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4. Television Preferences

Context

Television

Math Topic

Sampling

Overview

In this three-part activity, students keep a diary of their television viewing habits for one week. They then compile this information to help a local college decide which television shows would yield the best response to its advertisements. During this process, they learn how statistics are gathered with a **representative sample**.

Objectives

Students will be able to:

- maintain a diary of their viewing habits.
- compile and interpret the data from all students' answers.

Materials

- One copy of the three Activity 4 handouts for each student

Teaching Notes

Ask students why the local college would be interested in learning which programs they watch. Lead students to the realization that they are the audience these commercials want to reach. You can also help them understand that advertising dollars are precious, and the college does not want to waste money on commercials during shows that high school students don't like.

Once individual students have completed the data gathering part of the activity, have them consolidate their data. One approach is to prepare an overhead transparency of the Consolidating Data sheet. Appoint one student to record the data on the overhead, using tally marks. Then have each student name the programs he or she watched. (The handout has space for three shows in each time slot. You may need to adjust this, depending on how many different shows students watch in each time slot.) The recorder should write the name of each show in the Television Program column, then make a tally mark in the Viewers column for each student who watched that show.

Once all students have filled in the Consolidating Data sheets, they can work alone or in small groups to analyze the data.

Discuss with students how diaries are used to collect data in real life. Many students have probably heard of television ratings, sweeps month, or Nielsen ratings. Some students may even be able to name some of the top-rated shows on television now.

Emphasize that the Nielsen ratings are gathered using a **representative sample**. Nielsen Media Research uses a sample of more than 5,000 households to represent the television viewing habits of the 98 million households with television watchers. Students may speculate that 5,000 households cannot possibly be a large enough sample to work. But Nielsen Media chooses these households carefully, and their ratings have been accurate enough to keep them in business for over 40 years.

(continued)

4. Television Preferences *(continued)*

At this point, students may be able to understand why a **representative sample** works. For national viewing habits, set meters are attached to the television sets. For local viewing habits, a number of people are asked to keep a diary. When the diaries are returned to Nielsen Media, Nielsen employees enter the information into computers and analyze the data.

You may choose to have your students keep their diaries for a full week, or you may have them fill out their diaries from memory during the class period.

Answers

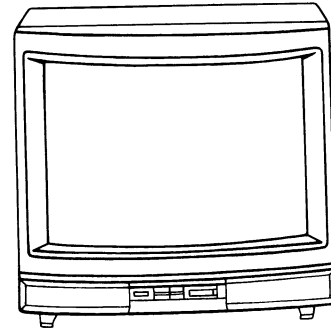
All answers will vary.

Extension Activities

- Have students survey other students in the school to see if their favorite television shows are similar to those of this class.
- Have students go to the Nielsen Media Research home page at www.nielsenmedia.com to find out more about how TV ratings work. The explanation of representative sampling is well presented.
- Have students use the Internet to find daily TV ratings for the period they are analyzing. Students can search for the term “TV Ratings,” or check sites like <http://tv.zap2it.com>. How do your class results compare to national results? Create a graph, either manually or using a spreadsheet, to compare both sets of results, the national ratings and classroom ratings.

4. Television Preferences: Gathering Data

A local college needs to increase enrollment. To pique interest in the school, college administrators have decided to advertise during popular television programs. They can afford to advertise only during the first hour of prime-time television programming, which is from 8:00 P.M. to 9:00 P.M. eastern time or 7:00 P.M. to 8:00 P.M. central time.



The college first needs to find out which programs are popular with local high school students. In this activity, you will keep a diary of five days' worth of television viewing. Use the diary provided below. If you do not watch television during any given time slot, simply leave that line blank. All times below are given in Eastern time. If you live in another time zone, use the equivalent time slot for your zone. For each time slot, you can enter only one program.

Day	Time	Television Program
Monday	8:00–8:30 P.M.	
	8:30–9:00 P.M.	
Tuesday	8:00–8:30 P.M.	
	8:30–9:00 P.M.	
Wednesday	8:00–8:30 P.M.	
	8:30–9:00 P.M.	
Thursday	8:00–8:30 P.M.	
	8:30–9:00 P.M.	
Friday	8:00–8:30 P.M.	
	8:30–9:00 P.M.	