PLANNING LAND USE

OBJECTIVES

The student will do the following:

1. Write about feelings experienced in a wilderness setting.
2. Identify the land use zones on a planning map.
3. Identify land use patterns having possible negative effects on water quality.
4. Redraw existing land use maps for better environmental quality.

SUBJECTS:
Science, Language Arts, Social Studies

TIME:
100 minutes

MATERIALS:
paper
pencils
textbook or magazine pictures
crayons or colored pencils
posterboard
butcher or other large paper (for making rough copies)
rulers
student sheet (included)
local land use planning maps or aerial photographs (optional)

BACKGROUND INFORMATION

People determine how land is used in their communities. These decisions are usually driven by immediate economic considerations. In recent years, however, many communities have begun to plan their growth much more carefully. Part of the reason for this is that people have recognized that environmental quality and aesthetic value — clean, healthful, and attractive characteristics — are important considerations, along with economic concerns. Land use planners now take these less immediate concerns (as compared to economics) into account because the experience of many communities has proved that natural areas do indeed yield economic benefits in the long run by providing aesthetic value and increasing environmental quality.

Natural areas such as parks, tracts of forest or grassland, streams, and ponds are desirable features in any community. They increase an area's "livability," help people enjoy their community, and increase property values. Water bodies are highly desirable to most people. Planning to leave strips of natural area along these watercourses helps to protect water quality by filtering pollutants out of the runoff entering the water; it also provides habitat for plants and animals.

Commercial and industrial land use zones benefit from planned natural areas, as do residential areas. In any densely developed, heavily used area, the creative and sound planning of natural areas yields economic and environmental benefits for now and for many, many years to come.

Terms

agricultural: related to farming.

commercial: businesses, offices, hospitals, and stores.

industrial: factories.

land use patterns: the main ways we use land in specific areas.

open space: land that has no active use by people and is usually forest or grassland.

residential: neighborhoods consisting of houses, apartments, and mobile home parks.

responsible land management: planning for and using land in a way that benefits people and the environment.

ADVANCE PREPARATION

A. Gather the materials for the activity, including textbook or magazine pictures of dense urban areas, natural or wilderness areas, and urban areas that include trees, parks, streams, and so forth.

B. Photocopy the student sheet land use map of our county for each student.

PROCEDURE

I. Setting the stage

A. Have the students complete a sensory writing exercise.

1. Lead the students in a visualization of what it is like to have a wilderness experience. Suggest one involving water, e.g., sitting by a mountain stream hearing the water gurgle and splash over stones. Ask the students to use all their senses. Ask questions such as, "How does the light glisten on the water and move through the forest?" Prompt them with statements such as: Listen to the sounds and recall what the water sounds like and its soothing effect; Smell the forest and feel the cleanness and coolness of the air; Place your hand in the water and feel that it is cold; When you cup it to your nose, it has no smell.

2. Ask the students to then write about their experience and recall their favorite and most vivid images.

B. Discuss with the students the desirability of natural areas — forests, grasslands, streams, and ponds — even in developed or urban settings.

1. Show the students the two contrasting pictures: one of a densely developed urban area that has no open space, natural areas, or water bodies; and one of an urban area including a park or other area having trees, grass, and water (if possible).

a. Ask the students which picture they think represents the best place to live. Discuss their reasons for their choices. (They will probably prefer the area with the natural areas. Lead them to identify the natural areas and water bodies as desirable.)

b. Discuss with the students the picture of the heavily developed city scene again. Ask them what could be done to make this setting more desirable. (parks, trees, ponds, etc.)

2. Discuss with the students that people can plan ahead as they build their communities so that they can include natural areas (including water). If there are good local examples (parks, greenbelts, etc.) with which the students would be familiar, discuss these.

II. Activities

A. Introduce the students to the concept of responsible land management as discussed above.

B. Give each student a copy of the student sheet "Land Use Map." Explain that a land use map is a map that shows how we can use land, i.e., for what purposes local government has designated certain areas. Using the term definitions and the student sheet, explain the land use areas on the map. Discuss with them how the land use patterns may be detrimental to environmental quality. Note that:

1. Residential areas have no open spaces planned.

2. No open space is planned along creeks.

3. Commercial areas and industrial areas have limited open space planned.

4. There are industries located on streams.

C. Stress to the students that water is an important component of environmental quality. That is, wherever there is a "clean" environment, there is good water quality and vice versa.

D. Have the students complete the following planning activities.

1. Reemphasize the importance of clean water. (All living things must have it.) Remind the students that we are "stewards." "Stewardship" means taking care of our world and its resources. We must take care of our water and land.

2. Direct the students' attention to the land use maps.

   a. Group the students in teams and have them look at their planning maps. Tell them that the purpose of this activity is to look at the ways people use the land. If we plan to protect the environment, then life will be better for all of us.

   b. Tell the students that they will first analyze the map, looking for potential environmental problems. Have them look for possible sources of pollution or other things that affect water quality. Have them think about what they would like to have where they live. (For example, would they want to live right next door to a factory? Would they like to have a forest near where they live?)

   c. Ask what activities fit or do not fit into the zones.

   d. Allow the students to discuss their observations for five minutes, then ask the teams to list a proper and an improper use for each zone. Write their responses on the board.

3. Ask the students the following questions about existing land use. Have them identify the following on their maps.

   a. What is a residential area? commercial area? industrial area? open space area?

   b. On the map's legend, rank each of the land use areas from most area to least area in terms of size. (Have them number them with pencils.)

c. In which direction are the creeks flowing? (Have them trace the creeks with their fingers.)

d. List three land uses near creeks.

e. Describe three possible bad effects of these land uses near creeks. Why would these be bad?

III. Follow-Up

A. Tell the students to imagine now that each team is going back 40 years into the past and is going to make a land use plan. Remind the students of the need for environmental quality and quality of life for people, including water quality. Have the students imagine they are going to live in the community; they should make changes that they would like to see happen.

B. Allow time for team discussion and making a "rough" copy of their new land use map. Supply copies of the unmarked land use map for their use.

C. Ask the students to answer the following questions when they complete their new land use plans.

1. What is the biggest problem with the old map? Why?

2. What else is a problem? Why?

3. How will you solve these problems?

4. Could there be problems with your solutions? What might they be?

5. How would you make the residential areas better?

6. Was there disagreement in the team about land uses? How was the disagreement solved?

D. After answering the questions, have the teams redraw a final copy of their map on posterboard. Have them present the new plan to the class.

IV. Extension

A. Obtain planning maps or aerial photographs of your home community. (Check with your local Metropolitan Planning Commission or similar agency.) Let them analyze them as they did in this exercise.

B. Invite a member of the local planning commission to talk to the students about local planning issues.

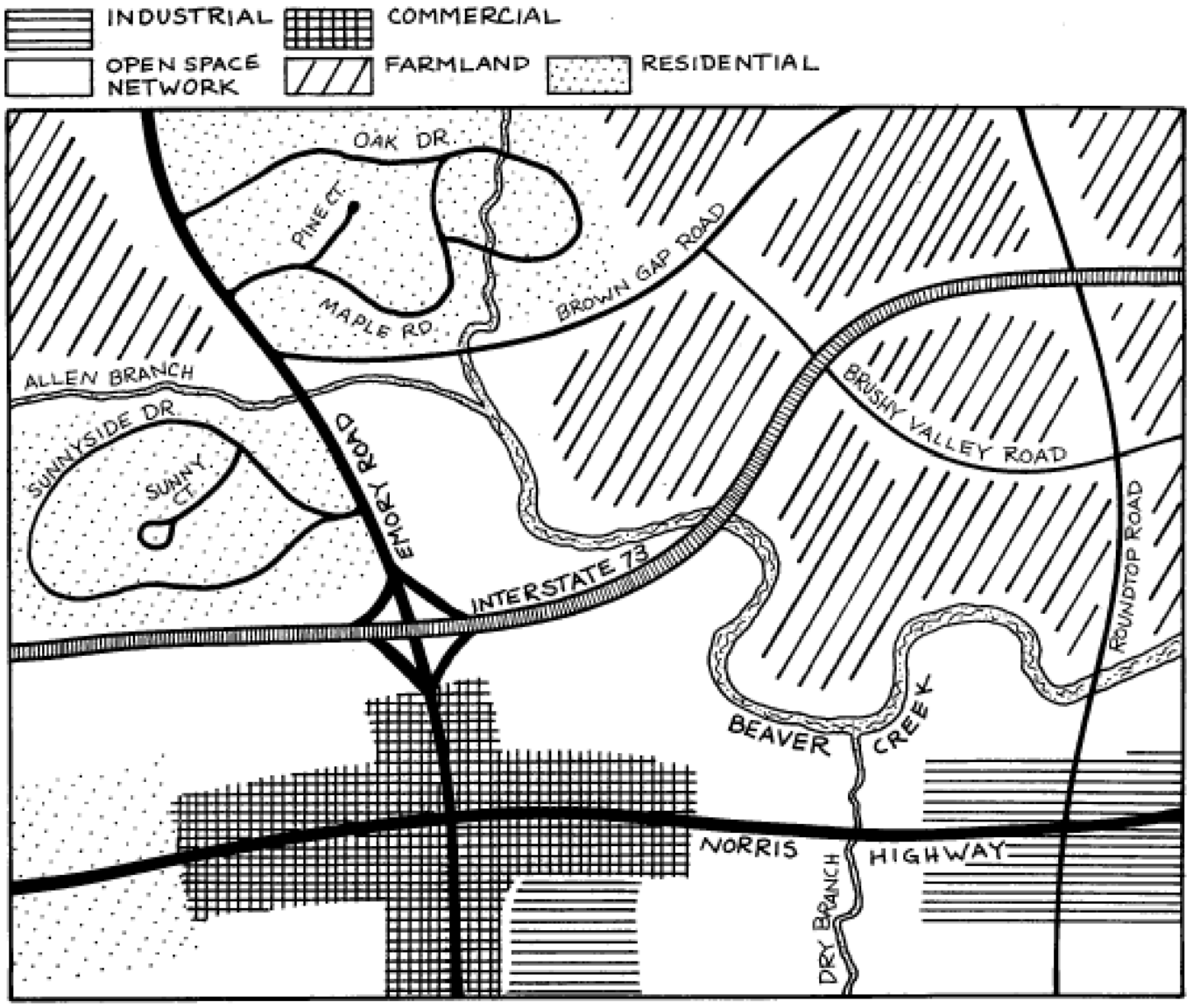
C. Have the students write songs or poems about water quality and responsible land management.

RESOURCES

Investigating the Human Environment: Land Use, Biological Sciences Curriculum Study, Teachers Guide, 1984 (ISBN 0-8403-3319-6).

O'Connor, Maura, "Living Lightly in the City," Schlitz Audubon Center, 1982.

LAND USE MAP OF OUR COUNTY



MAKE YOUR OWN LAND USE PLAN