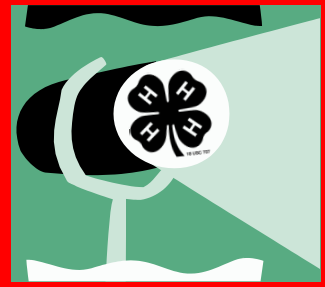




UNDERSTANDING COMPETITION IN 4-H



Competitive events are a major component of the 4-H youth development program. Contests provide an opportunity for youth to learn important life skills and increase their subject matter knowledge in the projects they are involved in. Contests help youth cultivate skills and acquire knowledge. Over the course of their 4-H career youth's skills and knowledge will develop and contests provide a good way to measure progression. For example, in the beginning youth's knowledge may only be facts, but as participation continues youth develop an understanding and form an appreciation of this knowledge. Contests also allow youth to share their skills and knowledge with others, especially younger 4-H members creating excellent educational opportunities and leadership experiences.

Contests also provide motivation to youth to succeed. Contests provide a great opportunity for youth to set goals and work towards accomplishing them. Participation in contests over a period of time can help youth measure their progress through the attainment of goals that are increasingly more challenging each year. Contests also allow for youth to receive recognition for their accomplishments. It is important to not just recognize youth who place in the top, but all youth for their participation and hard work.

Additionally, contests provide a way for youth to learn to work independently and also together. While some contests are individual efforts that require youth to learn the skills that will make them successful at working by themselves to achieve their goals. Others are team efforts that require youth to learn social skills that help to make them good team members. Besides working with their team, contests provide an opportunity to teach youth about good sportsmanship and develop friendships with youth outside of their club, school, or county.

Most importantly, competition in contests should be a fun and exciting experience for youth. Volunteers, parents, and staff should create an environment that is conducive to education and allows youth to enjoy the experience. The emphasis should not be solely on winning, but should focus on teaching and providing a way for all youth to feel successful because they were able to achieve their goals.



Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln cooperating with the Counties and the United States Department of Agriculture.

The 4-H Youth Development program abides with the nondiscrimination policies of the University of Nebraska-Lincoln and the United States Department of Agriculture.

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Special points of interest:

- Food allergies can make 4-H baking interesting. Learn how to help those who can't bake with wheat flour.
- Gear-Tech 21—great for those 4-H'ers interested in robotics, GPS and GIS!
- Felting is a fun way to do something different with wool!





EXTREME BAKING !!

Baking for people with food allergies can be an extreme challenge, especially for the 5-8% of children who have a food allergy (an immune response, sometimes life threatening, to a food that causes the body to adversely react to any contact with that substance) as well as, the many others who have food intolerances (an adverse reaction of the digestive system to a food).

The most common food allergens are: milk, eggs, wheat, soy, fish, shellfish, peanuts and tree nuts. Food labels must clearly state whether a product contains one of these eight foods according to The Food Allergen Labeling and Consumer Protection Act of 2004. Persons with allergies must AVOID those foods, and may feel safest baking their own breads, muffins and cookies, so they know what ingredients are in the food. Teaching your 4-H members how to bake allergy-friendly foods begins with the basic ingredients and each ingredient's function in the baked food:

- Flour provides the structure
- Sugar for taste and browning
- Milk for taste and to dissolve ingredients
- Eggs to provide volume/structure and emulsify (blend) ingredients
- Oil/butter to soften the texture and for taste
- Baking soda, powder or yeast to add air bubbles and make the food rise

The baking ingredients that most often need to be altered for allergies are wheat flour, milk, butter and eggs. Knowing why an ingredient is used in a recipe helps a person select a suitable substitution for the allergen food. See the chart below for possible substitutions. Here are some learning activities you might do with 4-H members:

1. Challenge 4-H members to match ingredients with its baking function. Write each baking function on a large piece of paper and post these on walls around the room. Write each ingredient on a small card. Let members pick a card and go stand by the appropriate baking function sign. As an extreme challenge, ask them to match the substitute ingredients with the baking function it provides.
2. Compare a basic muffin recipe to three altered recipes, with substitutions for the wheat flour of 1) bean flour, 2) rice flour and 3) barley flour. Or a cake recipe plus three recipes with substitutions for the eggs—1) 1/4 cup applesauce per egg, 2) vegan egg substitute (use per package instructions), and 3) 1 tablespoon ground flax seed simmered in 3 tablespoons water then let set for 5 minutes (per egg). Use a score sheet from the 4-H website www.4h.unl.edu to do the comparison.
3. Show members samples of various flours and substitutes for wheat flour. Challenge the members to predict how each of the flours might work in a cookie recipe. How would each cookie be different (taste, appearance, texture, shape, smell)? Let small groups change a basic cookie recipe using a substitute to see if their hypothesis is correct.

Wheat Flour	Thickener	Milk	Butter	Egg
Garbanzo bean flour Sorghum flour Fava bean flour Rice flour Almond meal Buckwheat flour Baking cocoa flour Quinoa flour Millet flour Amaranth flour	Arrowroot Xanthan gum Tapioca flour Guar gum Potato starch	Soy milk Oat milk Almond milk Coconut milk Hemp milk Rice milk Fruit juice Wine Tomato juice Broth Water	Canola oil or olive oil * Coconut oil Lard Tofu Avocado puree Non-dairy butter substitute **	Vegan egg substitute Flax meal & hot water Applesauce Fruit or vegetable puree
* (doesn't cream well with sugar for recipes that need this) ** (such as Smart Balance or Earth Balance)				

STRATEGICALLY PLANNING 4-H CHILD DEVELOPMENT!

Nebraska 4-H has embarked on a new 5-year Strategic Plan. The plan focuses on 5 outcomes that were identified by stakeholders as important to the youth of Nebraska. These outcomes can be integrated into the program in many different ways; at club meetings, at workshops, at new programs and more. One additional way will be in the Child Development exhibits for this year. Four of the traditional exhibits will be making an adjustment to fit these outcomes.

Let's first review the outcomes.

4-H Science: Developing science interests, skills and abilities in the areas of agriculture, energy, environmental stewardship and technology. Helping youth think and problem solve within a scientific framework and encouraging an excitement for science.

Agricultural Literacy: Ensuring that Nebraska youth have a knowledge and appreciation of Nebraska's largest industry.

Career Development/College Readiness: Preparing youth to make informed decisions about their college and career path. Developing skills in young people that will lead to greater persistence in college and employability.

Citizenship and Leadership: Fostering youth's commitment to their communities and growing future leaders.

Healthy Living: Educating youth about how to make healthy and safe decisions in their daily lives.

Now let's look at our exhibits.

1. **THE INFANT:** Toy, game, or activity made for baby (Birth - 18 mos.)
2. **THE TODDLER:** Toy, game or activity made for toddler (18 mos. - 3 yrs.)
3. **THE PRESCHOOLER:** Toy, game or activity made for preschooler (3 - 5 yrs.)
4. **MIDDLE CHILDHOOD:** Toy, game or activity made for grade-schooler (6 - 9 yrs.)

So how do we combine the two? The fairbook states: As you consider and develop your exhibits for these classes, remember that the toy, game or activity must be able to teach the child about something related to one or more of the outcome areas. This could be a game that teaches about healthy eating (healthy lifestyles), or a game that teaches about being a farmer (careers/agricultural literacy). Be creative! Let's consider some other ideas:

Science – A stuffed bug for an infant.

Agricultural Literacy – A barn to play in for toddlers.

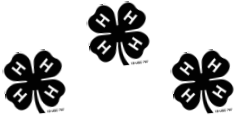
Healthy Living – A matching game of fruits and vegetable pictures for preschoolers.

Careers – A picture book of careers in your community for preschoolers

Citizenship/Leadership – A game about being a citizen for grade-schoolers.

When you stop to think about it, it can be very easy to develop something that fits. First pick the age of child you want to target and then pick an outcome you might be interested in learning more about. Decide what you want to teach that child and create a toy, game or activity that would expose the child to the outcome. Think broadly and we only ask that an attempt is made at connecting these exhibits to our outcomes. Just think if we start teaching our youngest youth about these outcomes, how much of a difference it will make. For questions, please call Child Development Superintendents – Lisa Kaslon (402)563-4901 or Angela Abts (402)987-2140.





GEAR UP FOR GEAR-TECH 21 !



Have youth interested in robotics, GPS or GIS? **Nebraska's GEAR-Tech-21** program is a great place to begin! This program integrates robotics, GPS, and GIS to provide over 200 hours of activities. The first step to starting a **GEAR-Tech-21** Robotics Club is to have an adult volunteer register with the **GEAR-Tech-21** website at 4hset.unl.edu. This website is where you will find the curriculum, helper's guides which include hints for volunteers, and online training videos to help you out. All of the curriculum is posted on-line and is **FREE!!**

Here is the step by step process on how to become a **GEAR-Tech-21 Club**:



1. Create a user account for the GEAR-Tech-21 website and begin exploring the resources available.

2. Start forming your club:

- Find adult volunteers, youth participants, and a meeting location.
- If your group is not already affiliated with 4-H, follow the steps to become a 4-H Club if you are not a registered 4-H club already.
- Submit GEAR-Tech-21 Club Registration Form

3. Borrow or purchase equipment needed for GEAR-Tech-21 activities.

- Use the equipment list to determine what you already have available to your club.
- GEAR-Tech-21 has a limited amount of equipment available for clubs to borrow for a small rental fee.
- The equipment request form is available on-line and equipment is loaned on a first come-first serve basis.



4. Attend online and, if possible, in person training (*recommended*)

5. Youth (and, if possible, adults) attend a GEAR-Tech-21 Summer Camp (*recommended – you do not have to attend a camp before beginning club!!*)



6. Start meeting as a club

After getting organized, club members are asked to participate in the research evaluation surveys (their choice to participate or not does not have any effect on participation with the project). The surveys will be mailed to the club leader for distribution to the youth. After returning the surveys to the project staff, the leader will receive a **COOL GEAR-Tech-21** prize!

To schedule a training for you and other club volunteers or teachers, contact the **GEAR-Tech-21** project staff. We would love to come out and meet you! If you have any questions about anything related to **GEAR-Tech-21** please do not hesitate to contact our project staff at gear-tech-21@unl.edu .

THE ART OF FELTING

Felt is the oldest textile fabric dating as far back as 6300 BC. Felt is created from wool or other animal fibers that are densely matted together. The creation of felt simply requires wool, water, soap and two hands. Other items can aid in the creation of felt.

Felting: Is a simple technique that can be used to add color and texture to projects. Wool fibers felt together because each strand of wool contains scales. The felting process causes the scales on individual fibers to lock together, forming a firm, nonraveling fabric.

Wet Felting: This is the technique that occurs when animal fibers encounter heat, moisture, and abrasion such as when you accidentally wash and dry a wool sweater.

Dry or Needle Felting: It is the process of pushing barbed needles, through layers of wool fiber or other animal fibers material. The fibers become firmly attached to one another without the use of sewing thread.



SUPPLIES:

1. Felting needles are very sharp triangular needles with downward pointing barbs at the tip of the shaft. Needles can be purchased with multi needles that include a handle. This tool allows for quicker felting results.
2. Stabilizer (water-soluble or traditional) can be used as a foundation for creating wool sheets or dimensional shapes.
3. Yarns and threads are suitable for needle felting. The more loosely spun the yarn, the easier it is to use. Experiment with various yarns and thread to see the effect they create.

FELTING WITH RECYCLED SWEATERS: Raid your closet or the local thrift store for used wool sweaters. To felt your sweater wash in hot water with a cold rinse and dry the sweater on high heat. Repeat as necessary. The sweater will shrink and the weave will become tighter and tighter. Sweaters made from 100% animal fiber will felt so tight that it will not fray when cut. The less percentage of an animal fiber such as wool, mohair, or merino the less the sweater will felt.

RECYCLED FELTING PROJECTS: Your recycled sweaters can easily be made into useable garments and accessories. For example: Purse, scarf, Pomander Ball or ornament, wreath or any 3-dimensional accessory.

PURSE: Cut the body of your purse from the shrunken sweater using the neckline as the opening of your purse. Cut lining fabric to match the size of your sweater purse. For handles, cut two strips from the sweater remnants, fold in half to create the desired handle length.

WREATH: Use wool sweater scraps cut into squares; pull them together with embroidery floss to form a circle and secure. Make a small bow from ribbon and glue to the bottom of your wreath. Create a hanger and enjoy!





CALENDAR OF EVENTS



FOOD SCIENCE AND TECHNOLOGY PROVIDES GREAT CAREER OPPORTUNITIES

Do you like creating foods or making sure food is safe to eat? If yes, then explore a major in **Food Science and Technology** at **UNL**! The **Food Science and Technology** curriculum includes a balance of courses in food science, biological sciences, physical sciences, mathematics, social sciences and humanities. Food science courses include food product development, food engineering, food analysis, food chemistry, food microbiology, nutrition, quality assurance, and commodity processing courses. This program is designed to allow the student to develop an area of emphasis that fits their career goals by providing technical elective hours that are chosen by the student. Students may participate in an internship program that provides summer employment in the food industry. Students also have the unique opportunity to work in the **Food Processing Center** or one of our research labs.

Food Science and Technology majors find career opportunities with food processing firms, government agencies and educational institutions. Types of positions available to graduates include product development, quality assurance, food plant management, food research, food marketing and sales, education and extension. Salaries for students receiving a Bachelor's

degree in **Food Science and Technology** from **UNL** remain competitive and students may earn between \$48,000-55,000 per year after graduation. **Food Science and Technology** graduates can also pursue careers in medicine, pharmacy, and other health-related careers.

NEBRASKA difference **UNL** facilities are among the best in the United States. They're state-of-the-art equipment and dedicated professors have received college-wide as well as national awards for excellence in teaching and research. There are established funds available for scholarships and unique opportunities for internships and undergraduate research. The Food Science department is student-oriented meaning all of their classes, including laboratory sections are taught by professors. In addition to their commitment to teaching, students also have the advantage of one-on-one faculty advising as well as participating in the Food Science Club.

Learn more by contacting Ryan Kawata, Coordinator Recruitment, rkawata2@unl.edu. (402) 472-0945 or viewing their website at: <http://foodsci.unl.edu/>.

4-H! YOUR FIRST CLASS AT THE UNIVERSITY OF NEBRASKA!