

Scavenger Hunt:

A Teaching Tool to Reinforce the Basics

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We all teach taxonomy, but how many of our students have classified an organism they have found? How often has a student seen moss and recognized the sporophyte and gametophyte generations or searched for a prothallium other than in a lab diagram or petri dish supplied by the teacher?

These kinds of facts—leaf venation, the difference between a monocot and dicot, what an exoskeleton is, insect metamorphosis and the biological name for many organisms and structures students see every day—are learned for the test and forgotten shortly thereafter. It is remarkable how students can learn for an exam and forget a month later how to apply their knowledge in the field.

In attempting to make “biology basics” meaningful, I close the school year with a week-long scavenger hunt. Students are grouped in pairs. I try to pair a good student with a poorer one, and an adventuresome student with a bookworm, so they can learn from each other.

Each pair is given a list of specimens to find, and each specimen has an assigned point value. As they find each specimen, they must show it to me, identify it, and answer an appropriate question or two about its function, relationship to other organisms, or its life cycle. If I am satisfied that

they understand what they have found, I initial their paper in the appropriate place, and they gain the point value. If their specimen identification is incorrect, or I am not satisfied with their answers, they do not get another chance; and these points are scratched off their list. At the end of one week, students are given a grade based on the percentage of points earned. I have used this activity as the final exam, lab practical, or simply a test for the last marking period.

The scavenger hunt involves much more than finding various plants, animals, and assorted structures. Laboratory work is also required. For example, students must collect and grow some bacteria and identify their shape. Three types of algae must be identified: colonial, filamentous, and unicellular. This type of activity involves application of laboratory technique as well as use of the tools of the biologist.

Opportunity for extra points is given by correct identification of the genus and species of an organism with a demonstration of how the student identified the species. Once an organism has been identified, the common name and genus and species is listed on the board and cannot be used by another group.

Although I find this activity a re-

warding experience for both the students and myself, it does require considerable preparation, and a great deal of time before and after school in addition to my prep time during the day. Some helpful hints are listed below:

1. It is a good idea to have a few aquariums, terrariums, or at least a supply of one gallon jars collected from the cafeteria for live animals students may deposit with you during the day. One steadfast rule that I have is that no dead animals will be accepted; and all living organisms must be replaced where found within 24 hours, if possible.

2. Sterile petri dishes, media, as well as microscopes, slides and stains, must be available for students throughout the day and after school.

3. We are fortunate to have a lab technician in our school who has a background in biology and helps with checking student specimens. One of us is usually available during the day. If you are not as fortunate as I, have another biology teacher conduct the activity at the same time or help with checking student specimens.

4. Take all specimens from the students when they check them out with you. After seeing the same taproot four times in one class period, I realized the activity was defeating its purpose.

5. Assign, explain the activity, and group the students on a Friday. This gives them the weekend to work and plan. It also makes for one hectic Monday!

6. I have arranged with the administration not to have formal classes during the week and to allow students to roam the school grounds for specimens. Responsibility for getting to their next class on time is theirs. We have wooded area and a pond on the school grounds that add a great deal to the activity. Such re-

sources are, however, not necessary; and you can develop a list accordingly to resources at your school.

7. Figure 1 is a portion of my scavenger hunt handout with point values. As you can see, many specimens can be used for more than one item on the list. It is up to the student to realize this, however.

8. Classification keys must be available. Those I have found useful are listed as "References." It is best to place texts and keys on reserve in the library or devise some sign-out

system. Taking the responsibility for lost books yourself is a bit courageous.

I have found that as students enter class in the fall, a few inquire about the hunt the first day. From time to time during the year, I suggest that they mark in their notebook facts that might help in the hunt. This gives them a purpose for remembering what we have discussed in class. Not only does this activity give the student a sense of accomplishment, but it is also a successful way to end the school year.

Sample Sections of Student List

Approval	Points	Plant
	1	One Angiosperm
	1	One Gymnosperm
	2	Sporophyte and Gametophyte of Bryophyta
	1	One Lycopside
	2	One Sphenopsida
Protista		
	5	Three types of Fungi
	5	Two Protozoa
	5	One diatom or desmid
	3	Two Lichen
Animal		
	1	One Mollusk
	1	One Diplopoda
	1	One Chilopida
	1	One Crustacea
	5	One Planeria
	5	One Hydra
Structures		
	2	Guard cells and stomata
	1	Simple leaf
	1	Compound leaf
	1	Palmate venation
	3	Root hairs
	2	Sori

Fig. A

FIGURE 1. Sample sections of student lists.

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