

## **Title of Activity: GPS String Activity**

Description of Goal: Students will understand how GPS and satellites communicate.

Recommended Grade: 5th Grade and up

### **Content/Project Skills:**

Outcomes: Create a model GPS using string.

Life-skill: Communication, Teamwork, (Critical Thinking)

National Standard: National Geography Standard,  
The World in Spatial Terms: Standard #1

Activity Time: 30 minutes

Materials/Equipment: colorful string, people with ears

Background (optional):

Set-up (Optional)

Do: ("The activity"/doing) One individual participates as the "GPS unit" and five or six individuals represent the "satellites". Each "satellite" has a string to represent the signal and they hold onto one end of the string. The "GPS unit" is turned on (pinch earlobe) and receives the end of the strings from each "satellite". The "GPS unit" pulls the strings tight to represent the straight line unobstructed radio signal. Activity leader describes the speed and time calculation to determine distance from the "satellite" (length of the string.) Four signals are needed to get accurate location. GPS units can work with at least 8 satellite signals.

"Satellites" and "GPS Unit" move and string(s) are pulled loose from "GPS Unit" by an obstruction, mountain, building, etc.

Reflect: Why is it important for the satellites to communicate with GPS unit? (Think about what you just did.) What would happen if the signal was interrupted? What happens to the communication between GPS and Satellite when standing too close to a building? "How a GPS works"? What other things can obstruct GPS signal?

Apply: How can triangulation relate in other aspects of life? What are other things satellites are used for?

Evaluation/Learning Indicators