Get to School the Safe Way: Creating a Safe Route from Home to School

Students will map a route from a home to school utilizing safety considerations and measure the distance using nonstandard units.

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Grade Level: 1
Duration: 1 class period

National Geography Standards
Element One: The World in Spatial Terms
1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

Arizona Geography Strand 4
Concept 6 Geographic Applications
GRADE 1
PO 2 Use geography concepts and skills (e.g., recognizing patterns, mapping, graphing) to find solutions for problems (e.g., trash, paths, traffic patterns) in the environment.

Arizona Math Standard
Strand 1 Number Sense and Operations
GRADE 1
PO 2 Estimate the measurement of an object using U.S. customary standard and non-standard units of measurement.

Overview
In this lesson, students are presented with the task of finding a safe route from home to school. The discussion will highlight safety issues.

Purpose
The purpose of this lesson is to have students consider safety issues in creating a route. The application incorporates the use of a map and measurement skills. Students use non-standard units to measure relative distance on their map as they construct a safe route from a home to a school.

Materials
- Student Practice
- Student Assessment
- Approximately 50 small blocks, paperclips, or pennies per pair or group to construct their route
- Student Answer Sheet for assessment
- Rubrics for assessment of math and geography objectives.

Objectives
The student will be able to:
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1. Construct a route from a home to school and describe safety considerations.

2. Measure and calculate the distance on their route in total number of non-standard units used.

Procedures

*Students should have prior experience with maps and how to measure.*

1. Ask how many students walk to school. Elicit student responses. Ask the route they use get to school.

2. Say: “When you are walking to school, what do you need to consider when choosing which route you should take?”

3. Write student responses. Student responses may include, but are not limited to:
   - Big dogs
   - Traffic (busy intersections)
   - Walking with a friend
   - How many times they must cross the street
   - Canals
   - Businesses
   - Distance

4. Explain their task. Tell them that they are to use the materials provided to create a safe route or path from a fictional home to school. The materials that they use should be something they are familiar with, or provide time for them to explore the materials.

5. Demonstrate how they will need to lay the items end to end in order to be able to measure the distance correctly.

6. Explain that they are to make a decision about the way they should go based on the safety issues discussed previously. Students should refer to the list as they complete the task.

7. Give partners or groups their map and materials and let them begin work at their desks or tables.

8. Circulate around the room and ask questions as they are working, such as “How many blocks (paperclips, or pennies, etc.) have you used so far?” or “Why did you choose this way?”

9. After they have had enough time to construct, hold a full class discussion about the different routes that people chose.

10. Have children view the different routes. The discussion should focus on the safety issues (“I didn’t go this way because I noticed that there was big dog that might be dangerous on this street.” Or “I went this way because I only had to cross one street.”) Also focus measuring and the total number of units used.

11. In closing, discuss the shortest route, the longest route, and refer back to the safety issues discussed at the start.

12. Tell them that they are to complete the activity again with a different map, and that this time you would like them to do it on their own. Have them use the same materials to construct as before.

13. After they are done constructing, they will need to answer the questions on answer sheet A: My route took ___ number of ______________. I chose this way because ______________. (Ex: My route took 36 legos. I chose this way because it passes my friend’s house, and we can walk together.)
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14. Have them draw a line with their pencils showing the route that they took.

Assessment
The rubrics can be used in one of two ways: 1) judge the student’s written product or 2) grade students as they are working on the assessment map. Mastery will be considered 3 or higher on the rubric or 80% or higher if using the percentages.

Extensions
Read the National Geographic Book, *On a Map* by Louis Capra. ISBN 0-7922-4306-4

Visit the website: illuminations.nctm.org/. This is a website of activities by National Council for Teachers of Mathematics. It has a link under K - 2 activities called “Ladybug Adventures” in which students can navigate paths and mazes. These are great activities for further building their spatial awareness.

Create or use a map of the neighborhood surrounding the school for kids to share their actual route to school. The class can evaluate the route for safety, longest, shortest, etc. These maps may be available in the school office to show bus routes.

Students could create paths in the classroom that show their actual route from home to school. They can dramatize climbing hills, or crossing streets.