

Co-ops Are Companies That Care



MESSAGE FROM
GENERAL MANAGER ALAN LESLEY

STUDIES SHOW THAT IN COMMUNITIES where the majority of residents own their homes, people are more successful academically, are more physically fit and have a stronger sense of community. Although owning a home might not be possible or desirable for everyone, ownership does matter. We often treat things we own with greater care.

Chances are that you probably don't often think about your ownership role with your electric cooperative, but every member of Comanche Electric Cooperative can take pride in owning their co-op. It might seem easy to take electricity for granted, but cooperative employees and directors work 24 hours a day, 365 days a year to make sure that you, the member-owners of the co-op, have reliable and affordable electricity.

Leaders of locally based cooperatives believe that these special bonds and obligations are integral parts of the community. Comanche EC knows you can't sell electricity to a business that has closed its doors, or to people who have left the community because there are not enough opportunities. Electricity is a critical need, but it takes more than poles, wires and kilowatt-hours to make a community.

We are owners of our co-op, and we are owners of our community. Our community is strong. Think about how much greater it can be when we work cooperatively to tackle our challenges. If we consistently act like owners, we will put even more care and attention into our community, and we will look locally for solutions. Finding local solutions can help keep money—and people—right here in our community.

We all have a role to play as fellow owners. As your local electric cooperative, we promise to do our part for the community. If you have thoughts about how we can do a better job, please contact us at 1-800-915-2533. You are the owners of the co-op, and we welcome your active participation.



Cooperatives work to build strong communities and find local solutions that keep money and talent close to home.

THE TRIP OF A LIFETIME

GOVERNMENT-IN-ACTION YOUTH TOUR

JUNE 7-16, 2017



You're a high school student. You're smart; you have big dreams. Maybe you've never been out of the state, and maybe you've never flown on a plane, but you want to travel—experience a big city, visit historic landmarks and meet people. Sound like you? Then the Youth Tour to Washington, D.C., is your tour. Apply now!

Apply by December 31, 2016.
www.ceca.coop



Scan this code to see the Youth Tour video

Dahlia Martinez Is CECA's Newest Team Member



COMANCHE EC IS PROUD to welcome Dahlia Martinez as the newest member of your cooperative family. Martinez is the member services representative for CECA's Comanche office. A Comanche resident for the past 35 years, she and her husband, Richard, have three children, Mandy, Trista and RJ, and six grandchildren, with whom they spend as much time as possible. If you stop by the Comanche office, please join us in giving Dahlia a hearty CECA welcome!



P.O. Box 729, Comanche, TX 76442

Operating in Brown, Callahan, Comanche, Eastland, Mills, Shackelford and Stephens counties

HEADQUARTERS

201 W. Wrights Ave.
Comanche, TX 76442

EARLY OFFICE

1801 CR 338
Early, TX 76801

EASTLAND OFFICE

1311 W. Main St.
Eastland, TX 76448

OFFICE HOURS

Comanche Office: Monday–Friday, 7:30 a.m.–4:30 p.m.

Early Office: Monday, Wednesday and Friday, 7:30 a.m.–4:30 p.m., closed 1–2 p.m.

Eastland Office: Tuesday and Thursday, 8 a.m.–4 p.m.

General Manager

Alan Lesley

Board of Directors

Randy Denning, District 1
Pete McDougal, District 2
Ruby Solomon, District 3
Monty Carlisle, District 4
Troy Stewart, District 5
Loren Stroebel, District 6
Phil Taylor, District 7

Report an Outage

CECA crews are available 24/7 in the event of a power quality issue by calling 1-800-915-2533.

Contact Us

CALL US

1-800-915-2533 toll-free

FIND US ON THE WEB

www.cecacoop.com



facebook.com/CECA.coop

CECA in the Community

WHEN AMY MOERMAN with Newburg 4-H called, seeking assistance with the Genius 4-H Science Club's science camp, CECA eagerly accepted the invitation to lend a hand. CECA sent several speakers to talk to the campers about electricity, safety and science.

To reserve a CECA guest speaker and/or demonstration, contact Shirley Dukes at 1-800-915-2533 or sdukes@cecacoop.com, or visit our website at www.cecacoop.com.



Member Services Representative Riley Hilliard speaks to the group about electricity on the molecular level.



Member Services Director Doug Erwin draws an arc, demonstrating what could happen when something comes into contact with a power line.

GENIUS 4-H SCIENCE CAMP

SCIENCE ROCKS!

2016

BY SHIRLEY DUKES



I Pledge

my **HEAD**
to clearer thinking,

my **HEART**
to greater loyalty,

my **HANDS**
to larger service, and

my **HEALTH**
to better living, for

my **Club, my Community,**
my Country,
and my World.

EXPLODING HOT DOGS! BURNING TREES! SHOOTING FIRE! SHADOWS, BUGS AND ROBOTS! WHAT BETTER WEEK COULD A KID IN A SMALL TOWN WANT?

How It All Began

It all started in 2013, when the Newburg and De Leon 4-H clubs hosted the first Science, Engineering & Technology Camp for Youth of Comanche County. This camp focused on robotics, based on the Junk Drawer Robotics Curriculum designed by the Texas 4-H Youth and Development and Texas AgriLife Extension Service.

The 2013 camp was a huge success, yet many youths discovered what they were missing out on and requested a repeat. The following summer, the camp required two sessions to meeting demand.

In 2015, the 4-H leaders from Newburg and De Leon met and decided Comanche County needed a science club to expand 4-H learning experiences to more kids. What started out as a few youths learning about robotics has turned into a weeklong science camp, enabling kids of all ages to learn about science in a hands-on, entertaining and educational format. Thus began the Comanche County 4-H club, called the “Genius 4-H Science Club.”

2016 Camp

For 2016, leaders chose to create a camp that covered more sciences—physics, engineering, entomology and electricity. The result was a roomful of campers who completed the week with more knowledge and a renewed appreciation of science. Twenty-nine youths, ages 9–16, 14 of whom were active 4-H members, attended the event. Seven youth leaders and four adult leaders facilitated the event.

Monday Electricity

The week started off with a snap, crackle and pop when Comanche Electric Cooperative presented an arcing demonstration. Using step-down transformers and electrical current, Member Services Director Doug Erwin, Safety Coordinator Shorty Hatley and Communications/Public Information Specialist Shirley Dukes gave the students a series of demonstrations showing what could happen when something or someone comes in contact with electrical equipment.

During the demonstration, students witnessed the different kinds of hats people might wear, and what could happen when those hats touch a line. They saw a tree limb spark and crackle until it finally erupted in a ball of fire. Using a hot dog and a copper ring to represent a human finger, the children saw what

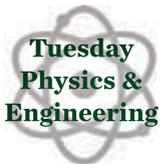


Day 1: CECA’s Riley Hilliard leads an activity on circuits.

could happen to an individual who comes into contact with electricity.

CECA representatives also explained what to do if someone comes into contact with electricity, or if they witness someone else who has come into contact; what to do if their car or school bus should hit a pole; and what not to do around power equipment.

Following the arcing demo, CECA Member Service Representative Riley Hilliard walked the group through a presentation on the basics of electricity and circuits, including the interactions between protons, electrons and neutrons, and how they work in a circuit. The young attendees then had the opportunity to practice what they had previously learned by constructing various circuits using transistors and resistors.



Amy Riordan, assistant professor in mathematics at Embry-Riddle Aeronautical University, led the second day's topic of physical science. Riordan started off the day with a chromatography experiment in which students were able to view how different elements affected color.

While the chromatography experiment was finishing up, all participants and leaders headed out to the parking lot for experiments with shadows. In the first experiment, the students used their personal shadows as human sun dials by tracing their shadows with chalk at two intervals and comparing the sizes of the shadows.

The second shadow project was a math lesson following a method known as similar triangles. Using inanimate objects, students recorded the measurement of an object's shadow. They then divided the 12 inches of their ruler by the length of the shadow, and multiplied it by the length of the object's shadow. The resulting number was the height of the object they had measured.

No genius camp is complete without a lesson in engineering. Riordan instructed the students to construct columns out of construction paper. Students were allowed to choose the shape of their column (circle, triangle, square, etc). The purpose of the experiment was to determine which shape was the strongest. The results were measured according to which structure held up the largest number of books.



Day 2: Students learn the benefits of math by measuring shadows to determine their length.

The day ended with an experiment in friction. Students raced Hot Wheels cars down six ramps, each with a different surface: plain wood, foil, construction paper, fine sandpaper and coarse sandpaper. After some fun play, the students raced the cars down the ramps. They learned that parchment paper made the car go fastest, with the plain wood ramp coming in a close second.



Nanya Young is the Comanche ISD speech-language pathologist who stepped out of her area of expertise to teach the children about entomology. "I do find insects amazing and enjoy learning about them," she said. Young had a plethora of insects on hand for the students to study and focused on the following aspects of insects:

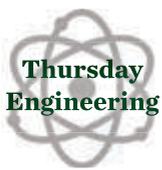
- **Body Parts:** True insects have certain body parts: head, thorax, abdomen, antennae and six legs. Students constructed their own insects with these parts using craft materials.
- **Movement:** To illustrate how insects travel and move great distances in proportion to their size, students timed how long it took them to run 50 yards, as opposed to a cockroach, which traveled that length in two minutes. They measured their own height, then measured how far they could jump, compared to a flea, which can jump 200 times its height. A biting midge can flap its wings 1,000 times in 10 seconds; the camp kids compared the number of arm flaps they were able to do in 10 seconds. A fly maggot (immature insect) can crawl 50 feet in 75 minutes; the students crawled that distance on their bellies with a helper timing them.
- **Eating Insects:** Youths learned where in the world people dine on insects as a part of their diets, and what types of insects they eat, while considering why people would eat bugs. They are a great source of protein, healthy omega-3 fats, vitamins B-12 and B-6, and minerals such as calcium, magnesium, iron and zinc. Energy bars, chips, pasta and pastries are being made from "insect flour" as a source of protein!
- **Alien Insects:** No, they are not insects from outer space, but insects that have been introduced to a new habitat. Young explained to the students how this relocation could affect animals and plants.
- **Aunts and Uncles:** The youths either brought their own insect or were provided with one in a small box. They had to



Day 3: Bugs, bugs and more bugs! Students observe a tarantula brought for the occasion.



decide if their insect was a true insect or a relative, and explain why (different body parts, number of legs). Each student was given a magnifying glass to observe their insect and could draw it. Field guides were available for identification.



Angie Krug, the club manager of the Genius 4-H Science Club, led the engineering section, using the curriculum created by the national 4-H. Starting the day off, the young scientists learned about buildings and the importance of their foundations and upward structures.

The first experiment was for each group to build a structure that would stand up and withstand the shaking of a simulated earthquake. Each group used toothpicks and candy gumdrops to construct their buildings. During their learning process, they observed, discussed and then were able to modify their structures for them to pass the test.

Next on the agenda, students rotated among stations of Legos, wooden blocks, cups, and odds and ends from a junk drawer. Here they applied the learning process they acquired during the previous exercise: design, build, test and modify if needed.

The big project of the day was building rockets using kits provided by the 4-H National Youth Science Day experiment, "Rockets to the Rescue!" Participating youths responded to a fictional scenario: A natural disaster has left people without food on a remote, isolated Pacific island, and the students have to build a rocket that can be launched from the mainland, travel over the ocean and deliver high-energy food to the population. The experiment combines two 4-H issue areas, science and food security, and incorporates aerospace engineering concepts to help the youngsters design a rocket out of everyday

materials, including recyclable two-liter bottles, cotton balls, pipe cleaners, rubber bands and a protractor.



Amy Moerman, coordinator for the Newburg 4-H Extension Club and the Genius 4-H Science Club, led the final day of the camp. Moerman set up two engineering stations: hovercrafts and paper airplanes. At the hovercraft station, students made a hovercraft of their own using a small cup, an old CD and a balloon. After construction, students raced their hovercrafts around the floor.

At the paper airplane station, students designed and constructed paper airplanes that would fly a certain distance and land in a specified area. They used rubber bands to launch their planes on the mission.



Any school-age student can participate in 4-H, but they must be 8 years or older to compete at district levels. Those in the 5-7 age group are called Clover kids, and they are an integral part of the organization, even though they are unable to compete.

4-H programs are grounded in the belief that kids learn best by doing. They complete hands-on projects in areas including science, health, agriculture and citizenship, in a positive environment where they receive guidance from adult mentors and are encouraged to take on proactive leadership roles. They can concentrate on one area or try a variety of programs throughout their 4-H experience. Regardless of the project area, all 4-H programs include mentoring and career-readiness as core elements.

To find a 4-H group near you, go to 4-h.org/find and select your state and county.



Day 4: Youths learn a few basic engineering principles through different methods of design.



Day 5: Building and flying hovercraft was a favorite activity among many of the kids attending camp.

CECA Vehicles To Be Auctioned

CECA HAS SEVERAL RETIRED VEHICLES that will be auctioned through a closed-bid process. Three are listed here, with the others to come in December. These vehicles have a few battle scars and are broken in, as you would expect from a work vehicle.

You can come by the office at 201 W. Wrights Ave. in Comanche to inspect the vehicles in person.

Sealed bids can be mailed to: CECA, Attn: Sealed Vehicle Bid, P.O. Box 729, Comanche, TX 76442, or dropped off in per-

son at the office in Comanche.

In all correspondence, please include a phone number where you can be reached. Questions can be directed to Monty Cunningham at 1-800-915-2533. The deadline for bids is noon, November 15. Bid winners will be notified November 16.

CECA reserves the right to reject any or all bids at the discretion of the board.

**Mileage current as of September 13, 2016, but is subject to change, as vehicle could still be used.*



Truck 3399: 2006 Silverado 2500 HD, 4WD, single cab, 6.0-liter V8 gas engine, 5-speed Allison automatic, HD trairling equipment, mileage 176,277. Minimum bid \$4,000



Truck 1099: 2009 Silverado 1500 4WD, extended cab, 5.3-liter V8 engine, 4-speed automatic transmission, HD trairling equipment package, mileage 181,070. Minimum bid \$5,000



Truck 2299: 2002 Ford F-750, Cummins diesel engine, single cab, 7-speed manual transmission, mileage 55,199. Minimum bid \$5,000



Daylight Saving Time

TIME TO FALL BACK!

Set your clocks back one hour at 2 a.m. Sunday, November 6.

MARTIN WINKER | ISTOCK.COM / JTCF



Veterans Day November 11

Comanche Electric Cooperative sends gratitude to all our country's veterans.

RIE ABBT | ISTOCK.COM / JTCF



Happy Thanksgiving

from Comanche Electric Cooperative

Our offices will be closed Thursday and Friday, November 24-25, to celebrate the Thanksgiving holiday.