Trees of the Wetlands

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School or Agency: St. Anne Wetland Education Outreach Project

Grade Level(s): 9-12

Science Topic: Trees, Nutrient cycling

Summary: Students will discover the types of trees which are suited for wetland life. They will learn the role of trees as habitat, food, and nutrient/water reserves.

Core Content: Life science, Science as Inquiry

Objectives: Recognize which trees grow within the wetland and whether they are specific to certain areas of the wetland. Students will learn the importance of trees as habitat and food sources, as well as their role in nutrient and water cycling.

Materials: Tree Field guide, nutrient cycle handout, water cycle handout. DBH tape, measuring tapes.

Procedures: Allow students to break into groups of 4-5. Each group should measure a 15x15 (or comparable) transect. Using field guides, all trees within the transect should be identified and measured according to DBH (diameter at breast height). Students should look for flowers, buds, seeds, nuts, fruit and presence of leaf litter surrounding the trees. If, possible, look for insects or animal presence on leaves and bark (evidence of herbivory or woodpecker holes). The field guides should state the habitat in which the trees are usually found. Have students fill out their worksheets. Discuss results of tree measurements and answer the questions as a group.

Take students on a walk through the forest and look for rotting logs. This, along with rotting leaves, is an example of how trees return nutrients to the soil. Rotting logs provide excellent habitat to amphibians, annelids, arthropods and arachnids within the bark as well as

beneath them. Slime molds, lichen as well as shelf fungi can also be observed on the bark of decaying logs. Discuss the role of these organisms in the role of breaking down organic matter.

***Students may want to wear gloves in case of poisonous insects. Always roll a log toward the body in case of venomous/poisionous animals and always leave logs in their original resting place.

Resources: http://students.estrellamountain.edu/drakuna/studentfrontpageprojects/DavidIreland/new_page_5.htm

http://www.bbc.co.uk/schools/gcsebitesize/geography/ecosystems/trop_rainforrev4.shtml

Assessment Techniques: Have students research a specific wetland type (marsh, swamp, estuary, etc.) and the trees that are found within them. Do these trees have any specific adaptations?

Name:_____

FIELD TRIP WORKSHEET

Transect number:

Distance from water or wetland basin:

Tree species	DBH	Type of Forest

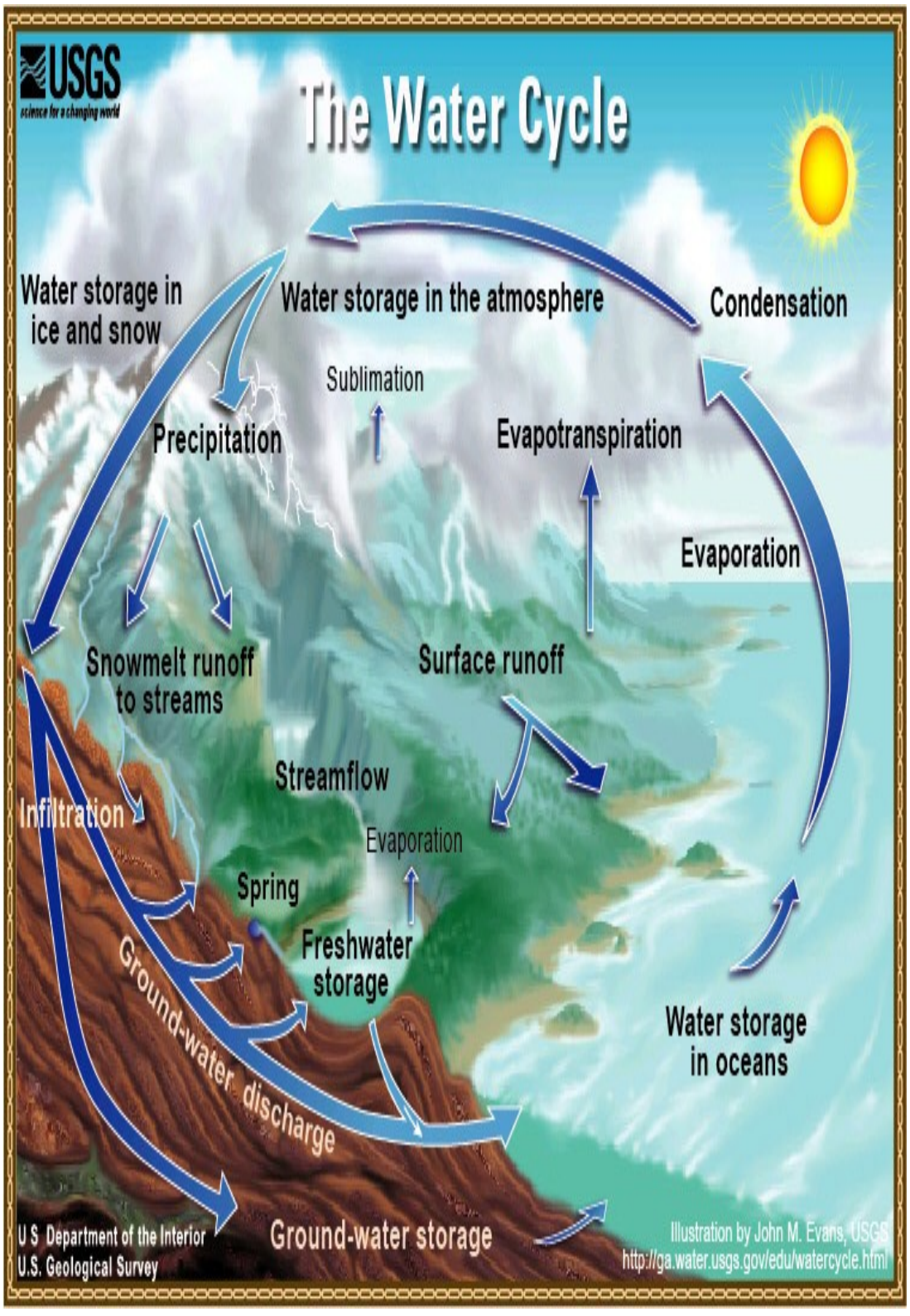
Questions:

1) Compare the roots/base of the trunk of tress near to and far from the water. Do you notice any adaptations?

2) Are there any patterns among location (distance to water) of trees by species? Of location (distance to water) by size?

3) Compare the tree species and sizes between the primary growth forest and the secondary growth forest. Are there any patterns there?

4) Which type of forest has more sunlight on the forest floor? Can you make any predictions about what type of plants would grow on the understory of each forest type?


USGS
science for a changing world
The Water Cycle
Water storage in ice and snow
Water storage in the atmosphere
Condensation
Sublimation
Precipitation
Evapotranspiration
Evaporation
Snowmelt runoff to streams
Surface runoff
Streamflow
Infiltration
Evaporation
Spring
Freshwater storage
Ground-water discharge
Water storage in oceans
Ground-water storage
U S Department of the Interior
U.S. Geological Survey
Illustration by John M. Evans, USGS
http://ga.water.usgs.gov/edu/watercycle.html

Nutrient Cycling