Trilateration Activity Map

Grades 4-6

Introduce the main concepts about how GPS and GPS receivers work by sharing excerpts from *GPS: Global Positioning System* by Jeanne Sturm. Demonstrate how GPS receivers find their location using a chalkboard and chalk or white board and marker, along with the trilateration activity discussed on the **How Stuff Works** webpage for GPS receivers (*http://electronics.howstuffworks.com/gadgets/travel/gps.htm*). Allow children to create trilateration coordinates by using a compass and a map with a distance scale (see the ready-to-use Trilateration Activity Map below).

Instructions

1. Choose a city on the map.
2. Measure the distance between your chosen city and another city using a ruler. Use the distance scale on the map to convert the distance between cities into miles.
3. Repeat step #2 for two more cities.
4. You now have trilateration coordinates for your chosen city. A person with these coordinates and your map would be able to identify your chosen city the same way a GPS receiver identifies its location. Swap maps with a classmate and see if you can locate each other's chosen city.