

**CLASSIFICATION SKETCHBOOK TEST**

In biology, as in other sciences, observation is vital to understanding the world and how it works. Because of this, many scientists are also avid observers—they can find the extraordinary in the ordinary. One of the most famous scientists with an uncanny ability for observation was Charles Darwin. In order to document the amazing forms of life he observed, he used scientific sketches to capture his experiences for others to evaluate. Below is a sample of some of his illustrations. It was through both observation and sketching that Darwin uncovered one of the foremost theories of our time—the theory of evolution.



Because of the importance of observation in science, we will begin an assignment in which you will catalogue your own observations of the organisms we are studying, much like what Darwin did during his voyage on the Beagle. For this unit on classification, your assessment will be a sketchbook that you will create over the next few weeks. It will contain scientific illustrations of the organisms we observe in class, as well as in-depth labels and descriptions of form and function for each species. It is important to document how the internal complexity changes as you do your sketches. In other words, how does each organism uniquely accomplish the functions of life?

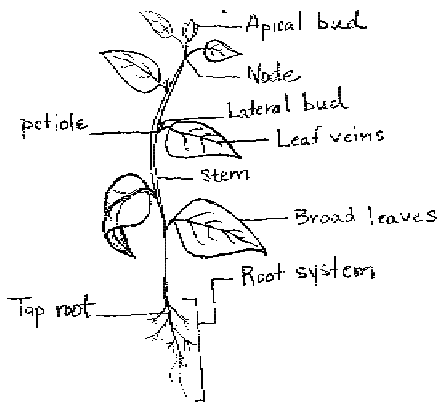
Sketchbook checklist (put in the following order)

- Cover (Include name and period) .....2 points
- Table of contents to all pages of book .....2 points
- Dichotomous key to all 6 kingdoms .....6 points
- Kingdom Eubacteria and Archaeobacteria (2 pictures with labels, form and function descriptions).....6 points
- Kingdom Protista (1 pictures with labels, form and function descriptions).....3 points
- Kingdom Plantae (1 pictures with labels, form and function descriptions).....3 points
- Kingdom Fungi (1 pictures with labels, form and function descriptions) .....3 points
- Kingdom Animalia
  - Invertebrate comparison chart .....15 points
  - Dichotomous key to phyla Porifera, Cnidaria, Platyhelminthes, Nematoda, Mollusca, Annelida, Arthropoda, and Echinodermata .....6 points
  - Phylum Porifera (1 external picture and 1 microscopic slide picture with labels, form and function)... 6 points
  - Phylum Cnidaria (1 hydra internal and 1 external jellyfish with labels, form and function descriptions)6 points
  - Phylum Platyhelminthes (1 picture with labels, form and function descriptions).....3 points
  - Phylum Nematoda (1 picture with labels, form and function descriptions).....3 points
  - Phylum Mollusca (1 internal clam, 1 of any other external mollusk, form and function descriptions)...6 points
  - Phylum Annelida (1 internal picture of worm with labels, form and function descriptions) .....3 points
  - Phylum Arthropoda (1 external and 1 internal picture of grasshopper, 1 external picture of any other arthropod, form and function descriptions).....9 points
  - Phylum Echinodermata (1 external and 1 internal picture with labels, form and function descriptions).6 points
  - Phylum Chordata
    - Frog (external anatomy, internal anatomy, form and function descriptions).....6 points
    - Pig (external anatomy, internal anatomy, form and function descriptions).....6 points

**TEST TOTAL = 100 points**

## RUBRIC FOR EACH ILLUSTRATION AND DESCRIPTION

Points:	3	2	1	0
Illustration	All illustrations required are neat, carefully drawn, and labeled with external or internal parts.	Missing 1 illustration. Drawings are neat, carefully drawn and partially labeled with external and internal parts	Missing 1 illustration. Drawings are not neat or drawn carefully. Missing most of the labels of external and internal parts.	Illustrations not included in sketchbook.
Form description (description of an organisms characteristics)	Description of the characteristics of the organism includes all major adaptations, is easy to read with no grammar or spelling mistakes.	Description of the characteristics of the organism includes most major adaptations, is easy to read with some grammar or spelling mistakes.	Description of the characteristics of the organism includes some adaptations, is difficult to read and has several grammar or spelling mistakes.	No descriptions of form are included
Function description (description of how an organism works)	Description of how the organism functions includes all major adaptations, is easy to read with no grammar or spelling mistakes.	Description of how the organism functions includes most major adaptations, is easy to read with some grammar or spelling mistakes.	Description of how the organism functions includes some adaptations, is difficult to read and has several grammar or spelling mistakes.	No descriptions of function are included.



### Example:

#### Form:

- Has chloroplasts
- Contains eukaryotic cells with cell walls made of cellulose
- Contains the green pigment chlorophyll
- Has broad leaves

#### Function:

- Photosynthesizes by using energy from the sun and converting it to usable energy
- Takes in carbon dioxide and releases oxygen to the atmosphere
- Wide leaves allow for the capture of large amounts of solar energy

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