

DIVISION 880 – GEOSPATIAL Youth enrolled in Geospatial or GEAR TECH 21 may exhibit in any class within this division.

H880-001* 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.

H880-002* 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".

H880-003* 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.

H880-004* Geocache – Assemble a themed geocache. Each geocache should be a water-tight container. It should include a log book and pencil for finders to log their visits and may include small trinket, 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.

H880-005* Agriculture Precision Mapping – 4-Hers will assemble a notebook that will include a minimum of 2 digital copies of various data layers that can be used in precision agriculture to identify spatial patterns and/or correlations (printed copies of websites where applications can be purchased is acceptable). A report of how the analysis of the various data will be used to make a management decision.

H880-007* 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://arccg.is/lbvGogV>. For more information about 4-H history go to http://4-historypreservation.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.

H880-010* Careers Interview – Interview someone who is working in a Geospatial field and include research that career. Interviews can either be written or in a multimedia format (CD/DVD). Written interviews 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.

DIVISION 900 – ALTERNATIVE/RENEWABLE ENERGIES (Formerly POWER OF WIND)

H900-001* Create and Compare Energy Resources Poster Poster should explore 2 alternative/renewable energy resources. Compare and contrast the 2 resources including two of the following information: amount of energy created, costs of production, usability of the energy, pros/cons of environmental impacts, etc. Posters can be any size up to 28" by 22".

H900-002* Experiment Notebook Notebook will explore the scientific method involving alternative/renewable energy sources. Information required. 1) Hypotheses, 2) Research, 3) Experiment, 4) Measure, 5) Report or Redefine Hypothesis.

H900-003* Solar as Energy Display Item should be the original design of the 4-Her. Include the item, or a picture if item is in excess of 6' tall or 2' x 2'. Include a notebook of why the item was designed and how it harnesses the power of water. Examples include solar ovens, solar panels, etc.

H900-004* Water as Energy Display Item should be the original design of the 4-Her. Include a notebook of why the item was designed and how it harnesses the power of water.

H900-005* Wind as Energy Display Item should be the original design of the 4-Her. Include the item, or a picture if item is in excess of 6' tall or 2' x 2'. Include a notebook of why the item was designed and how it harnesses the power of wind.

H900-006* Other Nebraska Alternative Energy Notebook should explore Nebraska as an alternative energy source besides wind, water and solar power. Include information on type of power chosen, infrastructure for distribution, what resources are needed to create this alternative resource, cost of production and potential uses of bio-products.