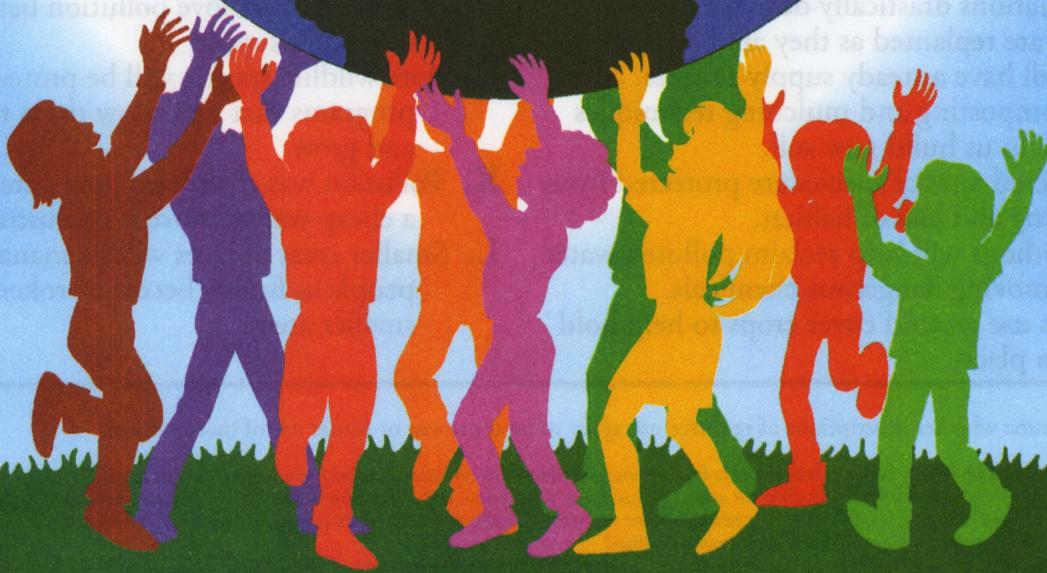


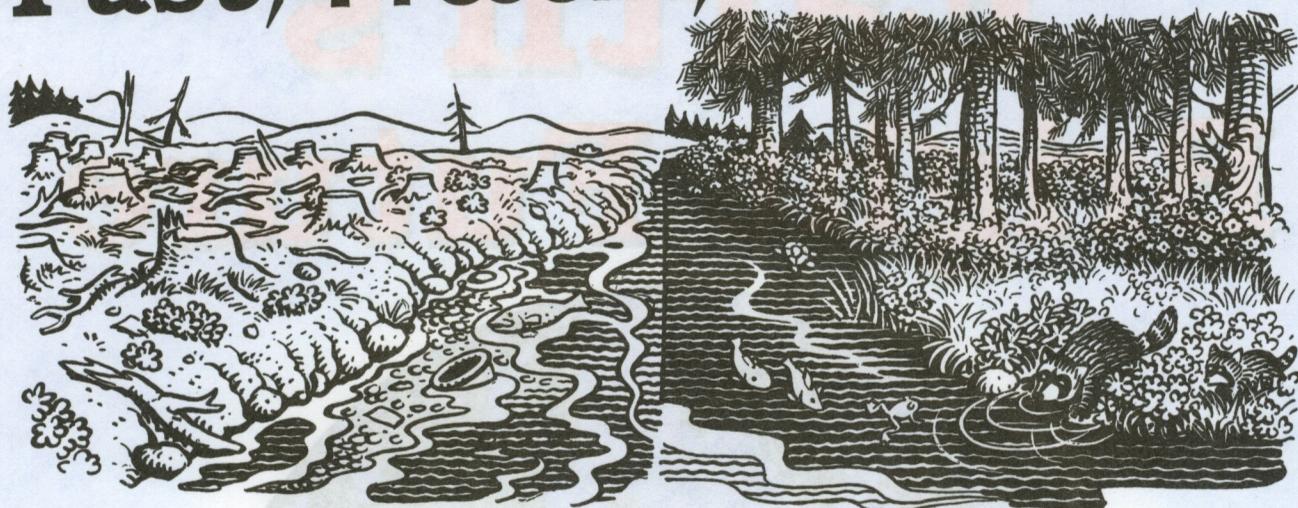
Earth's Bright Future



IN THE
children's
HANDS
1999



Past, Present, and Future



Read each description below. Match its letter with the resource it describes and whether it describes Past, Present, or Future use of that resource. The first two are done for you.

Resources	PAST	PRESENT	FUTURE
1. SOIL	A		
2. WATER			
3. WILDLIFE	B		
4. FORESTS			



- A. Poor farming practices caused topsoil to be lost to wind and erosion.
- B. Wildlife species were hunted without limits. Populations drastically decreased.
- C. Forests are replanted as they are harvested so we will have a steady supply of trees.
- D. New composting and mulching techniques will help us build new soil.
- E. Endangered animal species are protected from hunting and loss of habitat.
- F. New methods will help reclaim polluted water by removing dangerous chemicals.
- G. Farmers use ground cover crops to help hold soil in place.
- H. Trees were harvested without replanting for future generations.
- I. Barriers and filters are placed along water streams to remove pollution before it enters our water supply.
- J. More wildlife species will be protected by programs that will allow them to breed and grow.
- K. Pollution was channeled into water streams as a cheap way to move it downstream.
- L. Smaller areas of trees will be managed by more people as forests become broken up into smaller areas.

Goal

Students determine whether descriptions of resource use apply to past, present or future use of that resource.

Related Activities

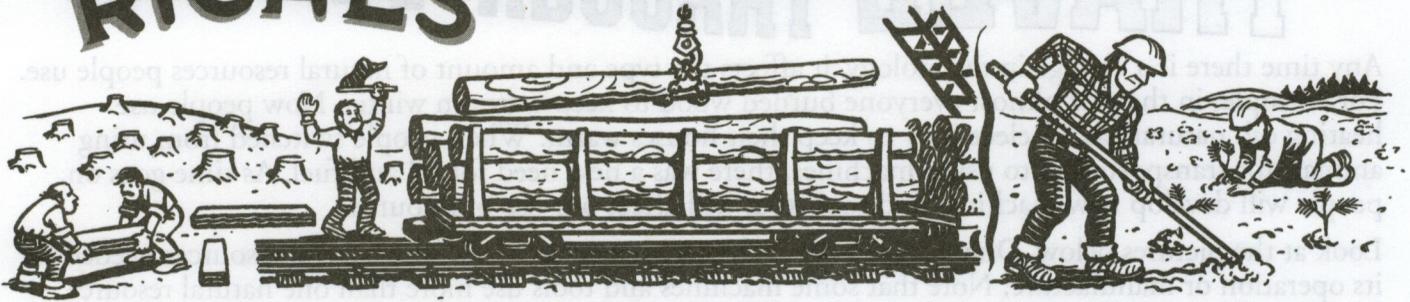
- Have students look through history books or magazines to find pictures that show how resources have been mismanaged in our country's past or have been mismanaged by other countries (for example, clear cut areas, the dust bowl, soil erosion, etc.). Discuss how these resources could have been managed differently.
- Discuss the history of bison in America. Why did they nearly become extinct? What efforts were made to preserve them? What is their status today? Discuss the fate of the passenger pigeon. When did it become extinct?
- Invite a farmer or agricultural extension agent to speak about how farming practices have changed over the last 75 years to protect our soil and water resources and how innovations in the future may help us.

Written by Scott Deschaine and Mike Benton. Art by Jim Woodring.
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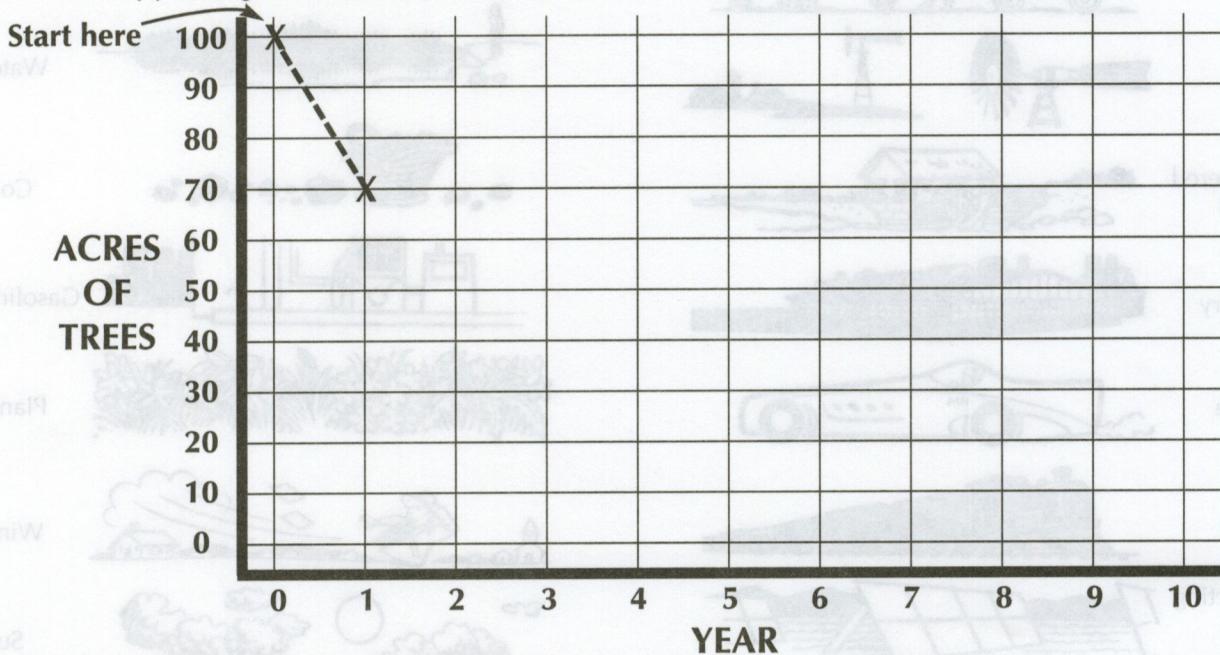
ANSWERS
1. A, C, D
2. K, I, F
3. B, E, J
4. H, G, L

RESOURCE RICHES

One hundred years ago, people harvested many trees to build our growing country. In this century, people realized they would need to re-plant our nation's forest land to have a supply of timber for future generations.



You have **100 acres** of forest land to manage for ten years. Each year you harvest a certain number of acres of trees and each year you replant a certain number of acres of trees. Use the **GRAPHING INFORMATION** below to calculate how many acres you have at the end of each year after you harvest and replant. Draw an "X" on the graph to show how many acres of trees you have at the end of that year. (Year 1 is done for you as an example.) Connect all the "X's with a line to show how the number of trees increase and decrease over a ten-year period. (For this activity, count the trees you plant that year as part of your forest. In real life, trees need many years of growth before they can be used.)



GRAPHING INFORMATION

Year 1	You harvest 30 acres. You replant 0 acres.	Year 6	You harvest 10 acres. You replant 30 acres.
Year 2	You harvest 10 acres. You replant 10 acres.	Year 7	You harvest 0 acres. You replant 30 acres.
Year 3	You harvest 20 acres. You replant 10 acres.	Year 8	You harvest 30 acres. You replant 10 acres.
Year 4	You harvest 30 acres. You replant 20 acres.	Year 9	You harvest 20 acres. You replant 20 acres.
Year 5	You harvest 40 acres. You replant 20 acres.	Year 10	You harvest 0 acres. You replant 40 acres.

Look at your completed graph and answer these questions.

1. What is the greatest number of acres of trees available? _____
2. In what years does this occur? _____
3. What is least number of acres of trees available? _____
4. In what year does this occur? _____

Goal

Students add, subtract, and plot graphs to project resource use and future resource availability.

Related Activities

- Have students make a list of resources which are not renewable (such as metal ores, water, etc.). Discuss how non-renewable resources can be managed through conservation or by finding other resources which can be used in their place or by discovering alternate technologies that can reduce the use of these resources.
- Besides trees, have students list and discuss other renewable and sustainable natural resources. What are the qualities of a renewable resource? Are other resources needed to manage a renewable resource? (For example, water and soil are needed to grow trees.)
- Invite a forester to speak about how forests are now carefully managed and replanted to insure we will have a supply of trees for the future.

ANSWERS
1. 100
2. 0, 10, 4, 5
3. 30
4. 5