Heading

Title

**Introduction**

**Purpose**

Use a 3-Kingdom system dichotomous key to identify / classify organisms. To become familiar with the technique of classifying organisms into various groups or categories using an established KEY called the “Dichotomous Key.” To become familiar with the characteristics of each classification group. To become familiar with the names of each classification group.

**Discussion**

A classification system is a way of separating a large group of organisms into smaller subgroups. With such a system, identification of an organism is easy. Scientific names of organisms are based on the classification system of living organisms. To classify an organism, scientists often use a dichotomous key. A key is a listing of specific (*usually structural*) characteristics arranged in such a way that an organism can be identified through a process of elimination.

**Hypothesis** *Omitted for this lab.*

**Materials** 3 Kingdom System Dichotomous Key

**Procedures**

1. There are 22 required specimen (based on images in Google Drive) which you will classify in this lab activity.

2. Take time to look at each specimen, noting its various structural features. Then, use the dichotomous key as follows:

1. Read sentences 1(a) and 1(b) to determine which of these two describe the organisms you are viewing.
2. Proceed with the next step indicated by the dichotomous key until you are able to identify the KINGDOM for the organism you are viewing. Write the name of the kingdom in the “KINGDOM” column of your Calculations and Data sheet.
3. Give one or two reasons for your choice based on the information printed in the key. Record this in the “REASON” column of your Calculations and Data sheet.
4. Continue using the key and identify the PHYLUM along with the reason(s) for your choice. Record the information in the appropriate columns of your Calculations and Data sheet.
5. If the key continues to identify the CLASS and ORDER, you must also continue by filling out these columns as well.
6. Record the SEQUENCE of the dichotomous key that you used to determine the organism you are viewing (e.g 1b, 2a, 8b, 9a)

*There are three images for each Item Number. Click on an image to enlarge it. There is also a zoom function.*

**Calculations and Data**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item Number** | **Kingdom** | Reason | **Phylum** | **Reason** | **Class** | **Reason** | **Order** | **Reason** | **SEQUENCE** |
| monkey | Animalia | Multi-cellular not green | Chordata | Internal skeleton, hair | Mammals | Hair, mammary glands | ------ | ------ | 1b, 2b, 12b, 17b, 18b, 19b, 23b, 26b |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |
| 13 |  |  |  |  |  |  |  |  |  |

*There are three images for each Item number. Click on an image to enlarge it. There is also a zoom function.*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item Number** | **Kingdom** | Reason | **Phylum** | **Reason** | **Class** | **Reason** | **Order** | **Reason** | **SEQUENCE** |
| 14 |  |  |  |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  |  |  |  |
| 16 |  |  |  |  |  |  |  |  |  |
| 17 |  |  |  |  |  |  |  |  |  |
| 18 |  |  |  |  |  |  |  |  |  |
| 19 |  |  |  |  |  |  |  |  |  |
| 20 |  |  |  |  |  |  |  |  |  |
| 21 |  |  |  |  |  |  |  |  |  |
| 22 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**Conclusion Questions**

1. List the nine (9) taxa of classification in order from most specific to most general.

2a. What are the **advantages** of using a 3-kingdom system instead of a 6-kingdom classification key?

2b. What are the **disadvantages** of using a 3-kingdom system instead of a 6-kingdom classification key?

3. Complete the chart below using the 3 Kingdom System related to three classes of Protozoa:

|  |  |  |
| --- | --- | --- |
| Example of Organism (name) | Phylum | Characteristics |
|  |  | Pseudopods; no definite shape |
|  |  | Hair-like projections; slipper shaped |
|  |  | 1-5 hair-like projections |

4. Complete the chart below from the notes and textbook related to four classes of Plants:

|  |  |  |
| --- | --- | --- |
| Class | Phylum | Characteristics |
|  |  | No vascular tissue; small in size; motile gametes |
|  |  | Seedless; motile gametes |
|  |  | Cone bearing; woody; needles; pollination |
|  |  | Flowering; broad, flat leaves; pollination; fruit |

5. List the nine Phyla of Animals from simplest to most complex using the 3 Kingdom System (dichotomous key):