



**COLORADO STATE UNIVERSITY
EXTENSION**

**CHAFFEE 4-H PROGRAM & KIT
OFFERINGS & DESCRIPTIONS**

Natural Resources:

In these lessons, students will explore and gain awareness and appreciation of wildlife, habitats, and ecological systems while discovering solutions to environmental issues. Topics may cover water quality, renewable resources and energy, wildlife management, Citizen Science, earth composition and other environmental concepts.

Engineering:

In this unit students will gain an understanding of what engineers do, the engineering design process, and how different materials can be shaped to provide increased strength and stability.

Computer Science/Coding:

In this unit students can participate in a number of activities that are designed to enhance important skills including, pattern recognition, logic, problem solving, and creativity. In addition to activities, the facilitator will discuss career opportunities that use computer science skills which is projected to have more than 1.4 million openings by 2020.

Food Science:

In this unit students will learn about the physical, biological, and chemical makeup of various food groups. Topics include but are not limited to food sensory/classification, ice cream making, and more.

Healthy Cooking/Nutrition:

In this unit students will learn important kitchen life skills. Together students will chop, measure, and prepare a healthy meal from scratch and learn the nutritional components.

Embryology:

In this program we bring “Ag(riculture) to the Class” via 3 lessons that teaches how an egg becomes a chicken. We learn about embryos, parts of an egg, and how chickens are important for both egg and meat production.



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Cake Decorating:

In this unit students will become artists and bakers who work to make cakes that are both visually appealing as well as delicious. In addition to creativity, this activity emphasizes the need for attention to detail, the ability to understand measurements, and even science!

Rocketry:

In this unit students will work in teams to design, create, test, and launch their own rockets while also expanding their understanding of scientific variables. Stomp, water, and straw rockets are available in this unit.

Gardening:

In this unit we aim to connect youth to the nature of growing food and agricultural sustainability. Youth will learn where their food comes from, what plants need to grow, and how it gets to their plate. Topics include soil science, plant science, culinary skills, and nutrition.

Puppetry:

In this unit youth will explore and learn the art of puppetry. Using various materials and methods (mostly recyclable) youth create and learn about storytelling, play writing, and the manipulation of hand puppets and marionettes.

Entomology:

In this unit students will learn the characteristics that help classify insects, arachnids, and other arthropods. We will explore classification, anatomy, habitats and more!

Magnets and Electricity:

In this unit students will identify ways in which an electrical charge can be created, name ways in which electricity can be created and stored, create a simple circuit, know that similar charges repel and opposite charges attract, and know that magnets have polarity. For each indicator there is a related activity/experiment, all of which have varying time duration.

Sounds of Science:

In this unit students will gain a better understanding of how sound is produced and perceived- as well as explore different ways that sound may travel.



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Detective Science:

In this unit students will develop a better understanding of how science is used to solve crimes and other mysteries. Through a variety of activities, students will have the chance to perform the jobs of both crime scene technicians and forensic scientists as they collect and process evidence to determine which of the suspects has the most evidence against them.

Living in Space:

By engaging in a series of activities students will gain a better understanding of how human beings, and other living organisms, require specific environments in order to survive. Topics include gravity, food in space, colonizing another planet, and more!

Oeey, Gooley Science:

In this unit students can participate in a number of hands-on activities that focus on increasing student's knowledge about properties of matter as well as chemical reactions. Slime is a popular activity in this unit!

Civic Engagement:

In this unit youth learn about advocacy, explore and research important problems in their community, come up with their OWN solutions, and discover the impact they can have in making a difference.

Outdoor Education:

In this unit students will learn about outdoor survival skills and participate in a number of activities such as knot tying, compass navigation, map reading, tent and tarp building, outdoor cooking, and leave-no-trace. Hiking and camping can be included as an additional field trip.

Chemistry:

Through a variety of hands-on experiments, students will increase their knowledge in the structure, composition, and properties of matter.

Animal Science/Pre-Vet:

In this unit students learn and explore various animals including cats, dogs, pigs, sheep, lizards, and so much more. Youth learn about animal anatomy, nutrition, diseases and injuries, and how to properly take care of a variety of animals.



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Art:

In this unit we bring various forms of art to students. Units can include any of the following: ceramics, painting, watercolor, drawing, paper mache, origami, mandalas, jewelry making, and so much more. Youth plan out their project and work on completing their masterpieces.

Exploring Agriculture/Ag in the Classroom:

In this unit youth will explore and learn the important role agriculture and ranching plays in Colorado, the United States and globally. Students will learn where their food comes from, and how agriculture and ranching provides us with many of our everyday products.

Financial Literacy:

In this unit youth learn the importance of managing money. We incorporate various forms of math and 'ramp' all of the lessons to scaffold for younger grades, and challenge older grades. Topics include balancing a checkbook, budgeting, the importance of saving, and making safe choices with credit and debit cards.

Career Pathways:

In this program youth will learn important facets and tools to help them land their dream job. Youth will explore various careers and discuss their future career goals. Topics include resume and cover letter writing, interview skills, appropriate work attire, social media, and elevator speeches.

Photography/Filmmaking:

In this unit youth will explore important concepts in photography and filmmaking. In photography students will take portrait, landscape, and object photos while manipulating light, compositions, and exposures. For filmmaking youth will learn how to write a script, draw a storyboard, film, act, direct, edit and screen their films.

Sport Fishing:

In this program students will learn various elements of fishing. Topics include fishing knots, hooks, casting techniques, parts of a rod, identifying local fish, fishing license rules, fishing ethics, fileting, nutrition, and cooking.