ORLANDO SCIENCE CENTER

Discovery Lab Post-Visit Activities

Super Size Me

Grades 9-12

We hope that you enjoyed your visit to the Orlando Science Center! As a means of enhancing and extending your students' Discovery Lab experience into the classroom, we are providing you with these post-visit materials to share with your class.

Discussion Topics:

- In the lab, we used the microscopes to observe bacteria, pond organisms, and plants. Microscopes are used in a lot of different scientific fields. *Now that you've used microscopes more extensively, what are some other things that scientists observe through microscopes?*
- The field of medicine uses microscopes to assess and diagnose things that are happening in your body on the cellular level. *Why are the advantages of using microscopes to study things happening in the human body?*

In Class Activities:

- Microscopes are currently used extensively in crime scene investigations. They can be used to look at blood samples, fibers, and even fingerprints. Many times, fibers are found at the scene of a crime and analyzed. To prepare, pick out several different fibers from fabric (ex. Cotton, linen, polyester, nylon, silk, etc.) that are similar in color (it is easiest to just use all white fibers). Before class, cut a sample from one of the fibers to be the 'crime scene fiber.' They should investigate the pattern and texture of the fiber under the microscope. Then, give the students samples of several different fibers. See if the students can figure out what your mystery fiber is that was found at the crime scene.
- In the lab, we looked at plant cells and animal cells under a microscope. Each of the cells had different characteristics. Draw and label diagrams of a plant cell and an animal cell. Include at least five parts in each of the diagrams. Then create a venn diagram comparing and contrasting the characteristics of each.

Math Problems:

- If an organism seen with the naked eye is 2mm x 3mm, what is the area of the organism under a microscope with 10 times magnification?
- When a brine shrimp hatches, it is .5mm in length. By the end of its one-year lifespan, it is about 1 cm. How many times larger is the end of the lifespan than when it is hatched?

Writing Prompt:

Symbiosis is a long-term interaction between two species. This interaction can be mutualistic, commensal, or parasitic. Mutualistic means each organism receives benefits from the relationship. In a commensal relationship, one organism benefits, and the other is unaffected. A parasitic relationship means that one organism benefits at the expense of the other. All of these types of relationships happen in every person's life. Use analogies to compare each of these three symbiotic relationships to relationships in your life or that you've seen around you.

Art Project:

Since the invention of the SEM (Scanning Electron Microscope), people have been intrigued with the images that come from the microscopic level. Artists have started taking these images from microscopes and transferring it to the art scene. Think about one of the slides that you saw under the microscope. Combine the scientific factor of what you saw with artistic elements such as color, design and texture, to create an image appealingly scientific.

Additional Resources:

The Usborne Complete Book of the Microscope by Kristeen Rogers
The World of the Microscope (Science and Experiments) by Chris Oxlade
The Microscope Book by Shar Levine