



Who Knew They Did So Much

Objective: Students will be able to identify at least five important functions wetlands play in maintaining our environment.

Grade Level:

4-8

Subject Areas:

Science, Reading

Setting:

Classroom or outside

Skills:

Analysis, Comparison, Interpretation

Prior Preparation:

This is an introductory activity to the functions that wetlands serve. Teacher could have class view "Do Your Part" video which explains many functions of wetlands and also introduces shorebird migration.

Vocabulary:

aquifer, erosion, groundwater, nutrients, recharge, runoff

South Dakota Education Standards for 4th grade:

Science

Nature of Science, Indicator 2; 4.L.2.1

Reading

4.R.1.2

Materials:

Wetland Mystery Grab bag:

Sponge

Pillow

Baby Bottle

Strainer

Soap

Rechargeable Battery

Bottle of Antacid

Background:

The old view of wetlands as useless wastelands could not be further from the truth. In actuality, these areas fulfill many vital ecological processes which are invaluable to humans. Flood and erosion control, groundwater recharge, water purification, and an endless list of benefits occur continuously. These processes, unseen and often unrealized, are similar to the quiet acts of a good Samaritan — seldom noticed or appreciated.

Wetland Functions:

Flood and erosion control - water is retained in wetlands and slowly released to rivers and streams. By slowing down this release, flooding and downstream bank erosion are decreased.

Groundwater recharge - as water is retained in wetlands, it is allowed to seep into the ground and recharge aquifers.

Water purification - wetlands help process chemicals, organic wastes and pollutants, and filters out suspended silt and debris from water.

Wildlife nursery - wetlands provide necessary requirements for the rearing of a multitude of animal life.

Wildlife habitat - wetlands sustain a wealth of animal and plant life and provide a resting place for migrating birds.

Procedure:

- Divide the class into small groups; seven total groups will be needed.
- Bring out the Mystery Grab bag. Explain to students that everything in the bag has something to do with a wetland. Have one student from each group draw an object from the bag.
- Students must now figure out what function their object does in the wetlands. Groups must discuss what all the possibilities are for their object. Please note: there may be more than one function for any given object.
- Ask each group to report their ideas to the class.

OBJECT	METAPHORIC FUNCTION
Sponge	Absorbs excess water caused by runoff, retains moisture even if standing water dries (e.g. sponge placed in a small puddle of water absorbs water until saturated, then stays wet after standing water has evaporated.
Pillow	A resting place for migratory birds
Baby Bottle	Provides a nursery that shelters, protects, and feeds wildlife
Strainer	Strains silt, debris, etc. from water
Soap	Cleans and purifies the water
Rechargeable Battery	Facilitates recharge of ground water
Bottle of Antacid	Neutralizes toxic substances

Vocabulary:

Aquifer - Underground rock caverns that collect and hold groundwater

Erosion - The wearing away of the earth's surface by running water, wind, ice, or other geological agents; processes, including weathering, dissolution, abrasion, corrosion, and transportation, by which material is removed from the earth's surface

Groundwater - Water which has been carried by gravity to the lowest possible point, usually held in aquifers

Nutrients - Organic particles used as food by plants and animals

Recharge - Replenish a water body or an aquifer with water

Runoff - Water that flows across surfaces rather than soaking in

Extensions:

- Divide class into small groups and have each group construct a wetlands model (see *WOW, the Wonders of Wetlands, Wetlands in the Classroom*, page 80 for explicit instructions)
- Create a wetland plant collection in your classroom as a resource for future wetland activities. You may want to construct or purchase a small plant press for use in preserving samples.
- Collect a small amount of leaves from several wetlands plants during a field trip. Discuss with class what types of plants and leaves each sample offers. Give each student one sample leaf. Have student attach (tape or glue) their sample to an inexpensive pin-button. Student should write the name of their sample underneath the leaf. Use clear Contact paper to cover badge. With remaining samples, class can construct a poster for classroom display of the plants from which each leaf derives.
- Have students enter the Junior Duck Stamp Program. Information on entries can be obtained from your local Game, Fish and Parks or US Fish and Wildlife office.