

## Using Spreadsheets in History What Happened to the Donner Party<sup>1</sup>?

Goals: In this lesson,

- a. Students will use a spreadsheet to analyze trends in the mortality rate of the Donner Party.
- b. Students will construct tables or other visual representations to display the results of their analyses.
- c. Students will develop hypotheses about why mortality rates varied by age, sex, and family status.

Recommended Age/Grade Level: This lesson may be most appropriate for students in grades 6-8.

Michigan Standards Addressed:

Social Studies Standard I.4: Judging Decisions from the Past. Students will evaluate key decisions, made at critical turning points in history, by assessing their implications and long-term consequences.

Social Studies Standard V.1: Information Processing. Students will acquire information from books, maps, newspapers, datasets, and other sources, organize and present the information in maps, graphs, charts, and timelines, interpret the meaning and significance of information, and use a variety of electronic technologies to assist in accessing and managing information.

Social Studies Standard V.2: Conducting An Investigation: Students will conduct investigations by formulating a clear statement of a question, gathering and organizing information from a variety of sources, analyzing and interpreting information, formulating and testing hypotheses, reporting results both orally and in writing, and making use of appropriate technology.

Prerequisite Skills/Experiences/Instruction:

This lesson would be an appropriate addition to a unit about the Westward Expansion of the United States that occurred in the mid- to late-1800s. Students should have some background knowledge of the reasons people emigrated (e.g., land fever, the Gold Rush, religious freedom, Manifest Destiny), the types of people who traveled west (e.g., farmers, miners, Mormons), the route they traveled (e.g., the Oregon and California Trails, stopping points along the trails), and the nature of travel (e.g., covered wagons, oxen, handcarts). Westward Expansion is equally important for its impact on Native Americans, and students should have knowledge of these issues if they are to develop a balanced perspective about the period of Westward Expansion.

Before undertaking this lesson, students should have some basic familiarity with spreadsheets including the manner in which they are organized (e.g., columns, rows, cells) and some of the

non-mathematical functions that can be performed on them (e.g., sorting, searching). Students can construct charts of their results by hand or with the Table function in a word processing problem, or students with more sophisticated knowledge of spreadsheets can use the Chart functions to display their results.

### Overview

The story of the group of emigrants who came to be known as the *Donner Party* is a fascinating, but unrepresentative, story of the experience of Americans who traveled west in the mid- to late-1800s. The Donner Party was one of the many groups who participated in the *Westward Expansion* of the United States, traveling the Oregon Trail to what was then the Mexican province of Upper California. Members of the Donner and Reed families set out from Springfield Illinois in the spring of 1846, traveling with a larger group of emigrants. Both George Donner and James Reed had read a guidebook written by Lansford Hastings, *The Emigrants' Guide to Oregon and California*. Hastings described a “cut-off” from the Oregon Trail that he claimed would save three hundred miles on the trip west. Reed and Donner decided to lead their party along Hastings' Cutoff, where the group encountered disaster. They endured a month of backbreaking travel to cover what Hastings claimed would take an easy week. They were exhausted by the time they crossed the Great Basin, which turned out to be 80, not 40, miles wide. When Hastings' Cutoff finally rejoined the trail, the Donner Party still faced a climb over the Sierra Nevada Mountains. It was now October; very late in the season for a trip across the mountains, even in a good year. But the winter of 1846 came early and hit harder than any winter in California's recorded history. By the time the last of the party made it over the mountains, it was mid-April, and about half of the party had perished.

The story of the Donner Party's experiences, decisions, and tragedies makes for fascinating drama. It also offers a gripping glimpse into the rigors of travel in the 1800s, the motivations and hardships of those who made the trip, and the limitations of information and decision-making. It is important that students realize, however, that the vast majority of emigrants did not encounter the dramatic fate of the Donner Party. Rather, death rates along the Trail were about comparable to those in the general population. In fact, with the exception of the Donner Party, every other party who traveled the trail in 1846 made it safely to California.

### Materials:

For this lesson, you will need computers that can open and display an Excel spreadsheet. Other supplementary materials that you may wish to use before, during, or after this lesson are suggested below.

*The American Experience. The Donner Party.* Public Broadcasting Service (PBS), 1-800-525-0000 or [www.pbs.org/wgbh/amex/donner/](http://www.pbs.org/wgbh/amex/donner/). This video uses archival photographs, paintings, and maps; diaries, letters and memoirs of the party members; interviews with writers and historians; and new cinematography from across the Oregon and California trails. It traces the emigrants' 2500-mile journey from Springfield, Illinois, to Sutter's Fort in California.

*Donner Party Journey.* <http://members.aol.com/DanMRosen/donner/>

On this website, author Dan Rosen created a daily log of the Donner Party's journey. The daily logs include diary entries for each day, and quotes from original sources and histories. The logs describe the locations of their trail and camps in detail so readers can follow in the Donner Party's wagon tracks and footsteps.

<http://members.aol.com/DanMRosen/donner/>

*Donner Online.* <http://www.kn.pacbell.com/wired/donner/> Donner Online is a type of Web-based activity in which students learn about the topic by collecting information, images, and insights from the Internet, and then paste them into a multimedia Scrapbook (a HyperStudio stack or a Web page) to share their learning with others. Students are organized into teams where they take on different roles and look for certain kinds of information, answers, and insights.

*New Light on the Donner Party.* <http://www.utahcrossroads.org/DonnerParty/index.html>. On this website, author Kristin Johnson has amassed a collection of information about the Donner Party, much of it designed to encourage users to ask questions and challenge assumptions about the party's experiences and outcomes.

### Activities

1. Present and/or review the events of the Donner Party's westward journey with students. Make sure that students understand why the party did not make it over the Sierra Nevada Mountains until the spring of 1847. It is also important that students understand: (a) the Donner party was comprised of mostly "ordinary" people—farmers, merchants, families, children; (b) the party was exhausted by the time they reached the mountains; (b) the party was out of supplies (although one of the members was able to procure additional supplies that would have been sufficient if the group had made it over the pass on the first attempt); (c) it would be extremely difficult to survive a winter without permanent shelter and a sufficient stock of food and supplies; (d) four different attempts were made to rescue the Donner Party; and (e) desperation resulted from the life-and-death circumstances encountered by this group of emigrants.
2. One of the most sensational facts about the Donner party is that some of its members resorted to cannibalism to survive. The historical record indicates that party members were not killed for this purpose, but rather had perished already (although there is some evidence that two Native American guides were murdered for this reason). You can decide how to address this issue with your students.
3. Open the Donner Party spreadsheet (attached to this lesson). Tell students that this spreadsheet was compiled based on information about people who were part of the Donner Party and who attempted to help the Donner Party make it over the Sierra Nevada Mountains into California. Ask students to state how many individuals are listed in this spreadsheet (90).
4. Ask students to explain the type of data contained in each column of this database (i.e., name of Donner Party member, age, sex, and outcome). Make sure students know that outcomes in this spreadsheet are: (a) lived (which means made it to California), (b) died (which means

this person died on the trip to California), and (c) died/killed (which means there is evidence that this party member was murdered on the trip). Point out that last names and ages are not known for all members of the party.

1. Mortality rates within the Donner party varied by age and sex. For example, about two-thirds of the women lived while about two-thirds of the men died. Children under 4 were more likely to perish than children between 4 and 16. Mortality rates also varied among families. For example, half of the Donner family died whereas all of the Breen and Reed families lived. Without revealing the above trends to students, ask students to use the search and sort functions of the database to answer the following questions: (a) how many members of the Donner Party lived? How many died? How many were killed? (b) how did outcomes (i.e., lived versus died) differ for men and women? (c) how did outcomes differ by age? And (d) how did outcomes vary by family?
2. Ask individual or groups of students to examine in more detail one of the trends they found of interest in this spreadsheet. Have them construct a chart that represents the trend they have chosen (e.g. a chart showing mortality rates by gender). Ask students to develop a hypothesis about the trend they have examined and to present this hypothesis to the class. You may choose to have students use some of the websites listed above to gather more information to support their hypotheses.

<sup>1</sup>This lesson is based on: (a) an article by Norton, P., & Harvey, D. (1995). Information ≠ knowledge: Using databases to explore the tragedy at the Donner Pass. Learning and Leading with Technology, 23(1), 23-25, and (b) materials developed by R. P. Ferretti, C. A. MacArthur, C. M. Okolo, & C. Anderton for Project REACH.