

Lesson 8-3

Example 1 Display Data in a Stem-and-Leaf Plot

AGE The ages of the teachers at Valley View Middle School are shown in the table below. Make a stem-and-leaf plot of the data.

Age				
48	52	33	28	61
38	32	34	43	46
55	58	27	44	52
31	40	55	36	60

Step 1 The digits in the least place value will form the leaves and the remaining digits will form the stems. In this data, 27 is the least value, and 61 is the greatest. So, the ones digits will form the leaves and the tens digits will form the stems.

Step 2 List the stems 2 to 6 in order from least to greatest in the *Stem* column. Write the leaves, the ones digits of the ages, to the right of the corresponding stems.

Step 3 Order the leaves and write a *key* that explains how to read the stems and leaves.

Stem	Leaf
2	7 8
3	1 2 3 4 6 8
4	0 3 4 6 8
5	2 2 5 5 8
6	0 1

$3|1 = 31 \text{ yr}$

Example 2 Describe Data

SCHOOL ATTENDANCE The stem-and-leaf plot shows the number of days of school missed each year for a group of students. Find the range, median, and mode of the data.

Stem	Leaf
0	3 4 5 5 8
1	0 0 2 4 4 4
2	1 1 3 6
3	4

$1|2 = 12 \text{ days}$

range: greatest number of days – least number of days = $34 - 3$ or 31 days

median: middle value, or 13 days

mode: most frequent value, or 14 days

Example 3 Analyze Data to Make Inferences

HOCKEY The table shows the number of goals scored by each player on a hockey team during the regular season. Make a stem-and-leaf plot of the data. Based on the data, what inferences can be made about the number of goals scored during the regular season?

Number of Goals				
12	6	2	18	24
10	39	25	14	19
5	8	14	12	23

The least value is 2, and the greatest value is 39. So, the tens digits form the stems, and the ones digits form the leaves.

Stem	Leaf
0	2 5 6 8
1	0 2 2 4 4 8 9
2	3 4 5
3	9 <i>1 2 = 12 goals</i>

- Most of the players scored less than 20 goals during the regular season.
- Twelve and fourteen were the most common number of goals scored.
- One player scored many more goals than all the others, 39.