EXTENSION
4-H Youth Development

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SPOTLIGHT ON 4-H

Nebraska Extension 4-H Newsletter — Bonus Edition 2021

Utilizing Pinterest for 4-H Projects—Sarah Paisley

Need an idea to decorate your space, use an old object, or for a fun 4-H project? Head to Pinterest, right? We all do it - go to Pinterest for creative ideas. There are some amazing projects out there that many talented people are willing to share. Why not take advantage of it?

While Pinterest does a great job of supplying 4-H members and leaders with innovative ideas for individual and club projects, it does not provide the skill development that 4-H strives to impart. The goal of projects should not be to just create something that will make it to state fair. Rather, our goal should be to learn a new skill. It could be something as simple as making a new type of bow, how to refinish a trunk with new materials, or a more complex life skill that can be found on the 4-H life skills wheel. Although, if you have tried to recreate a project with poor directions, you have worked on problem solving or even some stress management!

As you set out to recreate a Pinterest project, it is also highly encouraged that you take a look at the project manuals. Project manuals are evaluated on a regular basis by 4-H Staff to ensure they meet the needs of 4-H members and leaders while also providing a learning opportunity in projects created for the fair.

Let's take a look at an example! You want to teach your club about the color wheel. This will help with sewing projects, crafts, and even posters in the future. You search "color wheel" on Pinterest and find a ton of creative projects that display the color wheel. You are feeling pretty accomplished because there are some really great options that fit your youth interests, but what about the questions to ask, the correct terms to use, etc? If you use the STEAM Curriculum, there are some lessons that have everything created for you. Reach out to your local 4-H staff member to help you find the correct manual or department that this project could fall into.

Now let's look at a different scenario! You are looking at "Drying Project Manual" and have a list of guidelines for drying vegetables that accompanies the basics of drying foods information. There are no recipes to try within the book so you decide to check out what is on Pinterest. There are a lot of different recipes! This allows you the chance to select a recipe based upon what your members like to eat. It could also allow you to have one group try one recipe and another group try a different one. Cooking skills have been learned as well as critical thinking skills when you compare the final results.

Regardless of which route you choose to utilize Pinterest, challenge the youth to create a unique project or take their new skill onto the next level to create their own project from scratch. Either way, youth will be exposed to creating a unique object instead of creating a cookie-cutter project and developing life skills they can use in many experiences in the future.

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STE(A)M Education—What does it mean and why is it important?

By Kameran Ulferts

The U.S. Department of Education believes that in an ever-changing, increasingly complex world, it's more important than ever that our nation's youth are prepared to bring knowledge and skills to solve problems, make sense of information, and know how to gather and evaluate evidence to make decisions. Former President, Barack Obama, put out the call in his 2011 State of the Union Address, igniting a movement to teach students 21st-century skills to become more competitive with other nations in the fields of STEM. The U.S. Department of Education suggests that these are the kinds of skills that students develop in science, technology, engineering and math—disciplines collectively known as STEM.

Where does the "A" come in to turn "STEM education" into "STEAM education" and why? The STEAM approach recognizes the *arts* in STEM learning experiences. John Dewey, American philosopher, psychologist, and educational reformer, believed in the desegregation of subjects and in allowing children to just ask and seek answers with their unbridled natural curiosity. In today's educational system, youth asking questions can be seen as inadequate rather than curious. In reality, the most successful innovators, creators, engineers and scientists use a myriad of skills to innovate, create and engineer.

In the Nebraska State Fairbook there are countless opportunities for teachers, leaders and parents to further involve youth in hands-on STEAM learning experiences. In every area of 4-H there are several opportunities for STEAM learning to be incorporated. For example, project ideas from six areas of the static exhibits are listed below with contextual STEAM questions for teachers, leaders, and parents to ask youth:

Food & Nutrition: Food Science Explorations – This project shows the connection between food and science as it relates to food preparation, food safety, or food production. Exhibit may be a poster or foam core board, computer-based presentation printed off with notes pages, if needed, and displayed in binder, an exhibit display, a written report in portfolio or notebook. Consider neatness and creativity. ***In the context of STE(A)M:*** How does STEM affect the foods we eat every day? In order for a viewer to actually want to read this display, the youth must also consider their design to catch the viewer's attention.

Entrepreneurship: Marketing Package – This project's poster must include at least three items (examples) developed by the 4-H'er from the following list: business card, brochure, advertisement, business promotional piece, printout of an Internet home page, packaging design, signs, logo design, direct mail piece, etc. The marketing package should be for an original business developed by the 4-H'er and not an existing business. ***In the context of STE(A)M:*** When considering developing a business plan and the marketing materials, youth must consider the math and technology they will utilize. If developing a physical product, the youth might also consider utilizing technology as they engineer their new idea. How much will the product cost? What software/applications will you use to develop your marketing ideas?

Photography: Creative Techniques & Lighting Display or Print- Photos should capture a creative use of lighting, such as diffused lighting, backlighting, or hard lighting, reflections, or another lighting technique covered in Book 2 Next Level Photography. ***In the context of STE(A)M:*** - How does the science behind light (optics) come into play with photography? How could the photographer engineer a better lighting set up in a dimly light area? Could the use of technology improve the lighting?

Pictured on the left are youth experimenting with "Sumanigashi", utilizing surface tension to marble their paper. Pictured on the right are youth carefully measuring and cutting t-shirts, upcycling old t-shirts to create t-shirt yarn.

A fantastic example of STE(A)M Education comes from the University of Concordia-Portland's website: "The scientist who can use science and math to create a new treatment for disease must also use design-thinking to imagine and visualize her work. She must also express herself with impressive communication skills in order to secure funding and support. She must work collaboratively with her colleagues and investors to improve and expand ideas, and then publicly speak about her progress and discoveries with eloquence and ease. This multi-skilled individual is a representation of a student who understands how academic subjects are meant to work together."

In the context of 4-H Youth Development, 4-H provides the cross-curricular projects and real-life experiences that youth need to further develop their skills in the field of STEAM. 4□H programs use hands-on activities in robotics, computer science, electrical engineering, and various other areas, to teach problem solving, creative and critical thinking, and inspire kids to explore engineering and technology. In the Nebraska State Fairbook, there are countless opportunities for teachers, leaders and parents to further involve youth in hands-on STEAM learning experiences. In every area of 4-H there are several opportunities for STEAM learning to be incorporated. For example, project ideas from six areas of the static exhibits are listed below with contextual STEAM questions for teachers, leaders, and parents to ask youth:

Heritage: Family Genealogy/History Notebook— Include pedigree charts/family group sheets, with documentation for two to three generations of one family line, expanding each year. ***In the context of STE(A)M:*** To encourage creativity, a project leader might encourage youth to utilize technology to engineer a family tree image that is easy for the viewer to read. For example, youth might try utilizing technology to scan in existing documents to a computer. After the scanned document makes it into a computer file format, the youth could then cut and paste the necessary information into a brand-new document collage.

Harvesting Equipment-Fishing/Taxidermy/Other Natural Resources/Environment: Plant Adaptations—Draw five plants and explain how they are suited for their lifestyle by their adaptations (three-ring binder; journal; poster). ***In the context of STE(A)M:*** This particular exhibit involves mostly science and art. To take this project a step further, a project leader might encourage a youth to try a different art form. Have youth consider what medium of art they would like to use: pen, pencil, colored pencil, paint? To add in technology to this project, youth might consider drawing the plants by using a computer software/program.

Quilt Quest: Computer Exploration— Notebook or poster with a minimum of six computer generated quilt designs or color variations on a quilt design. Include information on type of program used, process used to generate designs or how you used color to create a different quilt design. Size of poster or notebook —suitable for the exhibit. ***In the context of STE(A)M:*** This project seeks to further develop youth understanding of quilting by first designing their quilt blocks digitally. This type of project involves several shapes and geometry to tie the shapes together in one engineered design.

Displayed in the information above, STEAM concepts can be found throughout the Nebraska 4-H Fairbook. By incorporating multiple subject areas, educators can create more meaningful learning experiences for youth. When projects are designed with STEAM concepts, intention and care, they can lower barriers to engagement, stimulate creativity, and allow youth to deeply connect to their work.

Interested in more information on STEAM education? Contact: Kameran Ulferts / kam.ulferts@unl.edu
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Pictured below are youth engaged in architecture/structure design using found objects. Pictured on the right are youth engaged in environmental education by creating homemade seed paper.

Preserving Food

By Donna Kircher

Preserving methods for our fresh produce have been in existence for many years. Canning can be a safe and economical way to preserve quality food at home. Disregarding the value of your labor, canning home-grown food may save you half the cost of buying commercially canned food. Canning favorites and special products to be enjoyed by family and friends is a fulfilling experience and a source of pride for many people. However, you ***must*** follow the researched based recommendations in the methods of preserving food. Nebraska 4-H curriculum has 4 manuals that include:

FREEZING

Easy, quick, convenient, maintains color, flavor, texture and nutrients. Freezing prevents the growth of micro-organisms and slows, but does not stop, enzyme action.

DEHYDRATING

Removes moisture that bacteria, molds, and enzymes need to survive. Makes those items shelf-stable. Works on three principles: Heat - Dry Air - Air Circulation.

CANNING PROCEDURES (Water Bath and Pressure Canning)

Destroys microorganisms that may be in the food by heating them to a high enough temperature. Destroys yeasts and molds when food reaches 190°F. Removes air from jars, leaving a vacuum seal. Molds and some yeasts are unable to grow in a vacuum.

The canning method that is approved for a food depends on the type of food.

Water bath processing method may be used for those foods that contain acid: pH less than 4.6. Includes fruits, pickles, sauerkraut, jams, jellies, marmalades, fruit butters, salsas, tomatoes (after acid is added) and other high acid foods.

Pressure canning method must be used for those foods that have very little acid: pH higher than 4.6. Includes all fresh vegetables, mixtures of acid and low acid foods, meats (beef, lamb, pork, veal &venison), seafood, poultry and other low acid foods.

Food preservation is of interest to youth because of the variety of recipes and the different methods of preserving. Most importantly, to ensure a safely preserved product, follow a recipe and processing method from a reputable source and adjust the processing time for the altitude in which you live.

National Center for Home Food Preservation https://nchfp.uga.edu/University Extension websites, including University of Nebraska-Lincoln (food.unl.edu) University of Wisconsin Washington State University Penn State University.

Disaster Kit

By Jami Ankrom

Disasters are something that can happen at any time or any place without any notice. Whether it be an ice storm, tornado, flood or another disaster, many families don't think about being prepared until it is too late. When a disaster occurs, being prepared will make a big difference in how your family reacts to the situation. At some point, everyone will face a disaster of some type throughout their life.

Teaching your family to be prepared for a disaster is very important. There are many different ways to be prepared, but working together as a family in creating a disaster kit will make everyone feel ready for when the next disaster happens. A disaster kit is an assortment of basic supplies your family may need in an event of an emergency.

While making your disaster kit, a family will need to determine how long one could be without electricity, heat, or water for an extended period of time. In order to be prepared, you will need food, water and other supplies to last for a minimum of 72 hours. In many disasters, emergency agencies will be available, but not all families can be given those resources right away.

When assembling your disaster kit, the Nebraska State Fair 4-H Fair Book states that a disaster kit needs the following:

Disaster Kits - "must contain the materials to prepare a person or family for emergency conditions caused by a natural or man-made incident. Selection of materials is left to the exhibitor. Family or group kits must have enough material or items for each person. A description of the kit's purpose, the number of people supported, and a list of contents is required. Youth are encouraged to test their kit by challenging their family to try to survive only on the included materials for the designated time. If tested, share that experience in kit documentation. Please include an explanation of drinking water needs for your disaster kit. Do not bring actual water to the fair in the kit. To learn more about the guidelines for this project please follow scoresheet SF111."

Creating a disaster kit should be a great way for you and your family to learn more about the importance of being prepared. Now is the time to have a plan ready and be prepared for the next disaster.