

Todd Lambert
Best Lesson

Making a Vertebrate Cells and Microorganisms

Georgia Standards: S5P1, S5L3, S5L4

Grade Level: 5

Materials Needed:

1. Ziploc bags
2. Pipe cleaners
3. Bags of gummy lifesavers
4. Wheel pasta
5. Paper Towels

Safety: Make sure students do not eat the pasta. Also the pipe cleaners can have sharp ends.

How to facilitate lesson:

1. PowerPoint with a slide about vertebrates, invertebrates, and the experiment
2. Ask them to give examples of vertebrates and invertebrates.
3. Hand each student the pre made bag of supplies. (Bag of pipe cleaner, 10 gummies, 10 pasta)
4. Students will make a backbone with just pasta, then with just gummies, then correctly with both.
5. Get them to describe each step and describe how they are different
6. They may eat the gummies once they have described all the different stages and written down comparisons
7. Do not eat the pasta

In order to get the lesson done in a short time period, it is easier to pre-make Ziploc bags of supplies for each individual student. Put a pipe cleaner, 10 gummies, and ten pasta wheels in each bag. This allows for easier completion. If you bring all the supplies into class then a lot of time is spent sorting our supplies. Also a short PowerPoint is helpful at the beginning, introducing vertebrates and invertebrates as well as instructions for the experiment. Then you simply explain that the gummies are discs for flexibility, the pasta is the bone for structure. Then you ask them to make the backbone with just pasta, then just gummies, then with alternating. This allows them to see what a backbone would be like if it were not built like most vertebrates. The best way to get the students to learn the information is to ask questions each step and get them to describe the different stages of backbone. Also if the slides are corresponding to the experiment it will be easy for them to follow.

Supplies: About 5 bags of gummies, a bag of wheel pasta, and a pack of pipe cleaners is enough for a class of about 20.

What you would modify if doing the lesson again:

If I were to do the experiment again I would print off sheets for each student to compare and contrast the vertebrates that they made. In the different steps of the experiment students put all gummies on the pipe cleaner, then just pasta, then they correctly make the backbone alternating the gummies and pasta. I would bring sheets for them to describe each of the three steps and what the backbone is like with each. This would allow for them to think and put what they learned to use in a worksheet.