Wonderful Water Cycle

Overview: Water helps us live and survive. The Earth's surface is 70-75% water. The sun drives the water cycle – just like it is part of the food chain.

Procedure:
Day 1: Start by listening to a song called "The Water Cycle Song." http://www.youtube.com/watch?v=u3QwLYfgwP0. Make Water Cycle bracelets with colors to represent the step of the water cycle. Use the handout: *The Water Cycle Jewelry*. Hand out bags with the round pony beads already in them. As students string the beads discuss what each one represents.

Yellow: represents the sun
Dark Blue: represents water vapor/evaporation
Cream: represents condensation
White: represents clouds
Light Blue: represents precipitation
Brown: represents the ground where the water lands

Fill out the worksheet using pencils or rubber stamps. Another option is to have words typed that students cut out and paste.

Day 2: Start by singing a song that uses motions to teach the water cycle. Review the parts of the water cycle using the bracelets (sing to the tune of "She'll Be Coming Around the Mountain"). I like to write my songs on chart paper.

Water travels in a cycle, yes it does
(use pointer finger to make a big circle)

Water travels in a cycle, yes it does
(repeat finger circle)

It goes up as evaporation
(moves hands up to the sky)

Forms clouds as condensation
(make a cloud overhead with arms)

Then comes down as precipitation, yes it does!
(sprinkle with fingers while bringing arms down in front of you)

Record the students singing and acting out the song using a FLIP video. As the year goes on review the song.

Read *The Water Cycle* by Andrew from Tarheel Reader. http://tarheelreader.org/2012/04/27/the-water-cycle-7/ As you read about the different steps, have the students show the steps using motions from the songs.

Copy and hand out the worksheet: http://www.kidzone.ws/images-changed/water/bwatercycle1.gif. Before copying it, cut out the words or retype them to take the words off the page completely

Day 3: Use the "Rain Booklet" handout and complete as a class. This was taken from *Water* by Evan-Moor Educational Publishers. ISBN: 1-55799-691-1. More useful activities can be found in this book to support other ASOLs.

Experiment: Bring in a glass bowl. Fill it with boiling water. Put a foil pie plate that is filled with ice cubes on top of the bowl. Have students watch for the condensation that appears on the bottom of the pie plate. Sometimes the condensation will even fall! That would be precipitation.

ASOL Covered in this Lesson:

3S-ESS 5 The student will investigate and understand the water cycle and its relationship to life on Earth. Key concepts include:

c) the water cycle involves several processes

Extension Idea: Perform a class play, "The Little Goldfish" – see attachment
This play is based on "The Little Red Hen." This version deals with pollution. Laminate pictures of the animal characters in the play and have students wear the characters around their necks for simple costumes.

3S-ESS 5 The student will investigate and understand the water cycle and its relationship to life on Earth. Key concepts include:

e) water on Earth is limited and needs to be conserved

3S-SI 1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

a) observations and predictions are made and questions formed

3S-SI 2 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

j) inferences are made and conclusions drawn

5S-SI 1: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

h) hypotheses are developed as cause and effect.

l) models are constructed to clarify explanations, demonstrate relationships, and solve needs.

5S-SI 2: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

i) Inferences are made and conclusions are drawn.

j) models are constructed to clarify explanations, demonstrate relationships, and solve needs.

8S-SI 1: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations which

i) models and simulations are designed and used to illustrate and explain phenomena and systems.

8S-SI 2: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations which

d) models and simulations are constructed and used to illustrate and explain phenomena.

8S-SI 3: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations which

m) models and simulations are constructed and used to illustrate and explain phenomena.

8S-ESS 2: The student will investigate and understand the role of solar energy in driving most natural processes within the atmosphere, the hydrosphere, and on Earth's surface.

d) cloud formation.

Additional ASOLs

3E-CF 1 The student will

h) identify similarities in two versions of the same story.

The student can compare and contrast "The Little Red Hen" and "The Little Goldfish." A Venn Diagram could be useful for this task. In the longer attachment is another play, "The Tale of Drip" for more advanced students.

Extension Idea: Complete Oil Cleanup Contest Experiment (See the *News-2-You/Unique Experiment* pages).

Materials Needed: *Water Cycle Jewelry* worksheet, pony beads in zip top bags, pipe cleaners or heavy string, pencils, rubber stamps, *Water Cycle* worksheet, scissors, glue sticks, FLIP camera, glass bowl, boiling water, foil pie pan, ice cubes, play script, animal characters laminated with attached string, oil cleanup experiment pages, 4 clear bowls, vegetable oil, gauze, cotton, fabric strips, spoon, 1/8 measuring cup, watch with second hand

Instructional Setting: Special education or general education classroom

Community Connections and/or Peer Interaction: Peer Tutors or Peer Pals might be able to come and assist students in stringing beads. Some students with fine motor difficulties might do

better when someone holds the string or the pipe cleaner. Contact your local Cooperative Extension Agency for ideas on teaching about the water cycle. Call on them for resources or people to come and talk to your class. Many can bring models which make the ideas more meaningful to the students.

Functional Activity/Routine: Stringing the beads is a great finger isolation and fine motor task. Movement and motions of songs is a great way to get concepts cemented in the brain. Cutting and pasting words on worksheets can strengthen the wrist muscles which then improve writing. Coloring can also strengthen wrist and hand muscles.

Strategies to Collect Evidence:
http://www.kidzone.ws/images-changed/water/bwatercycle1.gif used on Day 2
-Have students label the water cycle using a word bank, pictures and/or cut and paste labels.
-Program a voice output device with information needed to answer questions use a data sheet to record student responses.
-Provide a choice board with pictures/words to allow students to select responses to questions, record responses on a data sheet.

Specific Options for Differentiating this Activity: Communication devices can be programmed with words or even questions that go along with the water cycle.
Another useful resource if your school system purchases it is the *News-2-You* and *Unique* curriculums. They come with science experiments that include predictions and hypothesis, as well as visuals; you follow the steps of the scientific process each week.