Supporting School-Age Accreditation and Quality Programming

GPS/GIS is a great way to incorporate science activities into the School-age program. 4-H *Exploring Spaces, Going Places* guides are full of long-term activities that encourage higher level thinking skills. The activities are easy to understand, with everything you need (materials and supplies) stated at the beginning of each activity. All it takes is an adult who is excited about the project and is willing to take a little time to read the project books, think about the activities and develop some thought-provoking questions.

Essential Elements of 4-H Youth Development

Youth involved in 4-H know they are cared about and feel a sense of **BELONGING**; they exercise **INDEPENDENCE** by using decision-making and action to influence people and events; they develop a sense of **MASTERY** by learning skills needed in making positive career and life choices; and they experience **GENEROSITY** by helping others through community service. These elements support the Army Youth Development Components of Belonging, Success, Service and Independence.

Ideas! Ideas! Ideas!

Brainstorming with children, youth and parents is a great way to generate a list of ideas for field trips, speakers, and websites. If you need a few ideas to get started, here are some examples:

Field Trips   Speakers   Web Sites

- Ask the garrison planning, security or transportation office if they use GIS/GPS. Have someone from their office come talk to the group.
- Check with the local planning commission to see if project members can see their work in action.

Opportunities for Youth Leadership and Development and Cross-age Teaching

Older youth can serve as project helpers to younger youth by helping them set goals and work toward completing them. Older geospatial project members can host skillathons or a geospatial week at summer camp to help children and youth learn how GIS/GPS works.

Providing Quality Middle School and Teen Programming

Teens will get excited about 4-H *Exploring Spaces, Going Places* when they realize they can make a difference in their community. When youth can look at a problem in their community like an intersection where there are a number of accidents, find a solution and present that solution to the city council it encourage them to become more involved. Choose activities where teens can work together. Through the use of hands-on activities, youth can learn about GIS/GPS and the jobs that are related to the industry.

Community Service/ Service Learning Opportunities

There are many opportunities for community service with 4-H *Exploring Spaces, Going Places*. Map out community restaurants that serve nutritional foods, map areas where invasive weeds grow, or identify local community points of interests and share them with the community government. Looking for ideas? Ask garrison officials or the local city planner for suggestions.

Summary

An interest in GIS/GPS is all that's needed to lead *Exploring Spaces, Going Places*. Review the materials, try out some of the activities, and select 6-10 sessions for a terrific project. With the help of an adult, youth will discover the exciting world of geospatial geographic.

THE Army 4-H Express GUIDE TO Exploring Spaces, Going Places

It's in cars and phones but how does GPS or GIS really work? *Exploring Spaces, Going Places* guides youth through the world of GIS/GPS and helps them explore this technology and how it is used in so many ways through a day.

U.S. ARMY MWR

U.S. Army Child, Youth & School Services

Project Goals

4-H *Exploring Spaces, Going Places* offers a variety of experiences and opportunities that encourage youth of all ages to increase their knowledge, skill, and understanding of geographic and geospatial-related ideas and problems.

Four Fun Activities

1 What would happen if there were no house addresses? How would the mail carrier know which letters to leave at each home? How are restaurants found in a new city? Success depends on having the right information or data. In **Setting Out, Level 1 – Beginner, Collection Activity #1, Data Deluge**, youth will not only think about geographical data but also learn to describe it.

2 What are the points of interest in your hometown? Are there famous restaurants or stores that should not be missed? What about historical monuments or specific manufacturing others would enjoy seeing? In **Setting Out, Level 1 – Beginner Project, Take Me on a Tour**, youth select places of interest in the community. Then using a variety of geo-tools (compass, GPS, topographic map, satellite image or aerial photos, camera or altimeter) they will collect the positional data needed to design a community tour map.

3 Plan an "extreme adventure" using **On the Trail, Level 2 – Intermediate, Components Activity #2, From Here To There**. It can be an expedition to the Amazon or exploration of the Mammoth Cave tunnels. Youth will determine the geographic and geospatial data components needed to prepare for a safe adventure.

4 Learn about Wilderness Rescue Rangers who rescue injured hunters or hikers and then participate in this activity **Geospatial Helper's Guide, Advanced Activity #2, GPS Search & Rescue – Find Buddy!** Youth use their knowledge of GPS, magnetic compass, and topographic maps to search for Buddy. The first team on the scene has the honor of bringing Buddy back to headquarters.

Experiential Learning

Experiential Learning engages children and youth while they learn, share, and grow through their 4-H experiences. With an adult as the coach, the first step is "doing" or exploring. Next, youth share what they did and discuss the experience with their peers. After they've identified the skills and knowledge gained, help them determine how to apply these to other situations in their lives. Questions for this project could include: How would you decide where to go if asked to plan the project field trip? Would it be warm or cold? How is the temperature determined? How would the group get to the selected location? Which route would be taken? What equipment should be taken to make sure the group arrived at the designated stop?

Project Activity Guides and Target Age Groups

Instead of printed manuals, these project materials are stored on a CD and include:

Level 1, Setting Out – Beginner
The activities in Setting Out will provide interesting and exciting challenges. Youth will learn about "position" in the world, map making and the tools and symbols used in maps.

Level 2, On the Trail – Intermediate
Youth will learn how the world of geographic and geospatial data helps users understand positions and how it can be used to connect information in different ways. In this level, youth will interpret maps and determine what kinds of maps to make.

Level 3, Reaching For Your Destination - Advanced
Youth describe their community by making a map that shows where people live, where they go to school or work, where they shop, play and worship or what routes they travel. They will learn how to analyze the community using maps.

Geospatial Helper's Guide
The **Helper's Guide** will assist the project helper organize and direct group activities. These group activities build upon the activities youth do independently, which are found in the **Beginner, Intermediate, and Advanced Guides**. The **Helper's Guide** also includes experiential learning questions at the end of each activity.

Related 4-H Projects

Because 4-H *Exploring Spaces, Going Places* includes map making, think of all the maps that could be created and useful in *Outdoor Adventures*, *Power of the Wind*, *Aerospace Adventures*, *Bicycle Adventures* and many more.

Life Skills

"Skills that help an individual to be successful in living a productive and satisfying life" are identified as Life Skills (Hendricks, 1996). The skills that can be developed in this project include communication, leading, learning, critical thinking, planning, keeping records, and building self-esteem. Only one life skill is targeted for each activity but in each one youth will have the opportunity to practice several skills.

Character Connection

Character Counts all the time. Just because the ability exists to map and track virtually everything in the world doesn't mean it is the right thing to do. It is important to use all Six Pillars as a guide when working on this project. When determining if a feature should be included on a map ask: Does this show Trustworthiness, Respect, Responsibility, Fairness, Caring and Citizenship on the part of the project members? A person of character does the right thing even when it is hard or no one else is doing it.

Linking to the Army's Four Service Areas and Baseline Programming

Sports, Fitness and Health Options
It might not be necessary to get on the trails or hike to favorite youth locations in 4-H *Exploring Spaces, Going Places* but what good is a map if it is not used to go somewhere? After completing the activity in **Helper's Guide, Intermediate Helper's Guide Activities #4**, Youth Favorite Places, grab the walking shoes or ride bicycles to visit some of the project member's favorite local places.

Arts, Recreation and Leisure Activities
Dr. Seuss must have known about 4-H *Exploring Spaces, Going Places* when he said, *Oh, the Places You'll Go!* Create an "Amazing Race" type event using the **Helper's Guide, Beginners Helper's Guide Activities #8, GPS Treasure Hunt or Intermediate Helper's Guide Activity #6, Geocache Hunt**.

Life Skills, Citizenship, and Leadership Opportunities
By offering a wide range of life skills and suggestions for ways to become connected in the community, this project fits perfectly with this Service Area. Combine the life skill of communication and help youth expand their understanding of citizenship through **Reaching For Your Destination, Level 3 – Advanced, Project Activity, You Find the Answer!** to help solve complex community problems.

Academic Support, Mentoring, and Intervention Services
4-H *Exploring Spaces, Going Places* helps youth learn more about the scientific method used in school while looking at their world in different ways. Youth in the more advanced levels of this project can mentor and teach other youth the basic skills of GPS or plan and conduct skillathons for the program families using **Helper's Guide, Advanced Helper's Guide, Activities #3, Advanced Skillathon.**

Integrating Technology

4-H *Exploring Spaces, Going Places* is filled with technology from using compasses and hand-held GPS units, to using the computer to help draw maps. Robots use GPS/GIS technology to compete a variety of tasks. You can't think of GIS/GPS without thinking of technology. Here are a few websites with additional information about 4-H GIS/GPS.

National 4-H GIS/GPS Leadership Team
http://www.esri.com/industries/k-12/4-H/index.html

Module 8: Exploring Spaces, Going Places
https://apps.lis.illinois.edu/wiki/download/.../Report+(Nama--June+2008).doc

Robotics and GPS/GIS in 4-H: Workplace Skills for the 21st Century
http://bse.unl.edu/adamchuk/4H/index.html

Each project activity includes additional websites.