

Algebra/Geometry Institute Summer 2002



Lesson Planning Guide

Faculty Name: Carrie Martin

School: Coleman Middle School

Grade Level: 7

MS Framework: 5D - Collect, display, analyze, and draw appropriate conclusions from data

5E - Interpret and construct stem-and-leaf plots from data

1 Teaching objective(s)

The student will interpret and plot stem-and-leaf plots from data.

2 Instructional Activities

The teacher will introduce the study of stem and leaf plots by defining stem-and-leaf plots, median, mode, and range (handout 1). The teacher will give examples of stem-and-leaf plots (handout 2). The teacher will guide students in using a chart to create a stem and leaf plot. The teacher will ask questions to see if they understand.

The students will review the vocabulary words and discuss them (handout 1). The students will use the chart in handout 2 to create stem-and-leaf plots and will answer questions to show their knowledge of stem-and-leaf plots.

3 Materials and Resources

Handout 1

Handout 2 - Pre-Algebra Tools for a Changing World - Prentice Hall Publishers
pp. 619.

Website - <http://www.shodor.org/interactivate/activities/stemleaf/>

Pencil

Paper

4 Assessment

Teacher observation

Quiz

5 Enrichment (Optional)

Students will find data from newspapers or magazines that they can represent with a stem-and-leaf plot. Students will cut or photocopy the article from which they gathered the data and share the article and plot with the class.

Handout #1

Vocabulary

1. **Stem-and-leaf plots - organizes data by showing each item in order. The leaf is the last digit to the right. The stem is the remaining digit or digits.**

Example: stem ? 15.7 ? leaf
 stem ? 32 ? leaf

2. **Median - is the middle number**
3. **Mode - is the number that occurs most**
4. **Range - is the subtracting the smallest number from the largest number**

Handout #2

Broadway Productions

Season	New Shows
1990-1991	28
1991-1992	37
1992-1993	33
1993-1994	37
1994-1995	29
1995-1996	38
1996-1997	37
1997-1998	33

Choose the stems. For this data set, use the values in the tens place.

Stems ? 2 3 ? 7 3 7 8 7 3

Draw a line to the right of the stems.

3 ?

Leaves are single digits, so for this data set the leaves will be the values in the ones place.

2 ?89
3 ?737873

Arrange the leaves on each stem from least to greatest.

2 ?89

Include a key that shows how to read your stem-and-plot.

3 ?3377778

2?3 means 23 ? key

Since the data items are in order, and the median is the midpoint. The median is the mean of the fourth and fifth items, or 35.

The mode corresponds to the most repeated leaf. The mode is 37.

The range is the difference of the greatest and least values, or 10.