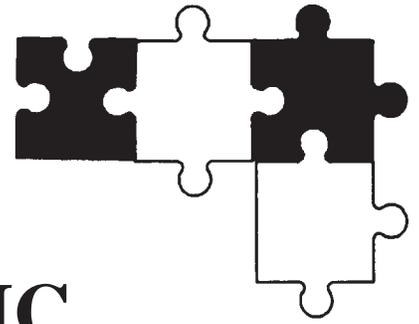




Activity 12

WATER -

A THIRSTY TOPIC



STUDY QUESTION:

Where do we get our water from?
Where can we get our water?
Why is water so important to us?

THE ACTIVITY:

Students identify sources of water available to living things and construct a chart that indicates water sources for a variety of living things.

CURRICULUM FIT:

GRADE FOUR - SCIENCE

- Categorize the various uses of water.
- Outline the importance of water for life.
- Describe human impacts on the earth's water resources.

AGRICULTURE CONCEPTS:

Water is an essential resource for all living things.

PURPOSE:

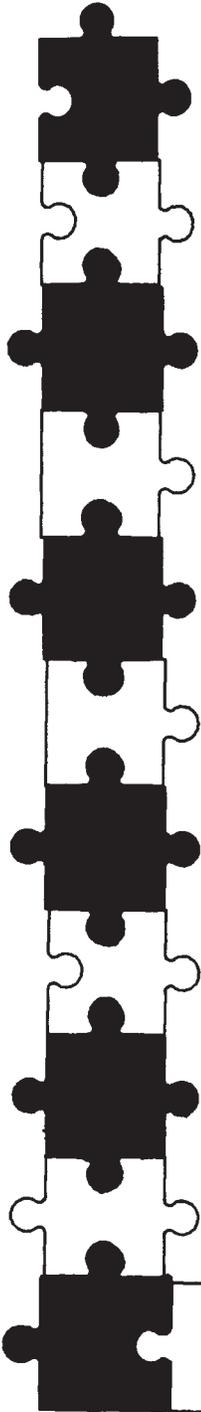
- To make students aware of how water is used, conserved and recycled for the living things in our environment.

MATERIALS REQUIRED:

Teacher Resources (included)

TIME REQUIRED:

One or two class periods.



BACKGROUND - For the Teacher

Water is one of man's most valuable resources. Without it, there would be no life on earth. This lesson is a simple one that helps to remind students of how important water is to our survival.

PROCEDURE

Part 1

Preparation

1. Read attached Teacher Resource sheets and any other material you may have on the topic of water.

Part 2

Introduction

2. Discussion: Where do we get our water from? Where can we get water? Why is water so important to us?

Part 3

Activity

3. Put list on blackboard:

cactus
grass
fish
deer
polar bears
human beings
flowers
trees
ducks
turtles, etc.

4. Students put list in notebooks. Beside each listed item, the students indicate where that plant, animal or thing would get their water from.

Part 4

Conclusion

5. Take list up when students have completed it. Have a discussion about water sources.
6. The class can share answers and the results can be charted on the board or by individual students.

DISCUSSION QUESTIONS

1. How many places are there to get water?
2. How does water get recycled?
3. Can we recycle water?

RELATED ACTIVITIES

1. Students may list ways they can conserve water in their own homes.
2. Art can be implemented by drawing a poster to promote conservation.

By Colleen Patton

TEACHER RESOURCE

SHEET ONE --

Water Use in Alberta



Irrigation is a large user of water compared to domestic use in cities and towns, with irrigation using about 90% of the water diverted from rivers. Thus any expansion of irrigated areas in southern Alberta has to face the question, "Will there be enough water?" The present irrigated area (about 400,000 hectares) is already using a large proportion of available water in an average year, and when rainfall is below normal, critical shortages may occur. Improvements in storage capacities and in water use efficiency would make possible an expansion in the irrigated area, the upper limit now being estimated at about 800,000 hectares.

Very little groundwater is available for use in large scale irrigation projects in Alberta. There are small schemes however, set up and operated by individual farmers and gardeners, using groundwater. In addition to such small scale irrigation projects a large amount of groundwater is used to supply water for towns, villages, industries (particularly the petroleum industry) and for farm homes and livestock watering. In some of these cases it is possible to recycle much of the water and thus reduce the amount that has to be removed from the groundwater reservoir.

Water for domestic use in Alberta is in general plentiful. Nevertheless some city dwellers have their water metered and pay for water used. On rare occasions, after an excessively long dry period or when the river flows are very low, there has to be some rationing of water.

Alberta rivers generally have good quality water with a minimum of suspended material in most locations. However, water quality usually deteriorates at the time of spring breakup and during big flood events. This is due to large quantities of suspended mineral and organic material washed into the rivers. Also, as rivers flow through agricultural areas and through cities and towns their quality deteriorates as they pick up run-off carrying eroded materials and wastes.

Water is obviously an important natural resource with many uses, such as for power generation, in industry, for recreation, and for support of wildlife. The government has special branches devoted to conservation of water for such purposes. This story is focusing on conservation of water in agriculture.

(Source Unidentified)



SHEET TWO --

Water Resources of Alberta

Rivers in Alberta drain eventually into the Arctic Ocean, Hudson Bay or the Gulf of Mexico. The Slave River, with its tributaries to the Peace and Athabasca Rivers, and the Hay River, flow northward out of Alberta, carrying over 85% of the total flow of all of our rivers. The Beaver, North Saskatchewan, Battle, Red Deer and South Saskatchewan drain to the east into Saskatchewan and account for most of the rest of the flow; the Milk River, a tributary of the Missouri, carries a small flow into the Mississippi drainage basin. The map shows, by the "width" of the rivers the relative amounts of flow, and depicts clearly our water resource situation - the bulk of our water is in northern Alberta, flowing towards the Arctic Ocean while the bulk of our people and our irrigation needs are in the southern part of the province. The southern half of the province has about 15% of the total water supply but 80% of the total water demand.

It is estimated that 80-90% of Alberta's water originates in the mountains and foothills. Of particular interest are the flow regimes of the rivers of southern Alberta - the Red Deer, Bow, Oldman, St. Mary, and the South Saskatchewan. These are the river systems on which the cities of Red Deer, Calgary, Lethbridge and Medicine Hat depend and these are the rivers from which water is diverted for Alberta's irrigated areas. All of these rivers have their sources in the Rocky Mountains and depend on snow melt