

# Caminalcules Discovery

## Classifying Imaginary Animals by Analysis of Shared Characteristics

### PURPOSE

In this activity you will reinforce the concept of classification by grouping imaginary organisms with similar characteristics.

### MATERIALS

*Each lab group will need the following:*

copy of imaginary organisms  
glue stick  
pencil, colored  
scissors

#### **Safety Alert**

Always use care when handling scissors.

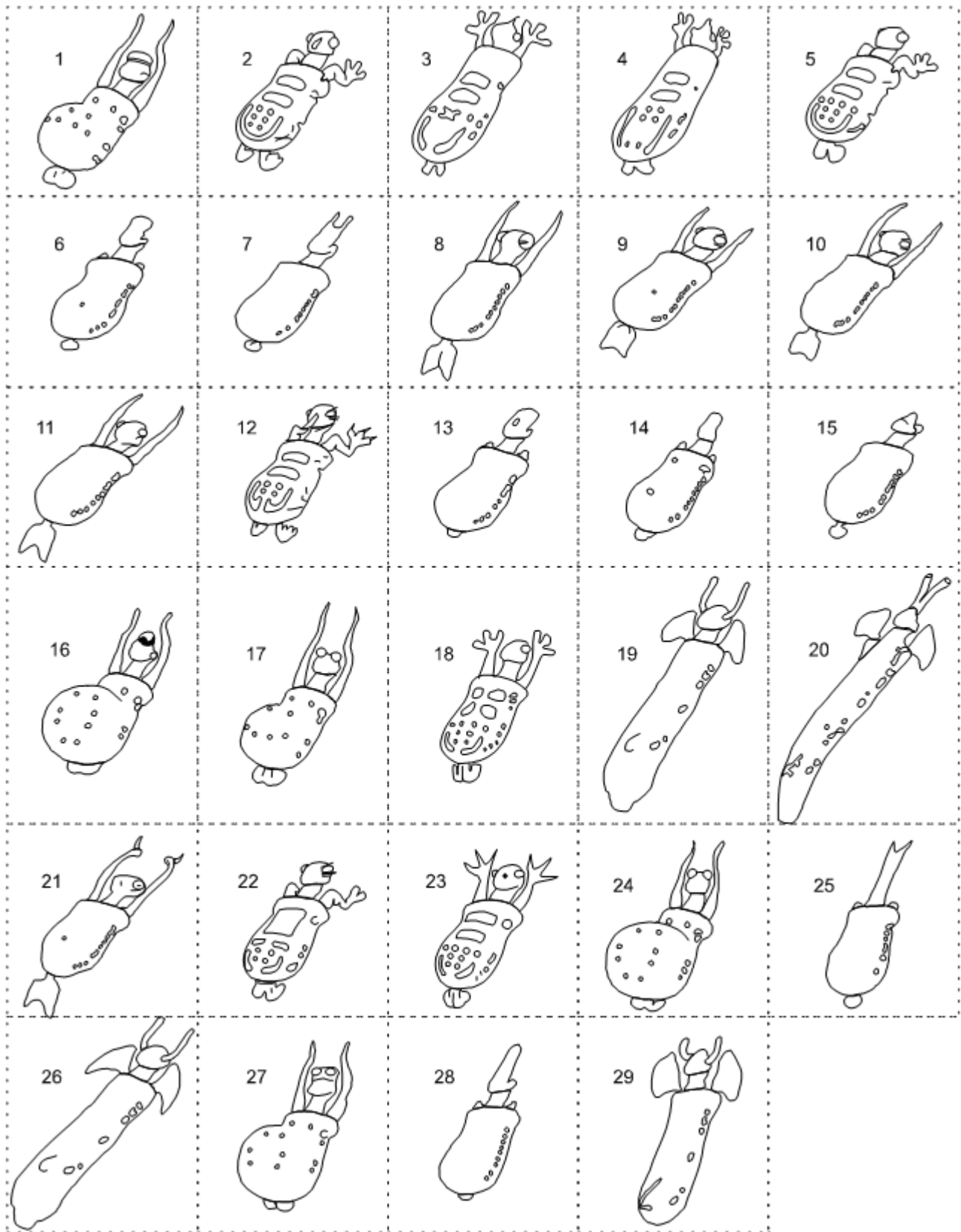
The imaginary organisms presented here are called Caminalcules, named after the evolutionary taxonomist, Joseph Camin, who created them. *Caminalcules Discovery* is a complex inquiry activity where you devise a system of classification for a group of imaginary organisms. You will divide the Caminalcules into groups of families, genera, and species and create scientific Latin-sounding names for each group.

### PROCEDURE

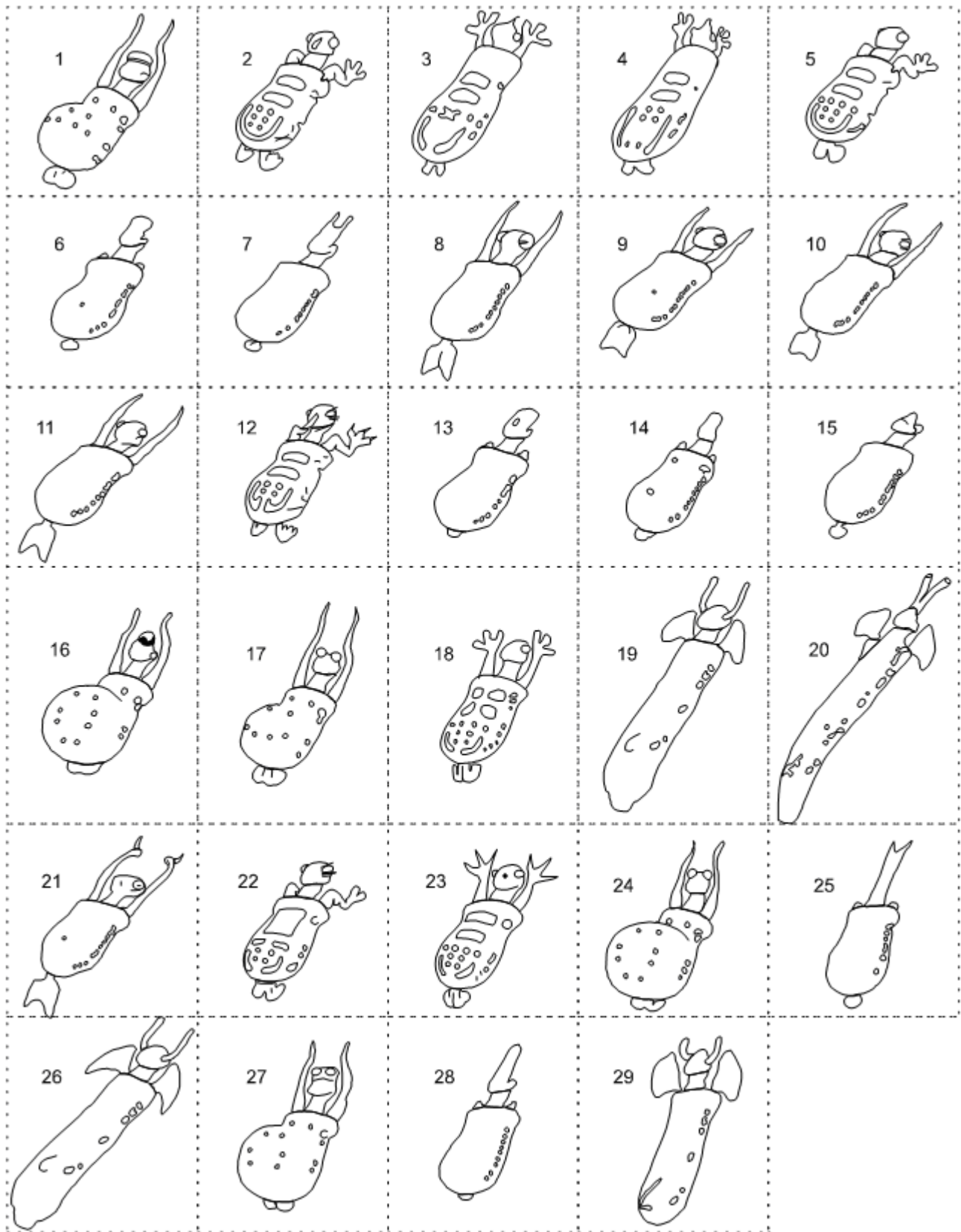
1. Study the set of imaginary organisms on the “Caminalcules” sheet and carefully cut out each individual organism with your scissors.
2. In this activity, you are the scientist that discovered a new group of animals, which you have named “Caminalcules.” You have researched their physiology and behavior very thoroughly and have identified them as members of the following groups: Domain Eukarya, Kingdom Animalia, Phylum Mollusca, Class Imaginata, Order Ridiculosea. It will be your responsibility to classify and create names for the family, genus and species levels for these organisms.
3. Organize the Caminalcules into families as you see fit. Within each family further subdivide the group into genus and species on the basis of similar characteristics, even though no two Caminalcules are identical (remember there is wide variation within the human species as well).

4. Once you have sorted the organisms into their respective species, neatly glue each group of organisms onto your student answer page. Leave plenty of room to write in family and scientific names above each group and three shared traits below each group. To best organize your groups place different species of the same genus next to each other on your page.
5. You will need to invent family names for each family you created. (note: family names always end in: “idae”) Write the family name above each family.
6. For each of the species groups create a “scientific name” in the form of *Homo sapiens* and write it below the family name on your paper. You should create six to ten scientific names, depending upon how many groups you have in your classification system. All individuals in the same species should have the same scientific name. In other words, even though there are some minor individual differences, all organisms in the same group should be enough alike to be placed in the same “species.” When naming the species, try to make them “sound” Latin; e.g., *Burritos longus*. Remember, the genus name is capitalized, the specific epithet is not, and the scientific name (genus + specific epithet) is underlined or italicized. Also, some Caminalcule species may be closely related (very similar) and may be placed in the same genus.
7. Below each species grouping, list at least three characteristics that all organisms in the species have in common.
8. For extra credit, create an evolutionary tree with lines drawn between your species to show how your different species are related to each other. Your teacher will show you an example of an evolutionary tree that a student has drawn previously.

# CAMINALCULES



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### **CAMINALCULE CLASSIFICATION**

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Once you have organized and classified your Caminalcules into groups, use the glue stick to adhere the individuals to this page. Be sure to glue the Caminalcules that share the most characteristics more closely together.

## **CONCLUSION QUESTIONS**

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1. What difficulties did you experience in developing your classification system? Describe at least two.
2. Explain why all Caminalcules are not placed in the same family.
3. Explain how this activity illustrates the concept: “Classification is the grouping of objects based on similarities and differences.”
4. What is one inherent problem with a classification scheme based only on different physical characteristics?
5. The technique of DNA sequencing has enabled scientists to create large data bases of genome sequences for different organisms. How do you think the ability to sequence an organism’s entire genome could help to more accurately classify groups of organisms?