

Dear Parents,

We would like to welcome you and your student to 6th grade Advanced Science. We have an exciting year planned and look forward to working with you and your student. The organization of 6th grade science is a mixture of lecture, discussion, demonstration, group activities, and laboratory exercises. We will also be using Argument-Driven Inquiry (ADI) in several of our advanced investigations this year. ADI models the scientific publication process and students will be designing their investigations to answer big idea science questions. Emphasis will be on critical reading, designing experiments, collecting data, analyzing data, evaluating arguments, providing peer feedback and writing conclusions. Scientific argumentation will become the foundation of all laboratory activities.

We will begin this year with classification of living organisms (Domains and Kingdoms) and the levels of organization within an ecosystem. The following standards will be covered, and your child will be expected to do the following:

- understand that all organisms are composed of one or more cells;
- recognize that the presence of a nucleus is used to determine a key factor whether a cell is prokaryotic or eukaryotic;
- recognize that the broadest taxonomic classification of living organisms is divided into currently recognized Domains;
- identify the basic characteristics of organisms, including prokaryotic or eukaryotic, unicellular or multicellular, autotrophic or heterotrophic, and mode of reproduction, that further classify them in the currently recognized Kingdoms;
- describe biotic and abiotic parts of an ecosystem in which organisms interact; and
- diagram the levels of organization within an ecosystem, including organism, population, community, and ecosystem.

We encourage you to talk to your child about what they are learning in class. Here are some questions that you can ask your child throughout this unit:

- What is a cell? What are other similarities and differences between prokaryotic and eukaryotic cells?
- How is DNA stored within prokaryotic and eukaryotic cells?
- What characteristics classify organisms into one of the three Domains? What characteristics classify organisms into one of the six Kingdoms?
- What are the abiotic parts of an ecosystem? What are the biotic parts of an ecosystem (This is a great activity for car rides or anytime you are outside).
- What are the levels of organization within an ecosystem?

The instructional resource for 6th grade science is STEMscopes, it can be accessed using Single Sign On.

If your child struggles with any material taught during this unit then we would urge you to make sure your child attends tutoring for assistance to gain a better understanding and demonstrate mastery. If you have any questions or concerns, please do not hesitate to contact your child's teacher. We look forward to your child's success in Science this year.

Sincerely,

6th Grade Advanced Science Teachers