

MAKE TRAX



Project Priorities




Duration of Lesson: 50 minutes



Students will:

- Create a spreadsheet of conditions observed on their route.
- Use spreadsheet functions to generate descriptive statistics and a bar graph of the frequency of hazardous conditions on their route.
- Identify the highest priority problems along routes.

Equipment and Materials:

- Computers with Internet access and Microsoft Excel—2 per team.
- Route Map with Photos and Notes (output of Lesson 5)—1 per team.
- Example of Completed Spreadsheet—1 per team. 
- Excel Spreadsheet Template—1 per team. 
- Statistics and Graphics handout—1 per student. 





Note: Explain how frequencies and a bar graph are used if that is appropriate for your students.

Activities: 45 minutes

5 Minutes

1. Explain the purpose of the Excel Spreadsheet Template and today's activity. Students will:
 - Create a spreadsheet of their observations during the field activity using the Route Map with Photos and Notes they created during the previous class.
 - Use the Excel Spreadsheet template as the starting point and modify the template by adding other hazards as needed.
 - Enter their observations into the spreadsheet.
 - Compute how often certain types of hazards occurred.
 - Produce a bar graph showing the frequency of hazards on their route.

20 Minutes

2. Explain and demonstrate the steps to complete the spreadsheet and compute the frequency of types of hazards. Tell students:
 - Open the Excel Spreadsheet Template on one computer.
 - Look at the column headings and decide if all of the conditions they observed are included.
 - If needed, add other conditions as column headings.
 - Save their spreadsheet.
 - Decide which team members will work at this computer to enter data into the spreadsheet.
 - Open the team's Route Map with Photos and Notes on the second computer. Count the number of photos.
 - Open each photo. Give the photo a number. Be sure to put the number in the field notes. Number all photos consecutively.
 - List the number of photos in the left hand column of the spreadsheet. For example, if their team has 20 photos linked to their map, they should list the numbers 1-20 down the left hand column. (see the Example Completed Spreadsheet).
 - Click on each photo icon on the map.
 - Put a "1" in the spreadsheet column that describes the condition. Be sure that the 1 is on the same row as the photo number.
 - Save the completed spreadsheet.

20 Minutes

3. Explain the Statistics and Graphics handout and review steps to compute frequencies and bar graphs.
4. Tell students:
 - Compute the frequency of each type of condition they observed on their route.
 - Create a bar graph of the frequency of types of hazards.
 - Save their work.
5. Ask teams to:
 - Identify the two or three most frequently occurring problems on their route.
 - Decide if these conditions are the most hazardous problems on their route.
 - Discuss what actions are needed to fix the problems they have identified.

Review: 5 minutes

1. Remind students of the Community Information Worksheet they completed in Lesson 1.
2. Identify community leaders and city/township/village departments to help with the problems they are discovering.



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TRAVERSE