MAKE TRAX

Step 2 3 4 5 6 7 8

Computer Maps

Duration of Lesson: 50 minutes

Students will:

- Review attitudes and beliefs about walking to school.
- Learn to use geographic information systems (GIS).
- Create maps and identify most frequently used walking routes to school.

Equipment and Materials:

- Computers with Internet access—1 per 3-5 students.
- Printer.
- Permission to download new software on school computers.
- Option: Map of school enrollment area, with approximate locations of student residences plotted. School district transportation officials may have this information or students can generate estimates of where many/most students live using their knowledge or a website (such as www.bing.com/maps) that provides population facts. Do not identify specific student addresses.

Resources:

www.gis.com/whatisgis/index.html
Information on geographic information systems (GIS)

http://maps.google.com/help/maps/mymaps/create.html
Google Maps Tutorial

http://earth.google.com/support
Google Earth Guide

www.DataPlace.org
Population and demographic facts

www.bing.com/maps (a Microsoft website)
Pictometry imagery for many communities

MAKETRAX™

What is Pictometry?

Pictometry is detailed aerial photography. Photographs are taken from a source off the ground, like an airplane. The photographs show buildings, infrastructure, and land from all sides. In general, this approach results in much more visual map detail because photographs are taken from multiple perspectives and result in as many as 12 to 30 images of the same location.

Activities: 45 minutes

10 minutes

1. Review the sequence of MakeTrax activities with students. They will:
   - Continue to learn how students travel to school and what students think about walking to school.
   - Conduct field work (i.e., walk routes used to get to school) and collect evidence of hazards in the environment by taking photographs and mapping locations.
   - Analyze their findings and decide what the most significant barriers to walking to school are.
   - Recommend activities and projects to increase walking to school.
   - Present their recommendations to community leaders using PowerPoint slides.

2. Tell students to work in groups of 3-5 at a computer and:
   - Go to http://www.gis.com/whatisgis/index.html.
   - Find information that describes GIS.
   - Give examples of GIS applications in daily life.

35 minutes

3. Tell students:
   - Go to http://earth.google.com/support.
   - Follow directions and download Google Earth. On the left side of the screen, click on "Downloads". On the next screen, click on "Agree and Download".
   - Google Maps is an alternative to Google Earth.

4. Tell students:
   - Locate the school in Google Earth using address information. If time permits, practice using Google Earth to find other destinations.
   - Create a 1-mile radius circle around the school. They will consider this the school walk zone.
   - Discuss how many students live within 1 mile of the school.
   - Divide the walk zone into sections, using streets as section boundaries.

Note: Decide how many walk zone sections to create by considering where students live. Don't create more than 4 or 5 sections; however, you may wish to create fewer sections if students do not live in some areas of the walk zone.

5. Assign each group a section of the walk zone and ask students to name their section. The same section can be assigned to more than one group if the size of the class warrants.

6. Explain pictometry to students (see sidebar).

7. Tell students:
   - Identify the most frequently used walking route to get to school in their section of the map.
   - Map the route using Google Earth tools.
   - If time permits, view the route they identify using www.bing.com/maps (a Microsoft website) to begin to learn about the route they will walk.

8. Ask groups to tell the class which route they identified and what they learned about the route.

Review: 5 minutes

1. Identify reasons students may not use a common route.

2. Challenge students to identify reasons students should use the same route if traveling in the same direction.