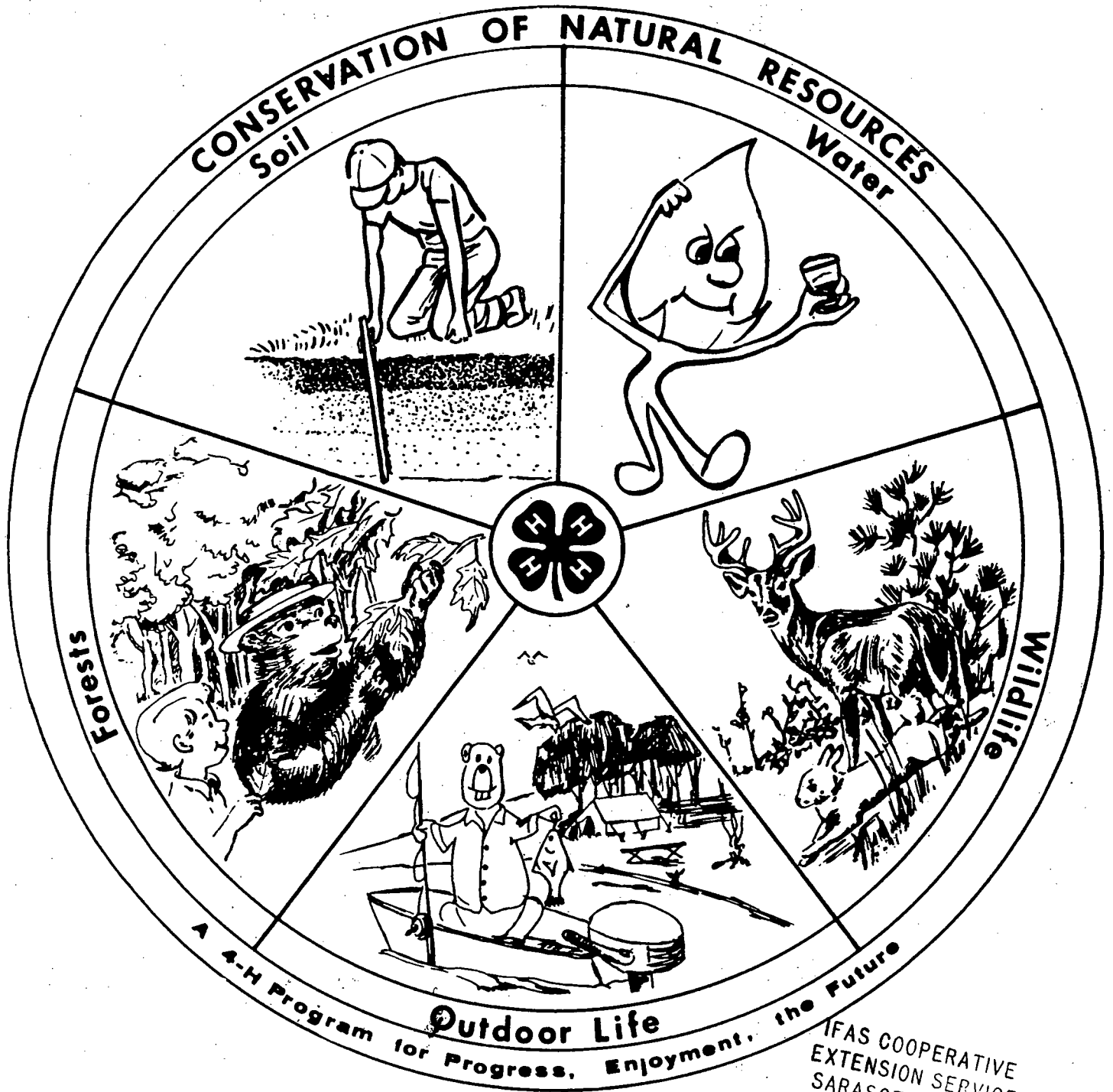


WATER: UNIT 1



THIS BOOK BELONGS TO:

NAME _____

ADDRESS _____

PARENT'S NAME _____

NAME OF CLUB _____

IFAS COOPERATIVE
 EXTENSION SERVICE
 SARASOTA COUNTY
 2900 RINGLING BLVD.
 SARASOTA, FL 33577
 955-6239 OR 955-2966

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CONSERVATION OF NATURAL RESOURCES

Conservation means to use wisely. It means to use, manage, and rebuild. Use things wisely, treat them well, and leave them so that others may have them as well as you.

OBJECTIVES

1. Develop leadership talents in conservation action programs.
2. Achieve an understanding of effective citizenship in conserving natural resources today and for the future.
3. Apply the decision-making process to make natural resources yield the greatest good to the greatest number over a period of time.
4. Appreciate the social and economic values of natural resources to the individual and to the nation.
5. Learn appropriate scientific practices and methods in conservation.
6. Explore career opportunities relating to Conservation of Natural Resources.
7. Gain a cooperative spirit by working together on a conservation education program important to the community, state and nation.

Minimum Project Requirements:

To complete this project, activities 1, 3, 4, and 5 plus two of your choice are required.

When you complete this unit, advance to WATER: UNIT II.

INTRODUCTION

In the Middle Ages people believed that the water in rivers flowed magically from the center of the earth. Late in the 17th century Halley, the famous English astronomer, added up the amount of water flowing in rivers to the Mediterranean Sea and found that their flow is about equal to the water falling as rain and snow on the area drained by the rivers. At nearly the same time, two Frenchmen, Perrault and Marriotte, made measurements of the flow of rivers and also found their flow about equal to the amount of water falling as rain and snow. These are the earliest known instances of anyone having correctly reasoned that precipitation feeds lakes, rivers, and springs. This idea was very much advanced for the time. Now there are enough river-measuring stations to permit that kind of comparison accurately for many parts of the world.

Water is being exchanged between the earth and the atmosphere all the time. This exchange is accomplished by the heat of the sun and the pull of gravity. Water evaporates from wet ground, from the leaves of growing plants, and reservoirs. It is carried in the air as water vapor, a gas. When water vapor condenses it changes from a gas to a liquid and falls as rain. The rain feeds the rivers and lakes. Rivers carry water to the ocean. Evaporation from land and ocean puts water back in the atmosphere, and this exchange goes on continually. Water goes from earth to atmosphere to earth, around and around. For this reason the exchange of water between earth and atmosphere is called the hydrologic cycle--*hydro* means having to do with water, *loge* is a Greek word meaning knowledge of. Hydrology is the study or knowledge of water.

Water is probably the least expensive, most valuable, and least valued natural resource in the State, being mined and delivered to your door for about ten cents per ton.

Contrary to the opinions that Florida's water comes from as far away as the Great Lakes and the Appalachians, our water resources are derived entirely from precipitation (rain, dew, sleet, hail, snow).

Our primary source of water is that which falls as rain on the state. However, in the north and northwest parts of the state, additional water is available from ground and surface water inflow from southern Alabama and southern Georgia.

There is no way to increase the earth's total supply of fresh water except by desalting sea water, a process which at the present time is too expensive for practical use in most areas.

Because our water resources are both renewable and mobile, the available supply at any one place is continually changing like a flow of traffic along a system of highways. This moving, changing resource is measured in terms of amounts of rain and snow, of the rising and falling flow of streams and rivers, of the vapor which the sun draws up and plants transpire, and of changing quantities underground. Water is on the move, and conserving it mostly involves controlling and diverting its natural movement over the landscape as well as storing it for periods. Consumption of water does not *use up* the overall supply significantly--although such use certainly does reduce temporarily the amount available at various points in the system, often causing serious "shortage" problems. As with other resources, we have to consider *supply* and *demand*. From natural causes the *supply* varies from place to place and time to time. *Demand* varies likewise.

There's a lot to be known about water.

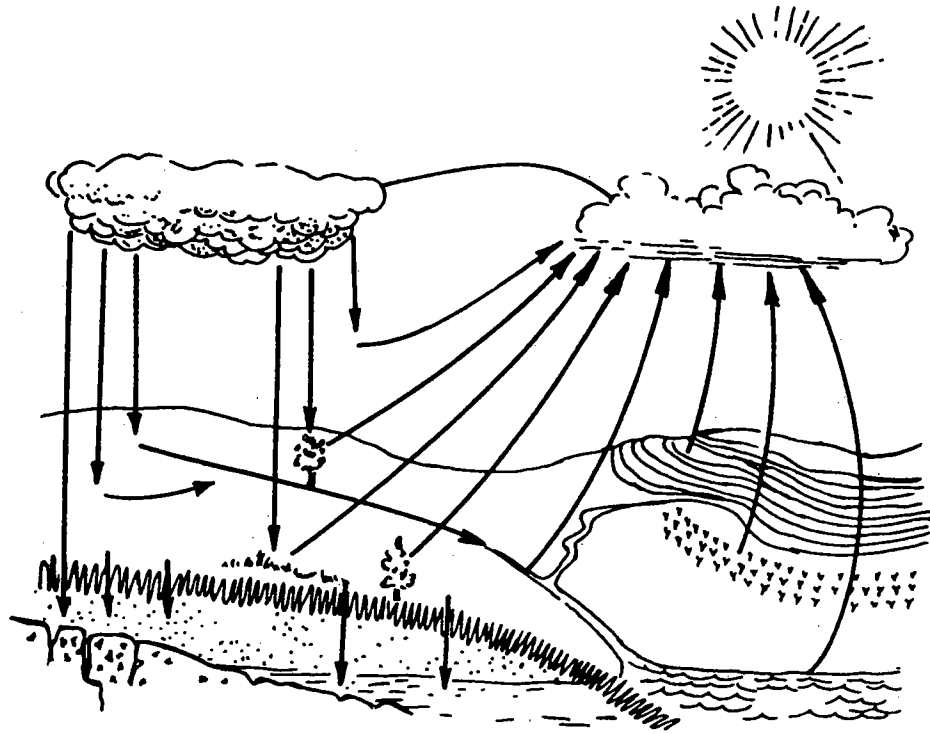
We see and feel rain, snow, dew, fog. We use water for drinking and washing. We irrigate our lawns and fields. We talk about the weather and complain when it is too wet or too dry. Most of us are conscious of the importance of water in our lives.

Learning more about water; its importance, the amounts we need, where it comes from and what happens to it; will help us use it wisely and better understand the need for water conservation programs.

ACTIVITY 2 WATER CYCLE

Did you know that all the water you use comes from RAIN, SNOW, HAIL, or SLEET? These four forms of water are called PRECIPITATION.

With the list of terms provided, label the HYDROLOGIC CYCLE shown. Another name for the HYDROLOGIC CYCLE is the water cycle.



Sun

Clouds

Precipitation

Evaporation

Ocean

Ground Water

Rock

Soil

Percolation

Surface Runoff

Transpiration

ACTIVITY 5 MATCH THE WORDS

Match the following words and phrases. Place the letter in the correct blank. Check your answers with your leader.

- | | | |
|----------|-------|---|
| A. Dam | _____ | A ridge or embankment to confine or control water, like one built along the banks of a river to prevent floods. |
| B. Fog | _____ | Small, roundish lumps of ice precipitated during thunderstorms. |
| C. Man | _____ | The liquid which falls from the clouds in rain, and which forms rivers, lakes, seas, etc. |
| D. Sun | _____ | An inland body of standing water. |
| E. Arid | _____ | An artificial channel filled with water; may be used for boating, irrigating land, or drainage. |
| F. Dike | _____ | A series of events which happen over and over again. |
| G. Hail | _____ | A body of water, usually smaller than a lake. |
| H. Lake | _____ | The heavenly body from which we receive heat and light. |
| I. Pond | _____ | A term applied to regions or climates which lack moisture. |
| J. Ocean | _____ | A natural stream of water larger than a brook or a creek. |
| K. River | _____ | A buried pipe or a ditch to carry off flood water. |
| L. Water | _____ | A great flow of water; like a body of water rising and overflowing the land. |
| M. Canal | _____ | The whole body of salt water which covers nearly three fourths of the world. |
| N. Cycle | _____ | A barrier to confine or raise water for storage. |
| O. Drain | _____ | Water vapor condensed to fine particles which reduces vision near the ground. |
| P. Flood | _____ | An animal which has a body composed of 70% water. |

ACTIVITY 6 NEW WATER USES

List at least 10 uses of water that are possible now but that were not possible in pioneer days.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

ACTIVITY 7 CURRENT WATER NEWS

Make a collection of newspaper articles about water. Using these newspaper articles, make a scrapbook or poster. (Remember, you can use this as an exhibit.)

ACTIVITY 8 TOO MUCH OR TOO LITTLE?

Are there times when too much water is a problem where you live? List several problems caused by too much water.

1. _____

2. _____

3. _____

4. _____

ACTIVITY 9 IS WATER NECESSARY?

Think of things you use that do not require water in their preparation. List several of them.

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

ACTIVITY 10 OTHER THINGS TO DO

Help your leader think up additional activities. (How about a water conservation campaign?)

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2. *Water Wise: A Conservation Handbook*, S/N 024-003-00134-1, 1979, charge.



Conservation Pledge

**I GIVE MY
PLEDGE AS AN AMERICAN
TO SAVE AND FAITHFULLY TO
DEFEND FROM WASTE THE
NATURAL RESOURCES OF
MY COUNTRY — ITS SOIL
AND MINERALS, ITS
FORESTS, WATERS,
AND WILDLIFE.**

This public document was promulgated at an annual cost of \$442.00, or 29.4 cents per copy to provide educational materials to Florida 4-H'ers. 7-1.5M-81

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