2014 COURSES

The courses allow children with exceptional intellectual ability to extend their existing fund of knowledge through first-hand experimentation and creative experiences.

4 years old or entering K
BUGGY BEETLES

Beetles have been on the Earth for about 230 million years, and they are the largest group of insects in the world! They come in all shapes and sizes, but the cutest beetles of all are ladybugs! They are red, yellow, or orange with black polka dots and bring good luck! They flap their wings 85 times per second and eat 1,000 smaller insects in their lifetime! Observe ladybugs metamorphose from eggs to adults in our week together! Count and graph their dots as they hatch. Role play their life cycle. Watch them play dead. Explore their bodies. Make them a cozy leaf lodge. Create your own beetle. No grouchy ladybugs allowed!

Entering K or 1st grade
FASCINATING FOWL

Welcome to the EGG-citing exploration of a chick's life. We'll investigate the space, weight and area of chicks' eggs. How many days does it take for a chick to hatch? Why are some eggs brown and some white? We will examine real eggs and label the parts. Watch a chick's birth. Observe live chicks and identify their behaviors. What other animals are oviparous? Let's conduct feather experiments so we can appreciate what "waterproof" really means. Does an egg sink or float? Let's investigate with various types of eggs. Make an eggshell disappear and watch an egg shrink. Explore rotational symmetry. Learn how to tell whether a chick is living inside of an egg. Write your name with a quill pen. Why did the chicken cross the road? It was CFK bound, of course.

Entering 1st or 2nd grades
CRUSTY CRUSTACEANS

What creature has a pair of antennae that is sensitive to touch and taste which helps it maintain balance? A crab, of course! Did you know that there are 4,500 different species of crabs? The biggest crustacean is known as the Spider Japanese crab--is it really 12 feet from claw to claw? Let's explore these armored creatures and compare them to their crustacean family members. Which crustacean has an internal GPS similar to the one used in your car? How do they protect themselves? What makes up their diet? We'll observe first hand. How do crustaceans communicate? How can we protect the stunningly beautiful Maryland Blue Crab, our state's crustacean? Paint your own crab shell decoration. Watch a crustacean race. Let's have a crab-tastic time!
**Entering 2nd or 3rd grades**

**BEAUTIFUL BOTANY**

Could we survive on Earth without plants? Do you know that some plants are carnivores while others produce their own food? Is it true that over 2,000 species of plants produce food for people and maintain the air we breathe? Learn about the different species and the conditions they need to survive. What happens if these conditions are changed? Investigate how photosynthesis works and the path water follows through different plants. Check out the natural attraction of water molecules. Compare plant cells to those of other organisms to see what makes them unique. How does cyclosis streaming work? Plant various types of seeds and compare their germination time. Let's learn 'bout botany!

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**Entering 3rd or 4th grades**

**ECO ENGINEERING**

What do you get when you combine science, math, engineering, technology and art? It all adds up to fun at CFK! Students learn how to ask scientific questions, hypothesize and experiment. We'll take the scientific process a step further and acquire an understanding of concepts in the engineering process. How can you hold a few bricks above ground using cardboard? Which group can build the tallest, standing structure using toilet paper rolls? How can you make a vehicle using a recycled box or create garden art using aluminum cans? Do you like to solve problems and engage in hands-on projects? Don't miss this wonderful experience to research online and web quest with peers. Showcase your results and masterpieces on Celebration Friday!

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**Entering 4th or 5th grades**

**CRAZY for CHEMISTRY**

Our whole world is made up of elements but what do we really know about them? What does an atom of Helium look like? How strong of an acid do you have in your stomach? What happens in a chemical reaction? We will learn answers to all these questions as we explore the Periodic Table of Elements. Through our investigations we will use many chemicals you use every day and make them do extraordinary things! Examine a mystery substance and determine whether it is a solid, liquid or gas. Roast marshmallows and determine the chemical and physical changes that occur. Join us for a week of experimentation and get crazy for chemistry!