**TEACHER NOTES**

**Unity and Diversity Part 1 - Odd One Out**

**Objective:**

The objective of this activity is to expose students to some of the diversity of life on Earth and get them thinking about the characteristics of organisms.**\*** This activity is the “phenomenon” that will stimulate questions leading to the development of our driving question for the whole year: *“How did there come to be so many different kinds of organisms that, diverse as they are, still so much in common? And, how did they come to be so well-suited to their environments?”*

\*Note that the goal of this activity is NOT to get students to learn the classifications of the organisms and there is no right or wrong answer at each station. Emphasize to students that it is not about getting it right or wrong but about explaining their reasoning.

**Time:**

About 3 minutes per station plus 5 minutes to introduce. Length of discussion afterward is determined by how much time you have left. It will take more than the rest of this period to get all the way to the Driving Question (perhaps not if you are on a block schedule) so just go as far as you can through the PowerPoint and doodle sheet on the day you do the activity and continue the next day.

**Materials:**

1. Clock or timer.

2. Groups of organisms- 4 or 5 per lab table or station.

Ideally these are living or preserved but if that is not possible you can use photographs of organisms.

3. Organisms should be labeled in some way (post-its, tape etc.).

Table number and a letter works well – for example, 3-A. Or you may prefer to label them with their actual names.

***CHOOSING ORGANISMS FOR THE GROUPS*** is key to getting this activity to stimulate interest and productive conversations. Embrace ambiguity!

(1) Pick groupings that are not clear cut or obvious. Have an idea of what you think is the odd one but be sure there are some different ways of thinking about each group. You can do it based on your knowledge of classification but have some analogous structures in the group that will make them think. For example, put a millipede with a bunch of annelids, including some with a lot of legs, like a clam worm.

(2) Choose lots of organisms that they may not be familiar with – usually that means lots of invertebrates. Even microscopic organisms can be included if you have access to microscopes and students know how to use them.

(3) There is no one right way to do this. I use all animal groupings except for one group with plants and a fungus. Then I ask at the end: “which table is the odd one out??” When they realize all the others are animals it emphasizes diversity even more. However, use your imagination - you probably have better ideas!

**Student Handout:** Odd One Out Half-Sheet

**Running the activity:**

1. Set the tone for the activity. This should be fun! An adventure. For example, I say “Today we’re going on a safari”.

2. Instruct students that this is not a test. What matters is not getting it “right” but the quality of their explanations. AND you will not answer questions about the organisms. They are on their own!

3. Students work in groups of 4.

4. Have them start at their usual lab tables.

5. Instruct them to discuss with their group and come to a consensus at each table as to which one doesn’t belong.

6. Then they write down what the group decided and their explanation for the choice.

7. Set timer for 3 minutes. After 3 minutes tell them to rotate to the next table. Repeat until all students have had a turn at every station.

**After the activity:**

1. First, ask a few of your questions…which table was the odd one? What do ALL the tables have in common (“all are living things”)? All you need to do at this time is establish this idea. You will pursue it further later. First you want to give them a chance to ask their questions about the activity.

2. Take their questions for 5-15 minutes depending on how many questions they have and how much time you have. They are usually curious about a lot of things…how long have these been dead? Where did you get them? What is that weird thing at table 4? etc. Addressing these does not necessarily get you further in the lesson but it validates and respects their curiosity.