I. Objectives

1. Classify water cycle processes as flows or reservoirs
2. Describe limitations in common depictions of the water cycle

II. Introduction

The purpose of this activity is to refresh your memories and to ask you to think about the water cycle in terms of two categories of terms – those which relate to relatively long-term reservoirs of water – like the ocean, and those that relate to the transport or flow of water from place to place, also known as a flux – like precipitation. A comprehensive list of water cycle terms is not provided.

Another key concept is that any depiction of the water cycle is necessarily a simplification and conceptualization of a more complex series of processes. The idea that water flows in a simple circular pathway from one state to another is the first oversimplification we need to recognize.

This lab will ask require you to think of other limitations or oversimplifications. You will also need to compare various representations of the water cycle and recognize common features, right or wrong, that they contain. As any conceptual model in science, however, there is great power in using a simple representation to appreciate and better understand the underlying processes, as long as its limitations are always understood.

III. Materials

Color sheets of 12 common water cycle representations**,** 11" x 17" sheets of paper**,** marking pens or crayons

IV. Prelab Definitions

1. water cycle

2. flux (flow)

3. reservoir

4. advection

5. condensation

Additional water cycle components:

6. ….

V. Lab Procedure

Work in groups of 2. Follow the instructions and complete the questions listed below.

Which sequence are you analyzing? A:1-4 B:5-8

1. Referencing the water cycle handout provided, list all the common water cycle features that your group can identify.

2. Identify any weaknesses, inconsistencies or missing elements and specify which diagram they are in.

3. Complete the following table.

Table 1: Major Elements of the Water Cycle	
Reservoirs	Fluxes

4. Southwestern water cycle. Think about how our southwestern water cycle is different from some of the depictions you have seen. Use the materials provided to draw a simple representation of a southwestern water cycle that emphasizes some of the major differences and be prepared to summarize your sketch for the class.

VI. Lab Discussion

1. Which diagram best represents the water cycle? Why?

Lab courtesy of Dr. Jim Washburne