In the Lab
with
Mr. Kearney

Many exciting things are happening in science at Glenridge:

Kindergarteners are exploring trees and weather. They are discovering the many similarities and differences among the various species of trees that surround us. Students are noticing the changes that take place in trees and daily weather patterns from season to season. Not only have they been developing their observational skills as they draw and describe trees and their structures, but they also will be visiting the lab to understand the many resources we use and reuse in our lives. Students will be developing an awareness of how they can help reduce waste, specifically through composting using the help of nature's decomposers. Finally, friends from the U.S. Army Corps of Engineers have visited our kindergarteners to support the science curriculum. Through their program, "River Runts," a collection of river-related topics and concepts are delivered via seasonally relevant activities and lessons.

First-Graders are budding meteorologists as they keep an eye on the daily weather patterns in preparation for their upcoming Air & Weather unit. Soon, they will visit the lab to learn about the properties of matter as they study solids and liquids. Ultimately, these students will become entomologists and botanists: insect and plant experts.

Second-Graders are in the midst of a unit on geology as they are studying rock properties, rock sizes and changes, uses of rocks, and the composition of soil. This will be useful knowledge as they ultimately study plants and animals. We will strive to assist students in constructing connections between earth and life sciences. One way of doing so is through field trips. All classes will have visited the Litzsinger Road Ecology Center (LREC) before the end of the semester for the first of two exciting field trips throughout the 2016-2017 school year. There, students have the opportunity to make real-world connections to their scientific learning at school. The LREC is a majestic property owned by the Missouri Botanical Gardens comprised of prairie, woodland and creek habitats where students can get outdoors and learn about the natural world surrounding them. We are truly grateful for our partnership with the LREC and hope to continue to grow more opportunities for science enrichment and outdoor appreciation.

Third-Graders are taking a thematic approach to science, both in and out of the lab. In the lab, classes will, over the course of the year, experience two units back-to-back for twelve weeks straight, beginning with a deep dive into metric measurement and ending with a further application of the structures of life. Students are understanding the importance and simplicity of how scientists across the world work with and measure the matter that comprises our universe. They are also gaining knowledge as biologists, and deepening their understanding of plant and

animal forms and functions (Ask a third grader to tell you about crayfish. ☺). Through authentic experiences and engaging experiments, they are not only developing their inquiry skills, but also strengthening their writing and use of academic language via science notebooks. Out of the lab, students are studying the interconnectedness of science and social studies through their unit, "Our Changing World." In this experience, a deep understanding will be developed of the ways in which humans impact Earth and how Earth impacts humans (both negatively and positively), and how quickly and slowly these processes can be. That's a lot of excitement!

Fourth-Graders are experiencing new science curriculum across the board. While their classroom teachers will be leading a unit focused on living systems, I will be delivering two units – the first involving water and climate, and the next centered around energy. Not only will student understanding of meteorology deepen to a whole new level in the first semester, but so also will their skills at making connections among the "big ideas" or themes in science. For example, fourth graders will rely heavily on the process of scientific reasoning and the evaluation of ideas. Throughout their weather unit, they will come to realize that advances in science start with observations that lead to questions, which are answered by experimentation, observation and/or modeling. Mathematical connections are constantly made as data are analyzed and evaluated via graphing. This is just the beginning of what a kid in Clayton can expect to experience using what we call Enduring Understandings.

Fifth-Graders started the year off either gazing at the night sky and learning about the patterns and systems in space, or developing a firm sense of how to do science with either model-making of phenomena that cannot be directly observed or through controlled experiments involving force and motion. They are learning that scientific processes depend on the particular question at hand, and that scientific knowledge is open to revision in light of new evidence. Students are also learning that careful planning and data collection can lead to the formation of conclusions, which denote relationships between tested variables and outcomes. Using pendulums, inclined planes and springs, they are building a strong foundation of physical science understanding. Numeric connections with graphs and data patterns also help the kids to see the direct relationship between math and science in our world. Keep the connections coming!

While fifth graders are experiencing their astronomy unit with Mrs. McQueen, every child will have the chance to take home a telescope for night sky viewing. This is a cherished tradition in Clayton elementary schools, and an excellent opportunity for families to do more science together. Be on the lookout for a red backpack coming home with your child. I hope you have fun with this! Along these lines, you might be aware of the upcoming solar eclipse next August. What a momentous occasion this will be! Click here for more information on the "Great American Eclipse" and stay tuned for how our district will be celebrating next school year. ☺

Don't forget about FOSS Class Pages!
You can help make more connections to your child's science experiences in many ways, including the FOSS Class Web Pages that have been built for each grade level. Look for details on the student login sheet with information about accessing these pages. If you need help, please let me know or contact your child's teacher. I hope you will find this to be a useful resource to further your child's scientific understanding.

Green Team News
The Glenridge Green Team has been hard at work since the start of the school year. Some of the projects we have been working on include fall/winter produce garden planting and harvesting, native Missouri prairie and rain garden supplementation, assisting with green efforts at the Taste of the World festival, and educating our student body about the many ways we can be "green" throughout each school day. Thank you for all of your support with this meaningful club, and for extending it into your home. Together, we can better the earth!

<u>Energy Tip:</u>
Increase the insulation in your attic to R-49. This will help keep the heat trapped in your home over the winter and reduce energy costs up to or over 35%. Look into the program offered by Rottler and Laclede Gas…it will save you a fortune in the long run!