

X-Stream Exploration

Ages: Grades 3-6 (*adaptable for all ages)
hour

Time: 45 minutes - 1

No. of participants: 5-10

No. of additional adults: 1+

Required supplies:

- laminated Macroinvertebrates identification sheets
- nets of assorted sizes and carrying container
- collection containers
- ice cube trays for sorting
- hand lenses
- chart paper
- rubber boots or water shoes if possible - *Let people participating know beforehand that they will be going into the creek and should dress appropriately and wear something on their feet that can get wet. Participants should also bring a towel.*
- large seine net

Objective: To get into Drift Creek and find, collect, and identify living organisms in the creek. To learn about specimens we find and discuss their relationships to each other and their roles in the aquatic ecosystem.

Lesson Plan Procedures

1. Introduction:

- Today we will be actually getting into Drift Creek and collecting living organisms from it! Then we will get a chance to take a closer look at these organisms and discuss how they are all important to each other.*
- Before we go a reminder to be safe during this activity; the rocks are very slippery - no horsing around! Also, we will have more luck collecting things if we are quiet. So please, no splashing, jumping, or running through the water. Everybody understand? Good, let's go down to the stream!*

2. Beginning Instructions:

- (Give these instructions once you get to the creek bank.) Each of you should choose a partner now (depending on the size of the group, students may need to work in threes). Each pair will get one of these nets and one of these containers. Look for animals including worms and insects (look for all sizes - many are going to be very small) in and around the creek - remember to check under rocks! Carefully collect the organisms that you find using your net. Anything you find that you'd like to examine further should be placed in one of these collection containers depending on its size.*
- After you find something, work with your partner to identify it. I have brought these sheets and magnifying glasses to help you do so.*
- After you have identified the animal, ask an adult for a second opinion.*
- When you come to a conclusion, add that animal to the list that we will keep on this chart paper. If what you found is already on the list just add a tally mark behind it.*

- e. Before returning the specimen back to the creek, show it and tell its name to at least one other pair. You may want to save some of the collected animals for the end of the lesson to show everyone.
- f. You will have _____ minutes (20 minutes should be sufficient) to search around this area of the stream (which should be scouted out and decided on by one of the leaders beforehand).
- g. Before ending, make a couple runs with the seine net. Have adults hold either end while the students splash around upstream, pushing organisms into the net.
- h. Once the time is up, get everyone out of the creek - allow them to dry off with their towels while the collection supplies are collected and counted.

3. *Main Lesson:*

- a. Ask all of the students to find a somewhat comfortable spot where they can see the chart paper list.
- b. Go over all of the creek-life they found by reading through the list. Show and pass around any examples that were kept.
- c. Define “ecosystem” (a localized group of interdependent organisms together with the environment that they inhabit and depend on. - explain what that means.)
- d. Discuss this ecosystem.
 - i. Who do you think eats what? (Use this information to sketch a food chain/web.)
 - ii. How could _____ be important to _____?
 - iii. What if there were no more _____s, how might that effect the ecosystem?
 - iv. Besides the animals, what other things are important to this ecosystem?

4. *Conclusion:*

- a. Wrap up by reminding them how we have an important role in keeping this ecosystem, and others like it, healthy.
 - i. Why should we take care of creek ecosystems?
 - ii. How could we take care of creeks like this one? (Possible answers - don't pollute it, be gentle with the animals we find in and around it, don't change its flow, etc.) - May want to also record these answers on the chart paper.

* Option for extending this lesson for advanced and/or older groups: See X-Stream Exploration II lesson.