

Pond Study -- Instructions for Adult volunteers

Scientists do observations and take different kinds of measurements. The children rotate from one station to the next. Allow about 10 minutes for each station

Station One --Temperature Readings and weather

Ask what they think the weather is today and have a child volunteer circle the group's answer.

Show the children how to read the large thermometer, (look for where the red line stops) and tell them we will record the temperature of the water and then for the air. These measurements are recorded on a dry erase poster for the group. Have one child volunteer read the temp of the water, and another one record it. Repeat for air temp and compare. Have another add the degree "circle" if you need more jobs so everyone gets a job. If the day is sunny and warm there should be a difference over time between the air and the water.

Show them that the "little circle" after a number is what means temperature degrees. (As opposed, for example, a plain number which could be for elephants) Ask students about how temperature affects them. What they do if they are too hot or too cold? How about the fish or frogs? Can they put on a jacket? (Water temperature keeps a more constant temp than the air which can rise and fall many degrees from night to noon, so water is a better location for cold blooded animals.) When the group is moving to a new station, record the group's findings on a separate piece of paper so you will have all four group's readings for the teacher at the end.

Station Two -- Drawing

Tank Observation

This is a drawing activity where the students record their observation of what they see in the small tanks. Make sure students have the correct sheet on their clipboards and have written their names at the top. They will usually just draw the fish or insects, so point out they need to draw everything-- the different plants, the fish poop, mud, rocks, etc. Ask what the fish might use the plants for (food, hiding places against predators, for air (oxygen) for their gills)

Scope Observation

This is another drawing activity. The students take turns looking through the magnifying scopes and recording what they observe in several.

Station Three -- Tally Sheet at the Pond

Children record observations on tally sheet. Explain how to do a tally. Four marks and the fifth at an angle. (Don't worry if they don't do this, it may be a new procedure.) Remind children to be quiet and avoid quick movements at the pond so they won't scare away the wildlife. They should record what they see and what they hear. Be sure students do not put feet over the lip of the pond. (This is how I slid in myself). If the group is large, split the group in half with one group on one side and the other on the other side, then switch groups. Talk about the ecology of the pond, how each creature or plant supports the rest.

Station Four--Math Measurements

Measurement Of How Far a Frog Can Jump (and give the children a chance to move and jump. **The adult does not have to jump**)

(Have the children sit on the kneelers on one side of the path to start.)

Sometimes we use rulers or yardsticks or meter sticks to measure length. We say something is so many feet long. But we can use any unit of measure. Today we are going to use "one frog" as a unit of measure. (Show the children one green paper frog)

1. Each child takes a turn seeing how far he or she can jump.
2. Ask the children how far they think a frog can jump.
Answer: A frog can jump ten times its length.
3. Give each child (and adult if necessary) one paper frog until all ten are handed out. Mark the starting point. Have the children measure 10 frog lengths on the ground using the green paper frog. Mark the ground.
4. Then use the bamboo pole to measure a child and mark out 10 child lengths on the ground.
5. Let all the children jump ten times forward. **This is how far they would have to jump in one move if they were a frog!**

Station Four

Temperature Reading for School

Group One Water _____ Air _____

Group Two Water _____ Air _____

Group Three Water _____ Air _____

Group Four Water _____ Air _____