**Journal Introductions**

**Fellow/Teacher:** Christina O’Malley and Joan Johnson

**References:**

None

**Benchmarks:**

SLC number and description.

**Objectives:**

Introduce idea of scientific observation and use of a journal dedicated to recording observations. Teach students proper vocabulary for describing scientific inquiry.

**Materials**

Journals, pencils for each student.

**Initial Observation/Demonstration:**

- Describe what scientists do (refer back to our former science experiment).
- Introduce words to describe process of science (question, guess, test, measure, result, conclude)
- Present an unknown phenomenon (science trick, for Ms. Johnson’s class, “A Could in a Bottle”), have students practice asking questions, making a guess about what happened, and thinking of how they would make a fair test to see if they are right.

**Initial Observations:**

Discuss what scientists do.

1. Ask a question
2. Guess the answer (make a hypothesis)
3. Design an experiment, and make sure it is fair
4. Record your observations
5. Make conclusions (decide if your guess was right or wrong)

**Procedure:**

After primary discussion, ask a question that can be answered with your flashy demonstration. Proceed to lead students in what the answer might be, and then do the
experiment. Discuss if this was a fair test or not. Finally, have students tell you their observations and conclusions.

**Discussion/Summary:**

A discussion about the experiment may proceed as follows:

**Facilitator:** “I have a question. If I put the parts of a cloud in this bottle, can I make a cloud?” [My students are not able to ask their own questions.]

**Students:** (range of answers) “No, it isn’t high enough in the sky.” “No, its (sunny/cold/etc) outside.” “Yes, but I don’t know why.” “Yes. Because of conversation.”

**Facilitator:** “Those are all good guesses. A scientist would call that kind of guess a hypothesis. That is a big word to remember, but I want you to remember that a hypothesis is a guess that a scientist makes.”

[Facilitator puts warm water into a pop bottle, waits a few moments to see vapor rise in the bottle.]

**Facilitator:** “What do you see in the bottle?”

**Students:** “Steam.”

**Facilitator:** “Can anyone tell me what state of matter is steam?”

**Students:** (varies) “Air”, “Gas” (gas is correct, explain that air is a mixture of many gases)

**Facilitator:** “Where does it come from?”

**Students:** (if you are lucky like I was…) “It came from the liquid water in the bottle evaporating.” (or, lead them through the ideas of evaporation, and that water is a liquid)

**Facilitator:** “Good job! Now, what happens if I blow out a match [blow out a match].

**Students:** “It smokes”

**Facilitator:** “What is smoke?”

**Students:** “Bits of dust from the match” (a good working definition, actually, and based on their observations, so use it)

**Facilitator:** “So, if I but these tiny smoky bits in the bottle, what does the water do?” …
Continue with reinforcing the concepts of states of matter, the water cycle, and where you see them in weather.