

Week 1: 4th-5th Grade Classes

Inquiring Minds Want to Know—*Angelique Campbell and Emily Yenny*

Do you have a burning question? Are you always curious about the world around you? Here is your chance to explore your own science interests in an inquiry circle. An inquiry circle is asking a question, researching, and drawing a conclusion. You will have the opportunity to work with kids who have your same passion. At the end, you'll be able to share, publish, and take action.

Essential Question: How do I find answers to my questions?

Circle de Soliel—*Patty Cooley*

Learn all the ins and outs of circles: diameter, radius, circumference, arc, and more. The culminating project will be a beautiful 3D string artwork that will showcase all you've learned!

Essential Question: How do geometric relationships help us solve problems?

Animals Inside Out—*Lynn Gilbert*

****Note:** This class includes a \$5 course fee for dissection materials. ****If** you want to know what's on the inside of animals, this is the course for you. Animals Inside Out is a dissection class that allows students a chance to see the inner workings of both vertebrates and invertebrates. We will also be using research and critical thinking to design a food web for the animals. Essential Questions: What is the difference between the anatomy of vertebrates and invertebrates? What is a food web and why is it important to the ecology of the planet and your life?

Let's Get Energized!—*Gary Metzger*

Using the "Get Energized!" Energy Science Kit developed and created at Colorado State University, and other Energy Kits made available from CSU, we will develop a better understanding of renewable energy, including: batteries, wind turbines, solar cars, and reducing our electrical usage. Your Teacher will be one of the creators of the "Get Energized!" Kit! Let's have fun with ENERGY!

Essential Question: How can this "thing" called renewable energy help us produce the energy we need in our world?

Become an Aerospace Engineer—*Sandra Pike*

Students will investigate the four forces of flight by doing several hands on activities such as building a wing on a string and paper airplanes. We will compare bird

and airplane wings to discover connections between form and function. Students will become aerospace engineers by drawing a design of their own aircraft and modifying it after each force is introduced.

Essential Question: What four forces allow an airplane to fly?

BIG Ideas That Make All of Mathematics—*Paul Quere*

Too often, mathematics is taught as a series of rules and procedures. This course will demonstrate that there are really only 5 rules, rules that work every time and are mathematically based. Mastery of the 5 rules allows the learner to think about and analyze all other problems the learner might encounter. This course will emphasize connections, problem solving, and thinking as the basis of mathematical thought.

Essential Questions: Students will learn to think about mathematical problems, instead of just doing them. Students will apply their learning to real-life situations.

Join the Fun with Science Olympiad!—*Miranda Reynolds*

Do you like to do fun and interesting science projects? Then this is the summer class for you! Some examples of the fun we will have include: building a paper airplane, constructing a barge made of aluminum foil that can support cargo, building and testing a bridge, an egg drop, and constructing a device to keep an ice cube from melting.

Essential Questions: How does science impact our life? What type of questions can science answer? Why is the hypothesis important in the scientific method?

(See Week Two options on the next page)

Week 2: 4th-5th Grade Classes

Inquiring Minds Want to Know—*Angelique Campbell and Emily Yenny*

****Please see description in Week One****

Do You Have a Green Thumb?—*Lynn Gilbert*

It's green. It grows. It can make its own food or can eat. It's amazing. It's a PLANT. This course will look into the world of plants, what they are used for, and why they are important to you. Some activities in the class will be dissecting flowers, and making mini greenhouses.

Essential Questions: What are the functions of the basic plant structures, leaves, roots, stems, and flowers? How does photosynthesis create food for the plant? How do plants reproduce?

Skateboard Science—*Kristi Leonard*

Working in teams, students will build and experiment with three-dimensional models of skate park obstacles (ramps, half pipes, chutes) to explore the physics of skateboarding. Students will design, build skate park obstacles out of cardboard and test them with marble-skaters.

Essential Question: How do forces, gravity, inertia, energy and Newton's First Law fit into the making and riding at a skate park?

Let's Get Energized!—*Gary Metzger*

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Become an Aerospace Engineer—*Sandra Pike*

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BIG Ideas That Make All of Mathematics—*Paul Quere*

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