

Unit 12 – Data Analysis

Chapter 1 – Mean, Median and Mode

Objectives

- ◆ Find the mean, median, and mode of a set of data.
- ◆ Understand how mean, median, and mode differ in the information they provide.

Material

- ◆ Graph paper
- ◆ Data on high and low temperatures or other data

Vocabulary

- ◆ Mean
- ◆ Median
- ◆ Mode
- ◆ Range

Notes

In *Primary Mathematics* 4B students learned to find the median and mode of a set of data. In Unit 11 of *Primary Mathematics* 5B they learned to find the average of a set of data, which is also the mean. In this chapter your student will find the mean, median, and mode of the same set of data and examine what kind of information each of these types of summary data provide.

The **mean** is the same as average and is calculated by dividing the sum of all the values in a set of data by the total number of values.

The **median** is the middle value in a set of data. When there is an odd number of values the median is the value in the middle. When there is an even number of values the median is the average of the two middle values.

The **mode** is the value that occurs most frequently in a set of data. At this level your student will only deal with cases in which there are only one or two modes.

The **range** is a measure of spread rather than central tendency and is the difference between the highest value and the lowest value. Students have found the range of a set of data in earlier levels.

The mean is the most commonly used type of summary data because it is an easy way to even out irregularities in the data. Sometimes the median is preferred to the mean, because it is less sensitive to extreme values since half of the values are above the median and half of the values are below it. Mean and median are usually used to analyze numerical data whereas mode is usually used to look at categorical data. Categorical data deals with categories that are not ordered, such as age group, race, gender, favorite ice cream, etc. Some data can be looked at both numerically and categorically (e.g., the yearly salaries of the employees in a company).

It is up to you how much time you want to spend on this chapter and whether you want your student to collect data and analyze it. The purpose of this chapter is just to introduce the student to the three common measures of central tendency, i.e., measures that represent the “center” of distribution, and how to compute them. The concepts will be covered in more depth in *Primary Mathematics* 6B, including the usefulness of each type of measure and the effect of adding a new data value to each.