**Intermediate Science – Maggie van Boldrik**

***Curriculum & Philosophy***

Welcome to Intermediate Science at Eagle School! We are starting the year with **Introduction to Ecology** – the study of the relationships between organisms and their environment. This unit includes learning what a habitat is, what it provides organisms for their survival (ask your child what the five essentials a habitat provides), and how the organism and its habitat can change each other. We’ll also be asking what characteristics (adaptations) an organism has that allows it to survive in its particular habitat. We will be exploring Eagle School’s open spaces to make observations in various habitats and to learn to distinguish between biotic (living or once living) and abiotic (never living) things.

To learn about how our world works, and to even start asking questions about it, we have to get out and explore. The nature backpacks you see hanging ready by the exit door are packed with binoculars, clipboards, pencils, bug boxes, sit-upons, and magnifying lenses. I believe that immersing a child in nature is not only beneficial, but essential to a child’s development, well-being and health. Increasing data shows that spending time outdoors inspires curiosity, improves attention, restores calm and balance, and provides a deeper connection to one’s environment (how it impacts them and what impact they may have on it) and has significant health benefits. Many of today’s scientists will tell you that it was their childhood adventures in nature and their love of the outdoors that inspired them to become scientists – including yours truly!

When we are not outside, we try to bring the outdoors into the classroom. This is where our classroom becomes more “organic.” I can’t always tell you what we’ll do next week because we sometimes are inspired by an observation or question that has us designing an experiment. A scientific argument we have in class may prompt the design and execution of an experiment to test students’ hypotheses, for example. Who knows what else nature will serendipitously bring into our classroom & curriculum this year? It’s an exploration! Each child will learn to employ the scientific method, starting with exploring what they are curious about, followed by research, recording scientific observations, discussing our results and coming to conclusions. Inevitably more questions will result and the process begins again.

In Ecology, we will also learn about food chains and webs, the roles of producers, consumers and decomposers; and the hierarchy of complexity (individual, population, community, ecosystem, biome and biosphere).

Next, we’ll learn about **Earth Structures**. Specifically, we’ll learn what we know about how the universe was formed, study the layers of the Earth (which includes lessons on density and convection currents), and investigate why and how volcanoes and earthquakes occur by learning about density, convection and Plate Tectonic theory. The last unit is devoted to **Magnetism and Electricity**. Students learn about the basic structure of an atom, a bit about the Periodic Table and then what electricity is and how we can harness it. They will learn to make simple circuits and distinguish between parallel and series circuits.

To encourage children to make observations and ask questions about the world around them, they are encouraged to share personal science experiences or post questions. This is done informally, but with some advance notice. It may be a cool rock, or a strange item they can’t identify. I do this in the classroom and outside during recess.

***Teaching Aides and Supplemental Materials***

There is no official textbook for this class; we utilize resources from a variety of sources. Many of these end up getting posted on my website, MaggiesScienceConnection.weebly.com. The students do learn to take organized notes, which are later posted on my website should a student be absent. The website also contains supporting information and fun interactive learning tools to reinforce the lessons.

***Homework and Assessment***

Intermediates *typically* receive weekly homework assignments due on Tuesdays. The students will find the details and instructions on their worksheets and on EAGLEnet. Homework will be placed in the homework folder at all times since we may even work on it in class before the due date. Homework is expected to be neat, thoughtfully executed and on time. Students will keep their written work organized in their special science binder. Students are not allowed to take their science binders home unless they are studying for a quiz.

Weekly Reading Assignment: Intermediates typically receive a weekly reading assignment on <MaggiesScienceConnection.weebly.com>. There are 2-6 Google Classroom questions with each assignment that they must answer *completely*. Students can **only** sign into Google Classroom using their Eagle Google mail account. Personal accounts will **not** have access. These questions serve as a study resource for quizzes.

Worksheets & Reports: We will also be doing worksheets that they will typically have 2 or more days to work on. At the culmination of the first semester, students will research and report on an organism’s habitat. Most of the research is done in class, however, those who do not finish must complete their work at home. Homework is expected to be neat, thoughtfully executed and on time.

Time Spent on Homework: On average, assignments should take 10 minutes per night. It’s important that your student does not wait to do their work until the night before an assignment is due. This not only causes the work to pile up, but it precludes their ability to ask me questions in class, causing unnecessary stress for both parents and students.

Science Binders: The students keep in-class notes and written work in their science binder, which is organized into sections for worksheets and notes. They will keep the binders organized with a Table of Contents for each section. The binder and work stays in the classroom until it is taken home to study for a quiz or test. It is also available during P-T conferences. ***Please do not throw away ANY science homework!!***

***Assessment***

Students will be assessed as I observe them interacting, questioning, responding, and completing activities and homework. Students do not receive grades for their homework, however, in science I ask for *complete and detailed* observations and explanations and will send homework back for revisions to hone this skill. I will also assess their learning with quizzes, which is scored.

***Contact – IMPORTANT NOTE– My home internet is extremely unreliable!!!!***

If you have any questions or concerns, I may be contacted by email at [Maggie@eagleschool.org](mailto:Maggie@eagleschool.org). I check my email at least once daily, but at different times. With my home internet being intermittent, it may only be during school hours. If something requires attention sooner and is ***very*** important, please feel free to call me at Eagle (273-0309) or my cell phone. I look forward to an exciting year with your Intermediates!

Philosophy Statement: EAGLE School Science Department

Sarah Wright (PRI, UP & Jr 4/5) Maggie van Boldrik (INT, Jr. 3/4), Denise McCulley (5/6-7/8)

*“Young children begin school with…”*

-rich knowledge of the natural world.

-the ability to reason.

-an understanding of the principles of cause and effect.

-foundations for modeling.

-the ability to consider ideas and beliefs.

-an eagerness to participate in learning.”

~Ready, Set, Science!\*~

Throughout their years at EAGLE School, students progress through an investigation of life, physical, earth, and environmental sciences, and the connections between science and technology, and science and everyday life. Science is primarily concerned with understanding how the natural world works. It is fueled by our curiosity and asking of questions. Our willingness to investigate leads to evidence-based answers, explanations, recognition of broad cross-cutting concepts, and new questions to investigate. Evidence and concept development come from observations, hands-on investigations, and research of current scientific knowledge. We communicate in Science by talking and listening, and by reading and writing – text and drawings – in order to demonstrate prior knowledge and the development of new ideas. Students are encouraged to work collaboratively and independently, and to evaluate each others’ claims, question assumptions, and weigh the validity of conclusions. The ability to think like a scientist about our world will prepare our students to be responsible citizens and critical thinkers ready to take on the challenges of our changing planet.

\* Michaels, Sarah, Andrew W. Shouse, and Heidi A. Schweingruber. Ready, Set, Science! Washington, D.C.: The National Academies Press, 2008