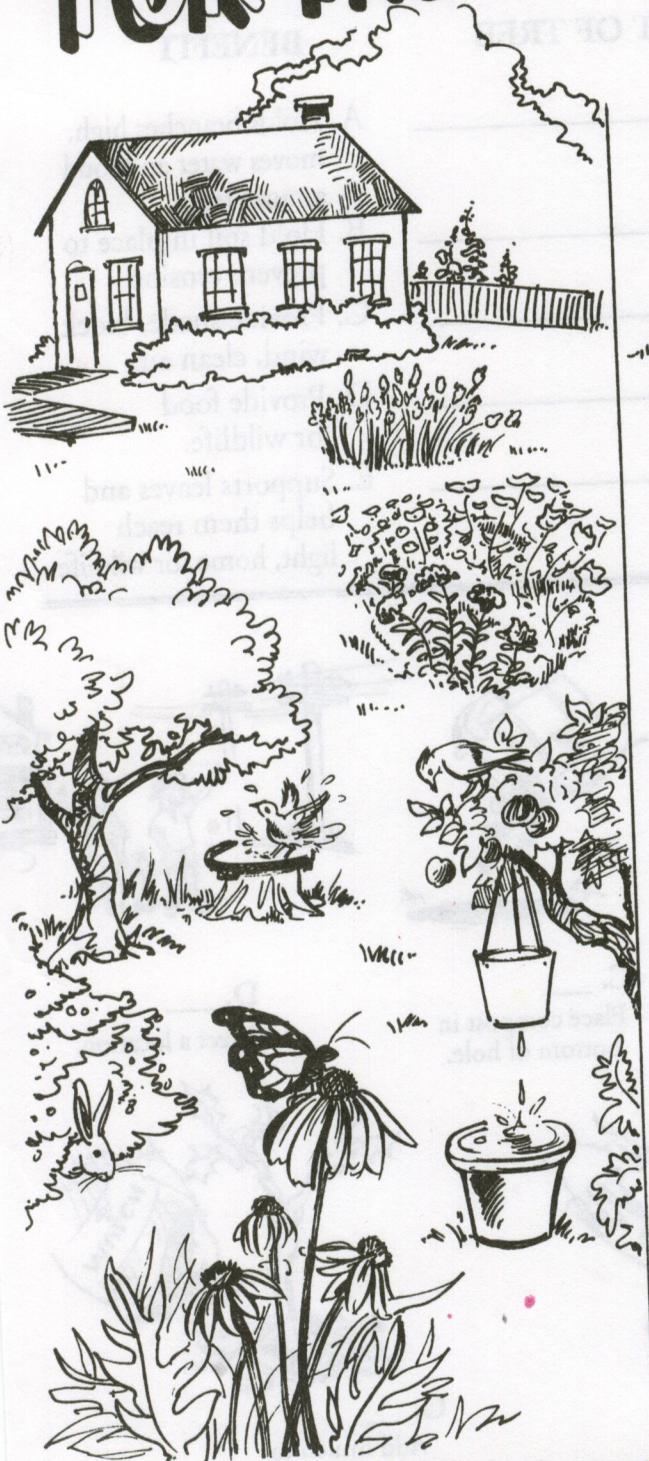
FOR THE BIRDS

Birds and other wildlife need food, water and shelter.

Which backyard shown below is a better home for wildlife?

What makes it a better home?

Draw some things in the other yard to make it a better home for birds and other wildlife.



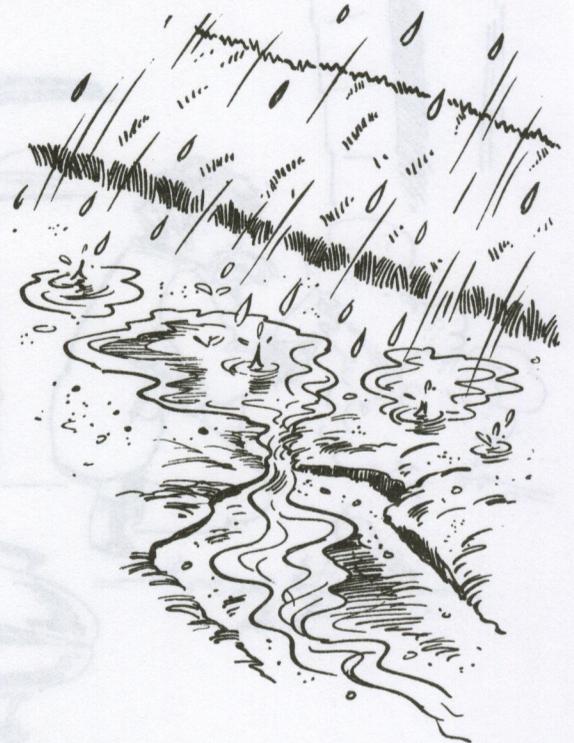
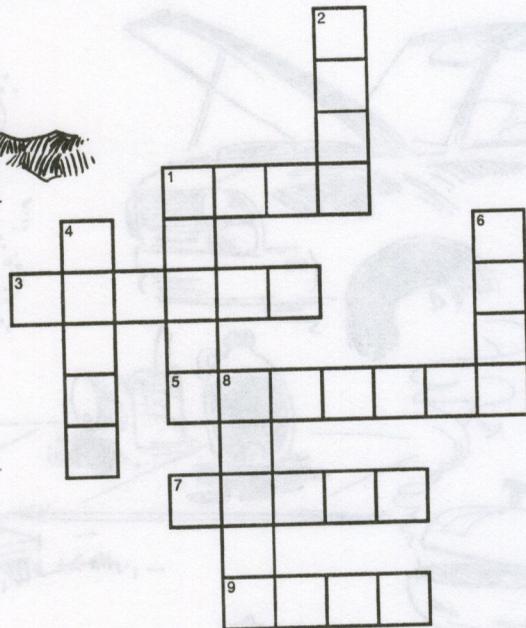
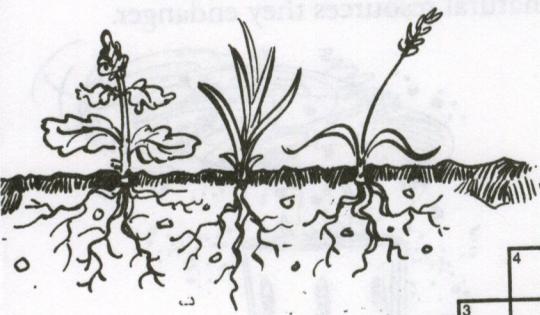
Goal - Children will be able to explain how food and shelter attract wildlife to a backyard, and explain how to supplement wildlife habitat with constructions like bird houses and bat houses.

Related Activities

- Build a bird house. Different types of houses attract different birds. Decide which type of bird you want to attract to your yard and build a home for it.
- Provide a water source for birds and other wildlife. You can buy a birdbath, or make one yourself. Place an old pan or garbage can lid on the ground, on rocks or on a fence post. Birds like dripping water. You can hang a bucket or plastic bottle with a pinhole over your birdbath.
- Learn which shrubs or trees provide food for birds in your area. Plant one in your yard.
- Make a list of how many birds visit your yard. Ask children to note if they see new birds after adding backyard habitat improvements.
- Build a bat house! (Adults need to do this.) Wrap and staple an 18" wide piece of tarpaper to a tree trunk 10 to 15 feet off the ground. Make it flush with the tree at the top, and make it flare out 2" at the bottom. Keep the opening clear of branches. Point out how bats eat thousands of bugs.

THE GREAT SOIL COVERUP

Living soil is a treasure. It takes years to form, but can be lost quickly. Where ground is bare, water and wind can remove, or **erode** the soil. Plant roots hold soil in place. Where plant cover is removed, runoff from rainfall can wash soil away, especially on slopes.



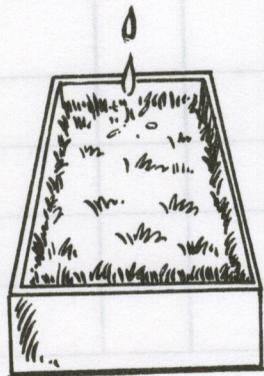
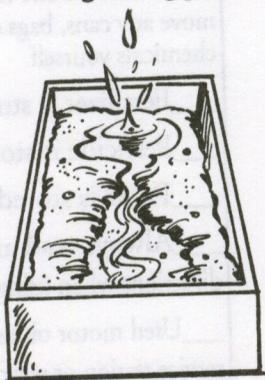
CLUES

Across

1. Found on beaches, different soils contain different amounts of this.
3. Rainfall that is not absorbed by soil.
5. Removal of soil by wind or water.
7. Grass and other plants are good ground _____.
9. The top layer of the earth's surface, suitable for growing plants.

Down

1. A slanted piece of ground where soil may erode without ground cover.
2. This can blow loose soil away.
4. Placed around plants to hold moisture and improve soil.
6. On areas without ground cover, this can wash away soil.
8. Plants use these to hold soil in place.



Goal

Children will learn to be able to define erosion, identify causes of erosion, and explain how ground cover and natural grass help prevent soil erosion.

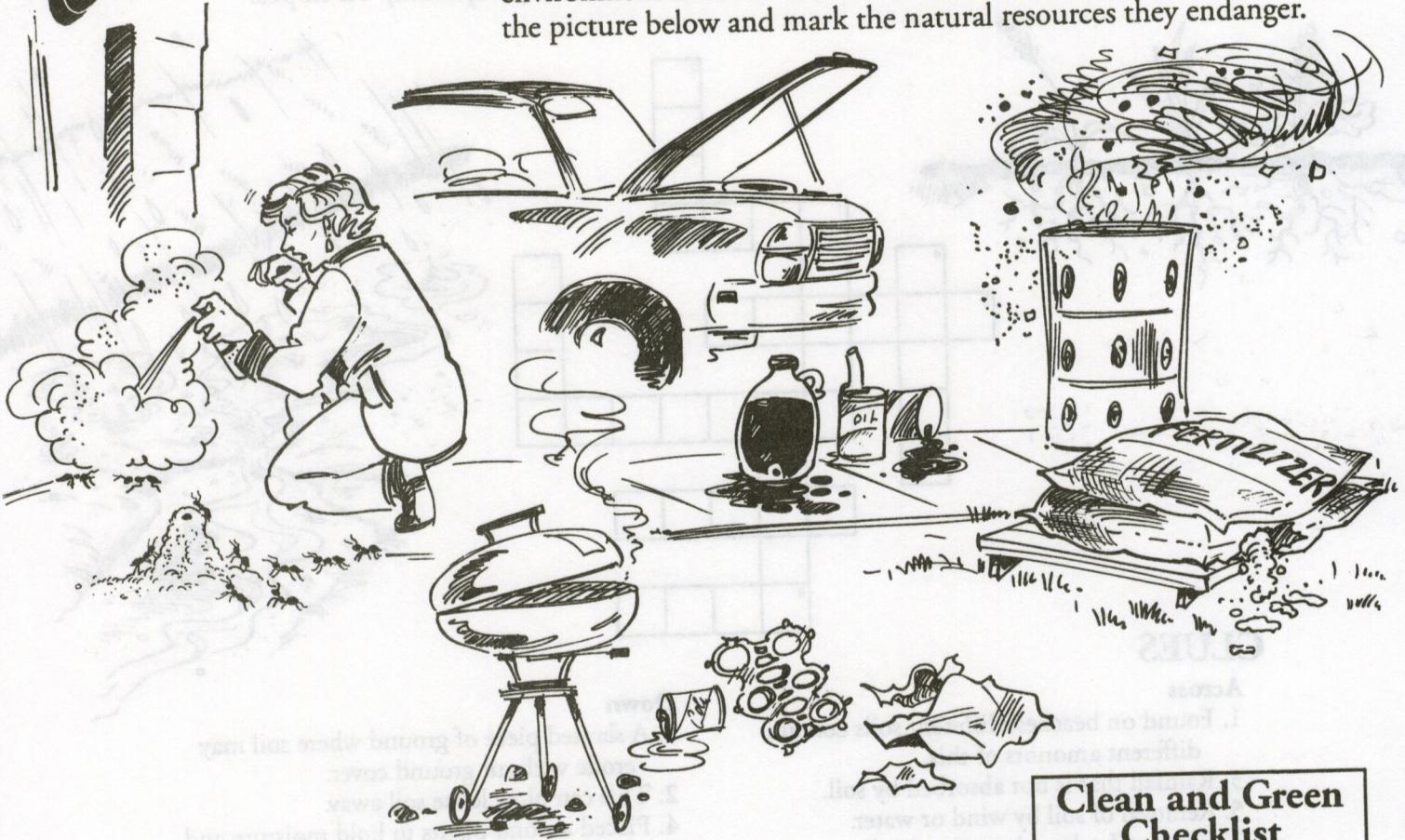
Related Activities

- Help children construct two small slopes. Leave one slope bare. Cover the other slope with a piece of sod or other ground cover. Using a watering can, have children drip water onto the slopes to simulate rainfall. Ask them to observe how ground cover lessens impact of rain, helps soil absorb water, slows and filters runoff, and keeps soil from washing away.
- Have children learn which plants other than grass are good ground cover in your area.
- Ask children to identify a sloping area near them that needs ground cover to lessen erosion. Help them plant ground cover there and note its effect.

Answers
Across 1. sand 3. runoff
Down 1. slope 2. wind
4. mulch 6. rain 8. roots
5. erosion 7. cover 9. soil

CLEAN AND GREEN

Some things we use in our homes and yards can harm the environment if we use them carelessly. List the problems you see in the picture below and mark the natural resources they endanger.



PROBLEM

RESOURCE ENDANGERED

Water Soil Air Plant Wildlife

| | | | | | |
|-------|--|--|--|--|--|
| _____ | | | | | |
| _____ | | | | | |
| _____ | | | | | |
| _____ | | | | | |
| _____ | | | | | |

Clean and Green Checklist

Use this checklist to check out your yard! If you find a problem, tell an adult. Don't touch or move any cans, bags or bottles of chemicals yourself.

- Fertilizer is stored safely.
- Pesticide is stored safely.
- Paint is stored safely.
- Always read and follow directions when using chemicals.
- Used motor oil taken to a service station or recycling center.
- Trash and litter removed.

Goal

Children will identify household hazardous waste or substances and determine the effects of each on natural resources.

Related Activities

- Find out when your city, town or county collects hazardous waste. Collect old or unwanted household chemicals and dispose of them safely.
- Have children make a poster to inform others about the hazardous waste collection day. Post it at schools, libraries and other community areas.
- Make a list of ways to control harmful insects without the use of pesticides.
- Encourage adults to leave clippings on grass as a natural fertilizer and water-saver.

Stop a Drip, Save a Drop

Water is too precious to waste! Saving water in your backyard adds up. If everyone saves water in their yards, we can make sure we'll have water when we need it.

1. Stop a leak!



If a leaky faucet wastes one quart of water each day, how many gallons of water will you save in one year by fixing the leak? (Four quarts = 1 Gallon, 365 days = 1 year)

2. Don't sprinkle...drip!



When you water plants with a sprinkler, much water is lost through evaporation. Drip irrigation, with a soaker hose, saves water by placing water near plant roots. If it takes 20 gallons to water an area of 10 square feet with a sprinkler, and it takes 5 gallons using a soaker hose to water the same area, how much water do you save? How much water will you save on an area of 300 square feet?

3. Much more mulch!



Each inch of mulch placed around the base of a tree saves 10 gallons of water each week. How many inches of mulch should you add to save 160 gallons a month?

4. The right plant for the right place!



Plants **native** to an area use less water than a grass lawn. Suppose it takes 500 gallons a month to water a lawn. If you replace half the lawn with wildflowers that need only 50 gallons a month, how much water will you save each month?

Goal

Children will be able to calculate the amount of water saved when implementing various water conservation techniques and be able to identify those water conservation practices.

Related Activities

- Discuss with children how the time of day that you water plants makes a difference in water economy and plant health.
- Have children survey their yard and house for water leaks. Ask them to tell a parent about the leak so it can be fixed. Have children report the number of they each found and calculate the amount of water saved by the entire class.
- Ask a nursery or your local conservation district for a list of plants that require little or no irrigation.
- Create a rain bucket or barrel. Place a bucket or barrel under a downspout or roof junction. Use the water collected there to water plants.

Answers
1. 91 and 1/4 gallons
2. 15 gallons, 450 gallons
3. 4 inches
4. 200 gallons