

#### **4 years old or entering K: TESTY TURTLES**

What makes Diamondback Terrapins unique? Testudines lay eggs, molt their skin and have exceptional night vision. Turtle hatchlings have matured into adults for more than 200 million years. Where in the world can we find turtles? They are bony and painted; leathery and swift; tiny and speckled and enormous and quiet. Why can some stay submerged for more than five hours while others stay on land their entire life? What adaptations allow some to move only two feet per minute while others move 20 mph? What is the difference between tortoises and turtles? We will observe turtles, create turtles and learn about the three main types of turtles: fresh water, salt water and land dwelling. We'll have tons of fun learning about these terrific testudines!

#### **Entering K or 1st Grade: BAY BOUNTY**

Can you name the body of water that is 200 miles in length, up to 30 miles wide and located in our very own backyard? Why, yes, it's The Chesapeake Bay! Delve into the largest estuary in the United States, home to more blue crabs than anywhere in the world! Explore the shoreline, shallow and open water. Create a mural to illustrate the habitat for crabs, oysters, clams, menhaden and many other creatures. Take a virtual tour of Bayville. Investigate to learn the bay's importance to Maryland residents. How do our actions impact the bay? Become a bay expert in just one week and you'll be bay-bound for sure!

#### **Entering 1st or 2nd Grades: ROCK & ROLL**

Put on your lab coats and goggles and "hammer away" at the mystery of unidentified rocks and minerals. Learn how our young Earth "rocked and rolled" a long time ago and how the Pangea land mass became our continents. Scratch, sniff, and streak your way through the story rocks tell us. Be a volcanologist and seismologist. Find clues about volcanic eruptions and earthquakes. Go spelunking in a virtual cave and look for stalactites and stalagmites. Create your own metamorphic, sedimentary and igneous rocks and make an earth rock sandwich. Did you know that some rocks can float and that some rocks were really wood? Be a geologist for a week and make new discoveries about the world around you!

#### **Entering 2nd or 3rd Grades: BUDDING BOTANISTS**

What is a plant? How are we dependent on plants? How are plants adapted to survive in various habitats? What are the parts of a plant and what are their functions? Did you know that we can eat all of the parts of a plant but that we can't eat all of the parts of every plant? What are the parts of a seed? We will dissect a lima bean seed to learn about its parts and their functions. What are some of the adaptations that enable seeds to be dispersed? Why do plants have flowers? Let's dissect a flower to learn about its parts and their functions. How do bees, beetles, bats, birds, and butterflies pollinate plants? Why are leaves called the "food factories" of plants? How do plants make their own food? How does all life on earth depend on plants to survive?

We will investigate these questions and more and explore the Towson Glen and gardens on campus as we learn about the wonderful world of plants.

### **Entering 3rd or 4th Grades: GROWING GERMS**

What's too tiny to see, but there are millions and trillions of them and they can keep you in bed for days? Collect germs from your body, door knobs, and mice, (the computer type). Get grossed out as you look at them under a microscope. Participants in the "Tootsie Roll" experiment, incubate germs on a TSA plate and see the world of epidemiology first hand. How do germs travel from person to person? Learn about bacteria, viruses and how germs attack humans. Learn about the good germs and the bad germs. Do they react the same way to time and temperature? What common household solutions kill germs the best? Put ammonia and bleach to the test. Are your hands really clean after you wash them? Which of your classmates started a "disease" epidemic, or was it you? Learn more about the smallest and most powerful living organisms on the planet.

### **Entering 4th or 5th Grades: NATURALLY DISASTROUS**

How do engineers and scientists work together to defend our world from natural disasters? In this course you will find out! You will be introduced to our planet's structure and its dynamic system of natural forces including earthquakes, volcanoes, landslides, tsunamis, floods and tornadoes. These natural forces can impact people in extremely life changing ways. Step into a scientist's shoes and discover how and where earthquakes shake the earth, how volcanoes erupt, and when to expect the next tornado. Also, work as an engineer to design buildings to withstand natural forces. Create simulations to learn more about how a natural force may affect the land and people living there. How can we detect and predict these natural events in order to help people stay safe from them? This course will be full of excitement as you take on our naturally disastrous, mighty world.