

Dichotomous Key to the Animal Kingdom

Purpose: To learn to use a dichotomous classification key.

Materials: Pictures representing all the classes of the subphylum Vertebrata
Pictures representing the different invertebrate phyla
Pictures representing the different classes of the phylum Arthropoda

Procedure:

1. You will be moving and rotating through various stations set up in the room. At each station you will find a picture of an animal in the animal kingdom.
2. You will have a few minutes to look at the picture of the animal, observe its characteristics and determine its classification within the animal kingdom.
3. The picture will be labeled with either the letter "A" or the letter "B." If there is an "A" on the picture, use the key called "Dichotomous Key to the Classes of the Subphylum Vertebrata." Determine the classification of the vertebrate and record your answer in the data table.
4. If the picture is labeled with the letter "B", use the key called "Dichotomous Key to the Phyla of Invertebrates." Determine the classification of the invertebrate and record your answer in the data table.
5. If the picture is labeled with the letter "B", and you key the animal to the phylum Arthropoda, then use the key called "Dichotomous Key to Selected Classes of the Phylum Arthropoda" to determine what class of arthropods it belongs to. Record your answer in the data table.

Dichotomous Key to the Classes of the Subphylum Vertebrata

Use this key for pictures with the letter "A"

1. a. Hair present Class Mammalia
b. Hair absent Go to 2
2. a. Feathers present Class Aves
b. Feathers absent Go to 3
3. a. Jaws present Go to 4
b. Jaws absent Class Agnatha
4. a. Paired fins present Go to 5
b. Paired fins absent Go to 6
5. a. Skeleton is bony Class Osteichthyes
b. Skeleton made of cartilage Class Chondrichthyes
6. a. Skin scales present Class Reptilia
b. Skin scales absent Class Amphibia

Dichotomous Key to the Phyla of Invertebrates

Use this key for pictures with the letter “B”

1. a. Body symmetry radial Go to 2
b. Body symmetry not radial Go to 3
2. a. Tentacles present; body soft Phylum Cnidaria
b. Tentacles absent; body hard Phylum Echinodermata
3. a. Exoskeleton or shell present Go to 4
b. Exoskeleton absent Go to 5
4. a. Jointed legs and exoskeleton present Phylum Arthropoda
b. Jointed legs absent; shell present Phylum Mollusca
5. a. Body is segmented Phylum Annelida
b. Body is not segmented Phylum Platyhelminthes

NOTE: If you key out an animal to the phylum Arthropoda on the above key, then use the key below to the Classes of Arthropoda to determine what class the animal is in.

Dichotomous Key to Selected Classes of the Phylum Arthropoda

1. a. Walking legs; more than 5 pairs Go to 2
b. Walking legs; 5 or fewer pairs Go to 3
2. a. 1 pair of legs per body segment Class Chilopoda
b. 2 pairs of legs per body segment Class Diplopoda
3. a. Antennae present Go to 4
b. Antennae absent Class Arachnida
4. a. 1 pair of antennae Class Insecta
b. More than one pair antennae Class Crustacea