

Idea Exchange

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Activity Details

Activity Name: Arthropod Collection Project

Targeted Grade Level(s): 11

Subject or Topic area: Biology / Invertebrates

PROJECT OVERVIEW:

I did this project with my Grade 11 Biology class while covering the invertebrate animals part of the curriculum. However, this project could be used at almost any grade level with some slight modifications. As well, the topic could easily be changed to include any animal or plant group.

They were given the project outline at the beginning of the Arthropod section and were given approximately 3 weeks to complete it. This allowed them enough time to find suitable pictures, and/or draw them, as well as research the information for the paragraph portion. Many students really put a lot of effort into this project and created some fantastic collections. Every one was unique and it was interesting to see the variety in the organisms they chose.

I believe that this project helped make the unit more interesting, as well as allowing the students to focus on a few specific organisms that they were interested in.

Arthropod Collection Project

Working individually, each student will create a collection of arthropods, and organize them according to a dichotomous key.

Objective: To identify the unifying characteristics of the phylum arthropoda.

To categorize a variety of arthropods based on distinguishing characteristics.

To demonstrate an appreciation of the diverse ecological and economic importance of arthropods.

The Details:

Collect pictures of **10-12 different arthropods**, with representatives from at least **three** of the four subphyla. Place each picture on a separate piece of paper. For the purposes of identification you will organize these organisms into a dichotomous key. (See instructions below) On the last page you will also provide a brief description of each of the arthropods represented in your collection. This description should not be more than a paragraph in length.

You must include the following information in the description:

Common name and scientific name, including class and subphyla

Habitat

Specialized appendages

What food they eat

Life cycle and whether incomplete or complete metamorphosis

How they have helped / harmed people in the past

Instructions for Creating a Dichotomous Key:

A dichotomous key is a tool that allows the user to determine the identity of items and organisms in the natural world. It is the most widely used form of classification in the biological sciences because it offers the user a quick and easy way of identifying unknown organisms. Keys consist of a series of

choices that lead the user to the correct name of a given item.

"Dichotomous" means "divided into two parts." That is why dichotomous keys always give two choices in each step. In each step, the user is presented with two statements based on characteristics of the organism. Either the organism fits into one choice or the other. You move to the next step number given. As you move down through the choice steps, eventually your organism should be described and named.

At each stage in the dichotomous key all remaining species must be separated into two distinguishable groups. The splitting must continue until all species have been separated out.

Marking Rubric:

This project will be out of a total 35 marks. The marks will be distributed as follows:

	Marks Possible	Marks Received
Accuracy and Completeness of Information in Descriptive Paragraph	15 Marks	
Dichotomous Key (Completeness, proper flow, and logical characteristics used)	10 Marks	
Creativity/ Artistic Merit / and Neatness (Impress me!)	10 Marks	
TOTAL MARK	35 Marks	

This project will be due on _____

Be sure to hand in this Marking Rubric with your project in order to receive a grade

