

Kory Call
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Fall 2004

Unit Overview: Observing a Stream Ecosystem

Grade: Kindergarten

Abstract: In this unit, students will be using their five senses to gain a better understanding of a river ecosystem. By making careful observations, students experience how their senses provide them with additional information about the environment. Each activity will build upon prior knowledge and will conclude with the students sharing their findings and discoveries.

Terminology:

Senses: People have five senses, the sense of sight, hearing, touch, smell, and taste.

Observe: To become aware by careful attention

Identify: To point out or name an object or event

River: A river is a large, flowing body of water that usually empties into a sea or ocean

Stream: A stream is small body of flowing water, a small river.

Science Benchmarks:

- People can often learn about things around them by just observing those things carefully.
- Tools such as thermometers, magnifiers, rulers, or balances often give more information about things than can be obtained by just observing without their help.
- In doing science it is often helpful to work with a team and to share findings with others.

Standard 3: Students will develop an understanding of their environment

Objective 3: Recognize symbols and models used to represent features of the environment

d. Make representations of things observed in the environment

Intended Learning Outcomes:

- Use science processes and thinking skills
- Understand the environment around them
- Understand how the five senses are used to obtain information about the environment

Assessment: The assessment for this unit will be ongoing. It will include: observations, questioning, and the outcome of their final project.

Resources:

- Project Wet: Curriculum & Activity Guide, 2003
- <http://www.enchantedlearning.com>

Part One: Learning through our senses

Time: 60-90 minutes

Grade: Kindergarten

Abstract: This lesson will help the students understand the true value of their senses. They will explore using a hands-on activity.

Materials:

- Senses boxes (shoe boxes with fabric covered holes)
- Items that are found around a stream (ex. Rocks, flowers, plants, feathers, ect)
The items can be examples of things students may want to collect
- Class senses chart
- Stream sounds CD

Background Information:

Prior to this lesson children should be familiar with the five senses of sight, touch, taste, smell and sounds. There should be one senses box at each station, you may or may not have a taste box. For example the smell center may have a box with flowers or leaves, and the touch box may contain sand, rocks, or water. In my class I would have multiple sense boxes at each center.

Preparation:

1. Place two senses boxes at each sense station
2. Label each center with the sense they will use (Sight, Smell, Listen, Touch)
3. At listening center place tape player with stream sounds CD

Introduction:

1. Read *The River* by Nik Pollard ISBN: 0761317783
2. Talk about how our senses help us become familiar with our environment
3. Discuss how rivers and streams are alike and different. Talk about how a stream is a small river, and how many things that are found near a river can also be found near a stream.

Assessing Prior Knowledge:

4. Tell students we are going to visit a stream near the school tomorrow and make observations based on their senses. Discuss each sense and what an observation is.
5. Ask them to help make predictions about what they will see, hear, touch, and smell at the stream.
6. Provide visual aids for each of the senses.
7. Write students responses on class senses prediction charts (create one chart for each of the four senses they will be using)
8. Give ample wait time, and encourage all students to participate.

Procedures:

9. Put students in center groups to rotate through sense stations
10. Each student will investigate using the appropriate sense at each discovery station to make a prediction about what is in each sense box. At the listening station they will predict what they are hearing on the CD

11. Before students transition to next center meet with each group to discuss their discoveries
12. After all each student has visited all the centers have a class discussion about their findings
13. Revisit the class charts to get any additional predictions

Enchantment Activity

Provide a five senses book for students to write in and color if they finish at a station early. Example can be found at <http://www.enchantedlearning.com/books/easy/senses/> (note: you must be a member to print it out.)

Accommodations :

Accommodation	Needs Met
Allow Additional time for students who need it as well as enhancement activity for those who finish early	ELL students and those with cognitive challenges as well as gifted students
Allow for ample wait time	
Provide Visual Aids	Hearing Impaired, ADHD, ELL, and students with cognitive difficulties

Assessment :

- Observe students while they are at each station
- Listen to students responses during class discussion and at the stations

Rubric

	3	2	1
Rules and Safety	Followed all rules and does not pose a threat to self or others	Follows most rules and does not pose threat to self or others	Does not follow rules and/or posed threat to self or others
Participation	Attends all centers and makes reasonable predictions at each one	Attends most centers and makes somewhat reasonable predictions	Does not attend all centers and/or make reasonable predictions

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Part Two: Visit a Stream

Time: 60-90 minutes

Grade: Kindergarten

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Objective 3: Recognize symbols and models used to represent features of the environment

d. Make representations of things observed in the environment

Science Benchmarks:

- People can often learn about things around them by just observing those things carefully.
- Tools such as thermometers, magnifiers, rulers, or balances often give more information about things than can be obtained by just observing without their help.
- In doing science it is often helpful to work with a team and to share findings with others.

Abstract: Students will visit a stream ecosystem and use their senses to become familiar with the environment. It will provide them with real life experiences.

Materials:

- Explorer bags for each student: Magnifying glass, mini-clipboard, pencil, paper, baggies, hand wipes
- Bottles
- Camera and Film
- Binoculars
- Class senses charts
- First aid kit
- Extra hand wipes

Background Information:

Before going on any fieldtrip it is important to visit the area first to ensure it is a safe place for students to be. It is also important to make sure that it is either close enough to the school or there are restrooms near by. Obtain permission slips from parents and ask for helpers.

Terminology:

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Identify: To point out or name an object or event

River: A river is a large, flowing body of water that usually empties into a sea or ocean

Stream: A stream is small body of flowing water, a small river.

Preparation:

- Create explorer bags for each student
- Obtain Parent volunteers to assist on stream walk
- Send note home to inform parents about field trip

Prior Knowledge Assessment:

1. Remind students they are going on a fieldtrip to a local stream.
2. Ask them why they think we are going to visit the stream
3. Talk about what we can while we are at the stream to learn more about it

Procedure:

1. Explain stream walk safety rules and guidelines (see attached)
2. Discuss what students are expected to accomplish while at the stream. They will be responsible for making observations using all of their senses, and collecting items of interest, and recording their findings.
3. Partner up students
4. Walk to stream
5. At the stream:
 - a. Encourage students to use their explorer bag to investigate what is around them with their partner. Talk about how their magnifying glass can help them see things they can't always see with their eyes alone. Model appropriate use of magnifying glass.
 - b. Give students 5-10 minutes for free exploration of a designated area
 - c. Ask questions to stimulate the senses
 - i. What plants, animals, bugs, ect. do you see?
 - ii. What sounds are you hearing? Water? Animals? Cars?
 - iii. What can you smell? Does it smell the same here as it did on our way here? Does the stream smell like tap water?
 - iv. What does the stream water? Does the soil feel different then the soil at your house or school? How do the rocks feel?
 - d. Have students draw pictures of what they see around the stream, help students record their observations of smells, textures, and sounds
 - e. Students may use their baggies to collect items of interest to them. Items should be small enough to fit in their bag.
 - f. Return to classroom.
 - g. Allow students to share their observations with the class. They can share pictures, items, or verbally.
 - h. Add new information to senses charts, check to see if predictions were correct. Discuss if there are any items that were not observed at the stream or if there are any new items they want to add.
 - i. Discuss how the senses helped us at the stream.

Accommodations :

Accommodations	Needs Met
Working with partner	ADHD students by teaching social skills by teaching students to interact socially and work cooperatively. Also provides opportunities for mixed ability work which helps ELL students with modeling of age appropriate language skills.
Asking Thought Provoking Questions	Assists students with cognitive difficulties as well as helps ADHD students stay on task.

Assessment:

- Observe students at the stream to check for involvement in inquiry process
- Collect and review students drawings and any other “notes” they took
- Listen to students findings to check for understanding of the stream environment (ex. “I saw a pig” is probably not valid)

Rubric

	3	2	1
Rules and Safety on fieldtrip	Followed all rues and does not pose a threat to self or others	Follows most rules and does not pose threat to self or others	Does not follow rules and/or posed threat to self or others
Participation at stream	answered questions appropriately	answered questions somewhat appropriately	did not answer questions appropriately
Responses in Class	Student is able to clearly tell what he/she observed at the stream	Student is somewhat able to tell what he/she observed at the stream	Student is not able to tell what he/she observed at the stream
Drawing	Accurately depict what was seen, smelt, heard, and/or touched	Depict what was seen, smelt, heard, and/or touched	Do not depict what was seen, smelt, heard, and/or touched

Extra Stream Ecosystem Ideas

- Create a mobile of things they observed at the stream using each of the senses
- Make a flyer that identifies sights, sounds, smells, and touchable objects near the stream
- Guest Speaker: Government Agency, Water conservation agency, Educational agency, ect.
- Water Quality
- Take Measurements
- Stream cleanup (service learning)
- Observe the stream over time to see how it changes (fall, winter, spring)

Notes for Teacher

1. Visit stream first to determine if it is safe for students to visit. Also look for walking conditions, potentially dangerous wildlife, poisonous plants, ect.
2. Bring along a first aid kit.
3. Define stream walk boundaries; make sure students understand that staying within the boundaries protects wildlife and students.
4. Locate a place where students can wash and use a bathroom.

Stream Walk Safety Rules

1. Students should stay with their assigned buddies.
2. Students should wear old athletic shoes or boots because they will likely get wet and muddy.
3. Students should not enter the stream without adult supervision.
4. Students should not touch wildlife or taste anything (plants or water) unless permitted by teacher.