

Grouping Microorganisms

Prepared by Karly Sindy

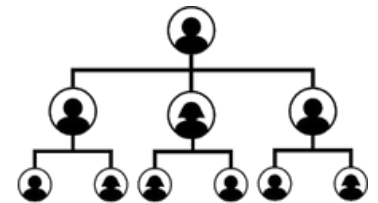
Last updated: May 21, 2025



Size



Components



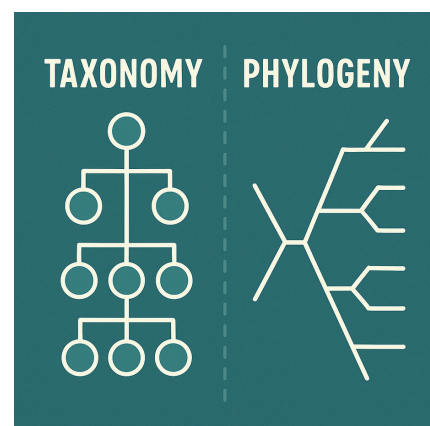
Relatedness

Grouping?

Scientists group organisms to better understand the vast diversity of life. This process — called *classification* — helps us recognize patterns, make predictions, and study relationships.

Organisms can be grouped in many ways: by **size**, by shared **features**, or by how closely **related** they are.

- **Taxonomy** – the science of naming, describing, and classifying organisms
- **Phylogeny** – the study of evolutionary relationships among organisms



Challenge #1 - Size

Have the students arrange the cut-outs from, what they think is, the smallest to largest. Remind them to NOT flip the cut-out over!

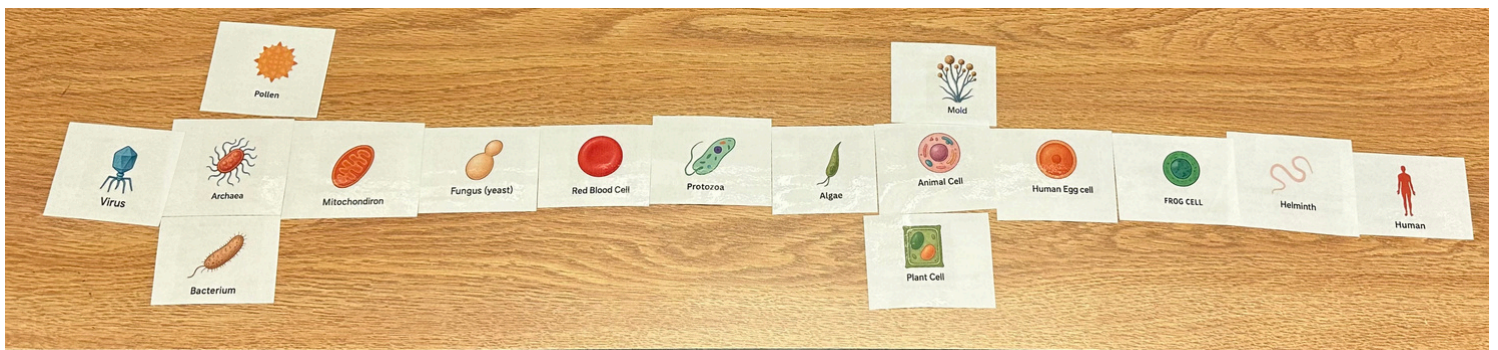


smallest

largest

Once they have done that to the best of their abilities have them flip over the cards and determine if they are correct.

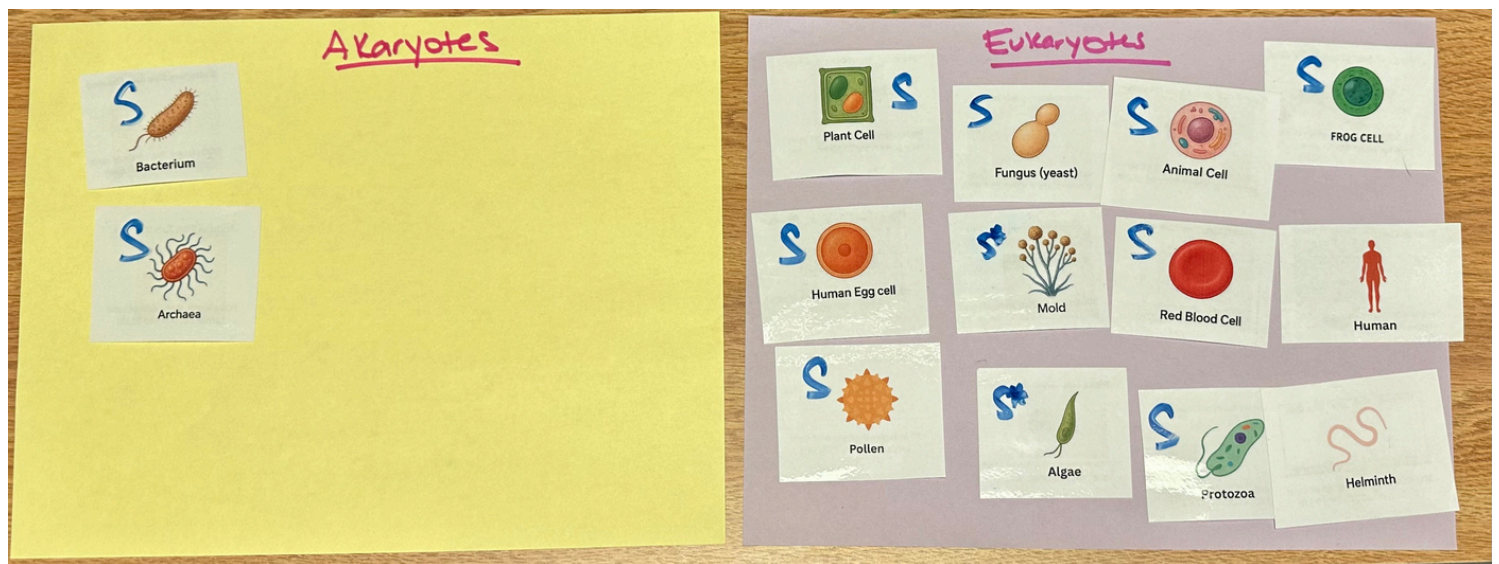
Their finished grouping should look like this:



Challenge #2 - Components

Have the students label two pieces of paper at the top: “**Eukaryotes - true nucleus**” and the other “**Akaryotes - no nucleus**”. Now have them remove virus and mitochondrion from their pile and arrange the rest of the cut-outs into one of the two groups. Optionally you can give them a dry erase marker and have them put an “S” on each card that is single celled.

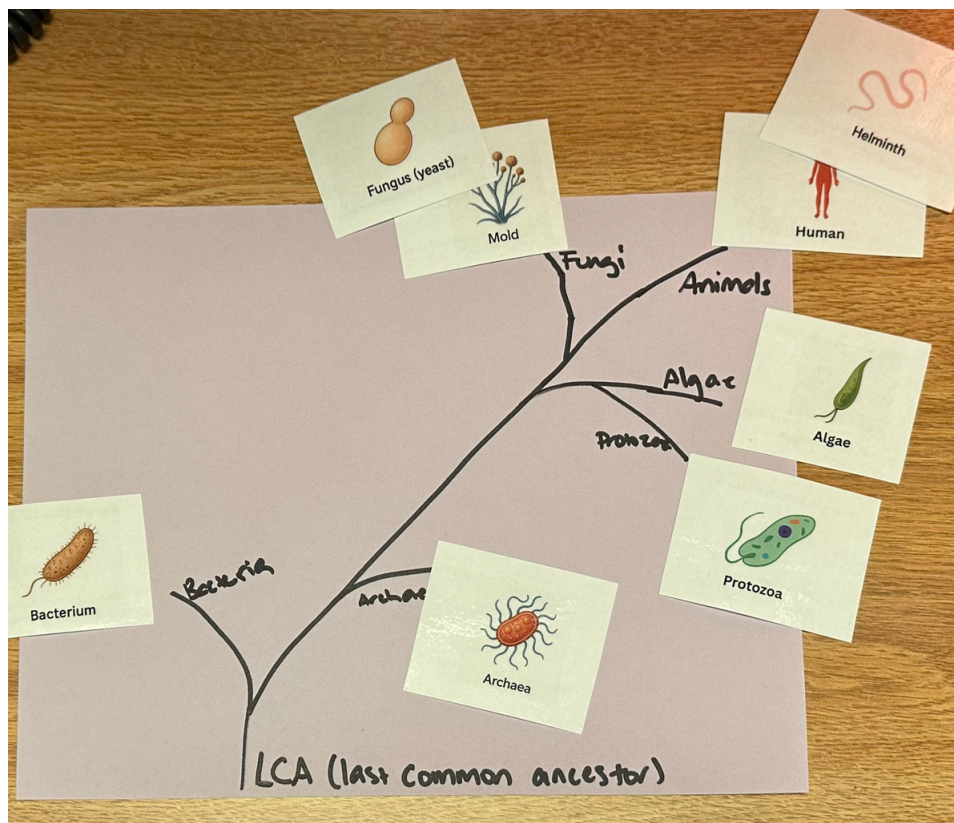
Their finished grouping should look like this:



Challenge #3 - Relatedness

Have the students remove the following cards from their pile: pollen, red blood cell, animal cell, mitochondrion, human egg cell, frog cell, virus and plant cell. With the remaining cards have them arrange them in terms of evolutionary development. This one may be tricky so it might help to draw the outline of the phylogenetic tree on the board and add a couple labels so they have a starting point.

Their finished grouping should look like this:



Helpful Resources

I put together this slide which I think will help students understand the history of classification as it relates to taxonomy.

