

SCIENCE, ENGINEERING & TECHNOLOGY DEPARTMENT H

☛ **ALL STATIC EXHIBITS MUST HAVE RECEIVED A PURPLE RIBBON AT THE COUNTY FAIR TO ADVANCE TO THE STATE FAIR.**

GENERAL INFORMATION

The name and county of each exhibitor should appear separately on the back of each board, poster or article and on the front cover of the notebooks so owner of exhibit may be identified if the entry tag is separated from the exhibit.

Each individual is limited to one exhibit per class.

Several classes require a display board which should be a height of 24" and not to exceed 1/4" in thickness. A height of 23 7/8" is acceptable to allow for the saw kerf (width) if two 24 inch boards are cut from one end of a 4' X 8' sheet of plywood. Nothing should be mounted within 3/4" of the top or bottom of the board. (Example: Woodworking, Small Engines, & Electricity.)

Fabricated board such as plywood, composition board, or particle-type lumber may be used for demonstration displays.

Demonstration boards should be sanded and finished to improve their appearance. The finish on a demonstration board will be judged as a woodworking exhibit.

Demonstration boards should include an overall title for the display, plus other necessary labeling.

Reports should be written using the scientific method whenever possible (Background, the Question or hypothesis, what you plan to do and what you did, Method used and observations, Results: what you learned. All reports should be computer generated and enclosed in a clear plastic cover. The reports should be attached securely to the display.

GEOSPATIAL

Department H - Section 880
Premium Schedule B

Youth enrolled in Geospatial or GEAR TECH 21 may exhibit in any class within this division.

- *1. **Poster** - Create a poster (not to exceed 14" x 22") communicating a GPS theme such as How GPS or GIS works, Careers that use GPS or GIS. How to use GPS. What is GIS, GPS or GIS in Agriculture, Precision Agriculture or a geospatial topic of interest.
- *2. **4-H Favorite Places or Historical Site Poster** - The 4-H exhibitor identifies a favorite place or historical site (including grave sites) in Nebraska. Exhibit should include latitude and longitude, digital picture, and local area map. Poster size should not exceed 14" x 22".
- *3. **GPS Notebook** - Keep a log of at least 5 places visited using a GPS enabled device. At least one site should be from a community other than where you live. For each site, record the latitude, longitude and elevation. Also include a description of the site, a paragraph explaining what was interesting about the site or finding it. Photos of each site and/or cache are optional but encouraged.
- *4. **Geocache** - Assemble a themed geocache. Each geocache should be a watertight container. It should include a log book and pencil for finders to log their visits and may include small trinkets, geocoins, etc. For the finders to trade. Documentation should include a title, teaser description and the geographic coordinates of intended placement. **Register the site at geocaching.com, include a print-out of its registry.** The entry may include

a photograph of the cache in its intended hiding place.

- *5. **GIS Map** - Create a GIS map with at least three data layers. The GIS should include both vector and raster data. Data may be obtained by using a GPS-enabled device, downloading data from a reputable web site or digitizing. The GIS should have a theme/purpose and include a title, north arrow, legend, labels, scale bar and source. Maps may be of any subject of interest to the 4-Hers. Include a 1-3 page report on why you chose the subject and map(s), how you created the map(s) and the source of your data, (use reliable sources such as the US Center for Disease Control or the US Census Bureau). This project could include Hurricane Tracking maps. {Create a GIS map for Hurricane Tracking with a geographic information system (GIS) computer software application of the Atlantic Ocean, Pacific Ocean, or the Gulf of Mexico. The map should appear similar to the National Oceanic and Atmospheric Administration (NOAA) (<http://www.nhc.noaa.gov/>)} Poster size should not exceed 22" x 30". Place report in plastic cover or notebook attached to the poster.
- *6. **GIS Thematic Map** - Using any GIS software, create a thematic map. Thematic maps can utilize any subject of interest to the 4-H'er. Maps could be of Amelia Earhart's journey, Sir Francis Drake's voyage, population density maps, water usage maps, or 4-H projects in Nebraska (examples). Create a GIS Map using data from books and/or internet. Use reliable data, ex. U.S. Center for Disease Control or U.S. Census Bureau. Map any size for up to 36 x 24", should include Title, Base map, Neat Line, North Arrow, and Legend. Identify the source of your information the back of the map.
- *7. **4-H History Map** - Preserve 4-H History: Nominate a Point of Interest for the 4-H History Map Project include copy of submitted form in folder or notebook. To nominate a site for the 4-H history map please go to <http://arcg.is/1bvGogV> For more information about 4-H history go to http://4hhistorypreservation.com/History_Map/ For a step by step video on nominating a point, please go to this link: <http://tinyurl.com/nominate4h> Write a brief description of historical significance of 4-H place or person. (a minimum of one paragraph)
- *10. **Careers Interview** - Interview someone who is working in a geospatial field and research that career. Interviews can either be written or in a multimedia format (CD/DVD). Written interview should be in a notebook. Written reports should be 3 to 5 pages, double spaced, 12 point font, and 1" margins. Multimedia reports should be between 3 to 5 minutes in length.