

## Teacher Guide Sheet for the Water Habitat Pond Field Trip Observations

### I. Classroom Anticipatory Lessons in Preparation for Pond Water Habitat Observations:

#### LESSON #1 Reviewing Previous Pond Photo Journals

Time: Two one-hour lesson blocks

Materials:

- Previous Photo Journals of the Pond
- Computer writing document for recording reflection comments on pond data found in previous Photo Journals

Hour #1:

- a. The class is divided into heterogeneous reading groups of four children each with a parent volunteer, classroom teaching aide, the classroom teacher, or second year classroom student moderating the group's discussion of data from Photo Journals. Each group has a sequence of several previous photo journals to review.
- b. Each group systematically reads the narrative of the photo journals aloud beginning with the earliest dated journal and then comments on the pictures as they relate to the text.
- c. The small group participants take turns making verbal comments about longitudinal changes/similarities in the pond over the time period of the photo journals. The goal is to compare and contrast the written and image data in their group's collection of photo journals. The moderating

parent volunteer, classroom aide or teacher, or student records the comments made by the group in a writing document on the computer.

- d. When the group has finished making their comparing/contrasting comments, the written document is saved and printed for re-reading by the group.
- e. The group re-reads their comments in preparation for sharing their comments with the whole class. The group selects examples of photo journal pages to illustrate their comparing/contrasting comments of changes/similarities in the pond from photo journal data.

#### Criteria for Comments:

1. Students are instructed that comments must reflect the actual information provided by words and images in the photo journals. The goal is to develop skills in using actual data available. Teacher models examples of comments based on actual data and comments based on speculation or imagined observations.
2. Assessment: Student comments are reviewed by the teacher for accuracy of basing comments on actual data.

#### Hour #2

- a. The class gathers as a whole group to share their comments about the photo journals
- b. Each group reads their comments to the class and shows their chosen pages of pond photo journals that illustrate their comments.
- c. Teacher moderates student's verbal reflections and or extended thoughts in response to comments presented by peers

Criteria for Assessment:

1. How well did the students present their comments?
2. How were students being active listeners? Could students restate the comments presented by classroom peers? Did students listening to comments generate further comparing/contrasting ideas upon hearing peers comments?

## **LESSON #2 Predicting Pond Observations for Next Field Trip to the Pond**

Time: One 45 minute Lesson Block

Materials: Classroom Whiteboard and new computer document for recording predictions.

Teacher explains the process of making reasonable predictions on observations that the class might expect to make on the pond field trip keeping in mind the present weather and time of year.

Process:

1. Students make verbal predictions of observations they expect to make at the pond
2. Teacher records comments on the white board and leads discussion of comments to extend/further clarify predictions; Teacher leads inquiry as to what observations the class might do at the pond to confirm or refute predictions
3. Two students type comments from the whiteboard into a computer document; one student does the keyboarding while the other student reads the

comments/spells the words from the whiteboard; both students read the computer text to edit for accurate spellings and complete copying of comments

4. Students take turns re-reading the list of predictions.

#### Example of Class Predictions for Pond Observations in January

1. There might be a lot of ice.
2. The pond water might be ice.
3. The fish might be cold under the ice.
4. There might be snow on the ice.
5. There might be little spots of open water.
6. The macroinvertebrates might be cold.
7. The ducks might be gone or have their heads tucked in their wings.
8. Maybe the turtles are gone.

## **II. Pond Observation Field Trip**

Time: 1 1/2 Hours

Materials:

Sony Mavica Digital Camera

Notebook & Paper in plastic bag

Water Thermometer

Water pH strips

Optional: Video Camera to record data and student comments

Process:

1. The class walks from the school to the pond.

2. At the pond, the class makes observations and \*digital images are taken at regularly designated observation locations which are:
  - a. North edge of the big pond to get a close view of the island and take water temperature and pH readings (Water temperature and pH readings are recorded in a notebook.)
  - b. East edge of the big pond to view the waterfall
  - c. South edge of the big pond for an overall view of the big pond
  - d. West slope above the big pond to look down at the pool above the waterfall and the waterfall
  - e. West edge of the big pond to see the island from another angle
  - f. Walk along the stream that connects the big pond to the little pond
  - g. South end of the little pond where the stream enters the little pond
  - h. West edge of the little pond for taking water temperature and pH readings
  - i. North slope above the little pond from where the class can observe the farm near the park as well as the little pond
  - j. Slope on the East edge of the little pond

\* Children first learn how to use the digital camera in the classroom by having the teacher help them hold the camera steady, as they learn to focus and take the image. At the pond, they also have assistance from the teacher in holding the camera as they select the image then press the button to focus and take the image.

## Observation Framework:

1. What is the water like? Smooth, ripples, waves, frozen with thin ice, thick ice, partially frozen?
2. What is the visible water quality and color? Clear, brown, brownish-green?
3. What is the water temperature and pH at the big pond?  
At the little pond?
4. Is there litter in the water? What kinds?
5. What kinds and numbers of ducks are at the ponds?  
What is their behavior? Where do we observe them this time?
6. Are there more, less, or the same number of ducks than before? Why?
7. What is happening on the island? Do we see ducks and turtles there? Why or why not? What is happening to the vegetation on the island?
8. What is happening at the waterfall?
9. What is happening in the stream?
10. What is happening at the little pond?
11. What are we seeing this time at the pond that we didn't see last time? What changes have occurred? Why?
12. What are we not seeing at the ponds this time that we have seen before? Why?
13. What is the weather like at the ponds? Windy, calm, clouds or clear sky, cold, warm, precipitation?

## Criteria for Observations:

Verbal data comments must be supported by what is actually observed at the pond site. Teacher scaffolds students in making comments based on what they can actually observe not on what they think might be there but can't presently see.

Teacher encourages students to give rationale for their observations (i.e. if the data comment includes observation of more ducks seen than on previous trips, the student is encouraged to consider reasons for this data occurrence.)

Teacher encourages students to compare/contrast the data observations to their knowledge of prior data observations (i.e. if there are no leaves on the red osier dogwood, the students are encouraged to remember how the red osier dogwood looked on the last pond field trip)

Assessment:

1. On whole class field trips to the pond, students will be assessed on:

a. learning engagement;

b. contributions of observations and comments;

and;

c. efforts towards scientific inquiry at the field site.

This assessment will be recorded by the teacher as written anecdotal notes.

2. On whole class field trips, students will be assessed on performance and understanding of taking and recording data for water temperature, pH, and measurements of pond dimensions. Students will be assessed by: a) checking accuracy of their data at the field site and b) anecdotal notes on their engagement, participation, contributions and learning while doing the data collection as well as their verbal contributions of data observations to the whole class

at the pond site. This assessment will be recorded by the teacher as written anecdotal notes.