2019 Courses

4 YEARS OLD OR ENTERING K: LOVELY LEPS

Watch the life cycle of butterflies! Hatch a chrysalis in our own vivarium and watch it metamorphose into a beautiful butterfly. Learn how to distinguish butterflies from moths. Discover attributes of the Swallowtails, Monarchs, Buckeyes, Painted Ladies and other Lepidopterans. Explore the beautiful bi-lateral symmetry and patterns of these “scaly-winged leps.” Identify butterfly body parts and their functions. Create butterfly mobiles and other artistic replicas. What makes a butterfly a conservationist? How are they important for our ecosystem? Make butterfly nets and join us on a butterfly hunt!

ENTERING K OR 1ST GRADE: COLONY CRITTERS

Ants, insects of the phylum Arthopoda, are one of the most populous animals on the planet, and have inhabited Earth for more than 100 million years. Learn about how ants are social creatures (just like us!) that live in colonies with large numbers of other ants. Explore and observe ants in their habitat right on campus and from the class ant farm. Through observation and research, discover how ant colonies work together to build a nest, gather food, and defend themselves from predators. See what kind of food most attracts ants and how they use their mandibles to chomp down on their dinner! Analyze ants closely under a microscope. Create your own ant with a head, thorax (mesosoma) and abdomen (gaster)…. don't forget the elbowed antennae, petiole and six legs!

ENTERING 1ST OR 2ND GRADES: HIP HYDROPONICS

Do all plants need sun, soil, and water to grow? Can robotics provide a solution for the declining bee population? How are hydroponic plants pollinated? Journey with us on an exploration of urban gardening as we develop a simple hydroponic garden system and examine how innovative solutions are being developed to address changes in our environment.

ENTERING 2ND OR 3RD GRADES: SPECTACULAR SPACE

Are you ready to go beyond our planet and explore all of the phenomenal facts that our universe has to offer? Are you fascinated by space? Math? Engineering? How creative are you? Don your space helmet and join us for some exciting exploration! How do black holes grow in size? In what galaxy was the largest black hole found? Why do some quasars give off radio waves? How can we measure the distance between stars? Why do comets have tails? Can you imagine what a city might look like if one existed on the moon? Would you like to take part in a mock space station and discover unique facts about astronauts in space? We’ll create craters, construct constellation art and make model planets. This course will take you on a week of wonder and amazement as you learn about space. Join in the fun as we learn about our awesome universe!

ENTERING 3RD OR 4TH GRADES: ENGAGING ENGINEERING

Does it interest you to be a “do it yourself-er?” Would you like to design, create and test a structure? What do Frank Lloyd Wright, Alexandre Eiffel and Robert Mills have in common? We will examine several different types of designs and discover how the forces of tension, compression, bending, torsion, and shear have an impact. Are there other factors that engineers consider? What is the tallest free-standing tower we can build using a limited supply of materials? Which materials make the most durable buildings? Let’s be architects for the week and showcase our work on Friday! Refine your problem-solving skills and discover how things work…the possibilities are endless!!!

ENTERING 4TH OR 5TH GRADES: SUPER SYSTEMS

Whose heart beats 95 times a minute? Who breathes an average of 18 breathes a minute? Who is still digesting food from last night's dinner? Give up? It's YOU! The human body is full of mysteries! Become a biologist and take a look into the human body as we learn how cells form tissues, which form organs, which make systems, which make you. Be a part of building a digestive system and observe how food travels through the intestines. Observe and calculate how blood flows through the circulatory system when we simulate heartbeats. Experiment with your own respiratory system to discover your unique lung capacity. Construct a skeleton model to analyze the density and strength of bones. It won't be until you come face to face with the digestive, circulatory, respiratory, skeletal and nervous systems that you'll truly see how amazing YOU really are!