

Classifying Critters

Estimated Time: 30 minutes

SUMMARY

Sometimes it is hard to organize your toys so they are easy to find and not a huge mess all over your room! Try these activities and you will be able to sort and classify your toys just like scientists do for living things!

WHAT YOU'LL LEARN

- Scientists use characteristics of living things to classify them so they can have a universal name to refer to when talking to scientists who speak other languages.
- Categorizing items makes them easier to inventory and count.
- The Linnaean system for classifying animals and plants gave rise to binomial nomenclature, which is the two word name we use as the “scientific name” of plants and animals, like humans, or *Homo sapiens*.

Materials Used	Resources Used
<ul style="list-style-type: none"> • Toys! This can be cars, action figures, stuffed animals, dolls, marbles, collectible cards, etc. • Paper • Pencil • Large space to sort and record 	<ul style="list-style-type: none"> • https://davesgarden.com/guides/articles/view/2051 (has an overview of European basis of classification) • https://letstalkscience.ca/educational-resources/backgrounders/classification-life-linnaeus-dna-barcoding (article on how we now can use DNA to classify animals)

WHAT TO DO

1. Gather the items you will be classifying. Observe the group for a few minutes and see if you can identify common characteristics or things that they have in common.
2. Make a list of ways you can identify one toy from another. Some examples include:
 - a. Does it need batteries?
 - b. What is it made out of?
 - c. What color or colors is it?
 - d. What is the texture?
3. Once you have made your list, start sorting your toys into two or three piles based on what they have in common. As an example, this could be stuffed animals, battery operated toys, and action figures. Keep it to one easily identifiable characteristic for this part of the activity
4. Next, write on your paper the first categories you sorted. This is the highest level of your hierarchy- compare this to animals. The highest level in Linnaean taxonomy (the most commonly used classification tool for living things) is Kingdom. For humans, our Kingdom is Animalia, or animal. Your houseplant is in Plantae, or Plant.
5. Next, look at your piles and try and sort them further. If you sorted into stuffed animals, battery powered toys, and action figures for example, look at what color they are, or

what they represent. If a stuffed teddy bear is in your stuffed animal pile, you could classify her by bear or brown.

6. Write on your paper the categories you are sorting into for this level. The next level in Linnaean taxonomy is Phylum. Humans are in the Phylum Chordata, which means we have a backbone.
7. Repeat this process seven times if possible or until you have piles of toys that are all the same as one another. There are seven basic levels of taxonomy in our current system, although after the discovery of the microscope and DNA, we are adding sub-categories all the time.
8. For another fun twist, come up with a name for each level of your sorting system. In the Linnaean taxonomy, we have Kingdom, Phylum (Division for plants), Class, Order, Family, Genus, Species. This means you can describe a human as: Animalia, Chordata, Mammalia, Primates, Hominidae, *Homo sapiens*. If we are just using the binomial nomenclature system, we just call ourselves *Homo sapiens*.

TIPS

- The STEM Resource Center at SIUE just added some fun children's books to our library that help kids understand scientific concepts like classification and measurement.
- Linnaean taxonomy is the classification standard for most of the scientific world, but did you know that other cultures were creating categories and classifying their world at the same time? Think about how you would sort things as a scientist without the current system? Would you put butterflies and birds in the same taxa? Both fly and lay eggs!
- Other ideas for groups (or taxa) to sort - kitchen utensils, tools, office supplies
- Help your adult with laundry - the process of sorting for washing is a form of classification, as is folding and putting away!
- Once you have completed your classification system, use your list as a "key" to figure out where other random toys that might be laying around your house can belong. This is a fun way to help clean up the house!