



Science, Engineering and Technology

4-H Geospatial

North Dakota 4-H Project Sheet

Exploring Spaces, Going Places explores the work of geospatial science and goes where no 4-H project has ever gone.

Accessed entirely on one CD, the three youth levels and helpers guide are valuable resources to anyone interested in geospatial technology, geographic education, geographic information systems (GIS) and global positioning systems (GPS).



Pass it on!
Now that you know how, share it with others. Here are ideas to get you started.

Communication

- Prepare a demonstration on how to use a GPS receiver.
- Prepare a speech on how a GPS works.
- Demonstrate how to create a map.
- Interview an adult who is working in a geospatial - related career.

Citizenship

- Find out how you can work on a geospatial project to help your community.

Here's what you can do all year!

Getting Out Level 1

- Learn about navigational tools such as GPS, compasses, maps and globes.
- Identify the components of a position.
- Measure distances.
- Learn to gather and work with positional data.
- Discover how you can use this information in your community.

On the Trail Level 2

- Discover how to collect data.
- Learn to combine data with geographical positions.
- Learn to build maps with geographic/geospatial data.

Reaching Your Destination Level 3

- Discover how maps can help solve a problem.
- Identify different types of data.
- Learn to combine layers of information to create maps.
- Learn how maps can be used to solve problems in your community.

Leadership

- Conduct a geospatial skillathon.
- Teach a GPS workshop.
- Create a virtual geocache at your county fair, 4-H achievement days or community celebration.
- Share what you have learned with your 4-H club.

Entrepreneurship

- Teach classes on using a GPS receiver.
- Teach classes on making maps.
- Create maps.

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Here are other geospatial opportunities to explore:

- Take a geospatial class offered in your school or community.
- Shadow a GIS professional in your community.
- Visit a business that does mapping and see how the maps are created and printed.
- Connect with a member of the [North Dakota Geographic Alliance](#).



Exhibit Ideas

For all levels, a 4-H member can create a map, poster, notebook or display of a geospatial project in GPS/GIS. Some additional specific ideas are:

Getting Out - Level 1

- Using the “Take Me on a Tour” activity, create a display and map showing four to six tour sites, geo-tools used to create the map, positional data for the sites and information about the selected sites.
- Using information from the “What Are Geographical Tools?” activity, prepare an exhibit showing and describing 10 mapping tools. Explain how the mapping tools are used and why maps are important.

On the Trail - Level 2

- Using the table from the “Take Me on a Tour” activity from Level 1, create a map showing recreational, historical or public service sites in your community. Determine if additional community resources are needed. Make written suggestions for what resources should be added and where they should be located on your map.

Reaching Your Destination - Level 3

- Create a computer-generated map with layered data that provides information on a community need. Explain how the need was identified, how you gathered information and your recommendations on how to solve the need. Use the template from the “Take Me on a Tour” activity from Level 1 to gather data for the map.

4-H Resources	Other Resources	Recordkeeping
<ul style="list-style-type: none"> • National 4-H Curriculum CD - Exploring Spaces, Going Places Geospatial Geographic CD <ul style="list-style-type: none"> • Level 1 – Getting Out • Level 2 – On the Trail • Level 3 – Reaching Your Destination • Educational Trunks <ul style="list-style-type: none"> • Garmin eTrex Legend GPS Trunk • Geocaching Trunk • Orienteering Trunk • <i>2013 National Youth Science Day Experiment - 4-H Maps & Apps</i> 	<ul style="list-style-type: none"> • Geocaching.com • National Geographic Kids • My Community, Our Earth • My Wonderful World • Best of the Web - GPS • ESRI 4-H and GIS • GIS.com • ArcGISOnline 	<ul style="list-style-type: none"> • 4-H Project Plan • Planning for My Project Adventure (Ages 8-10) • 4-H Plan of Action (Ages 11-18) • ND 4-H Participation Summary for 11 to 19 year olds

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