

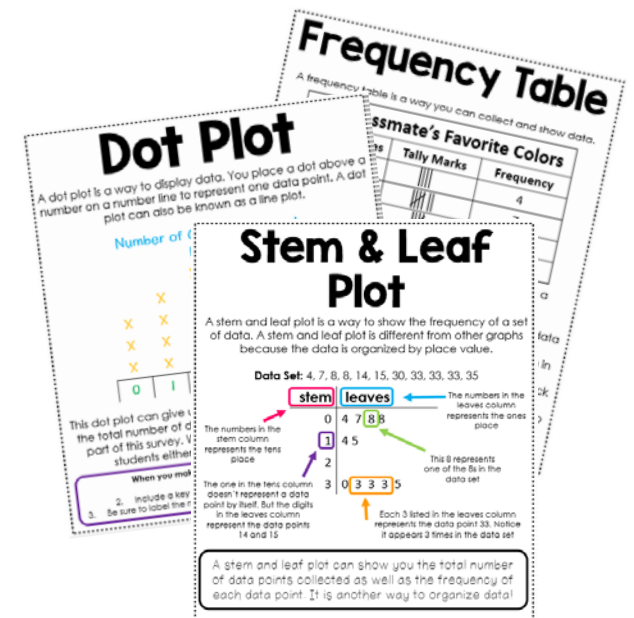
Interactive Math Journal

Data Analysis Edition



Journal Entries Included:

- Frequency Tables
- Dot Plots
- Stem and Leaf Plots



Each entry includes four activities to **teach**, **reinforce**, and **assess** each skill.

Teacher Tips

It is suggested you teach the skills in the following order:

1. Frequency Tables
2. Dot Plots
3. Stem and Leaf Plots

Each Skill has 4 different activities/entries, you can use some or all of the activities to include in your math journal.

Possible Instructional Plan

Day 1 – Introduce the skill with the anchor chart.

Day 2 – Create Foldable and use Mini Card Activities

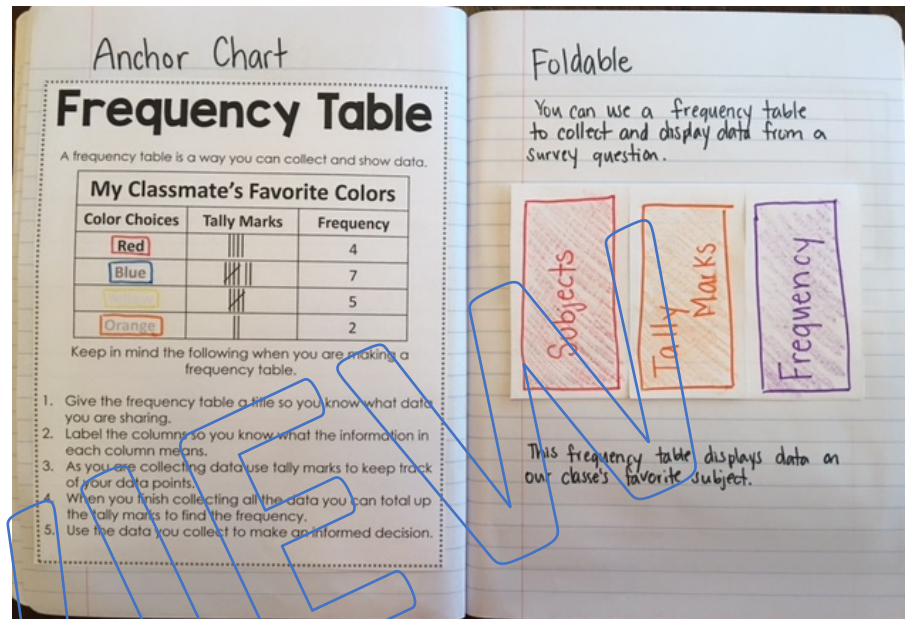
Day 3 – Quick Check

The Mini Cards can be placed in a center if you don't want to include them in the math journal.

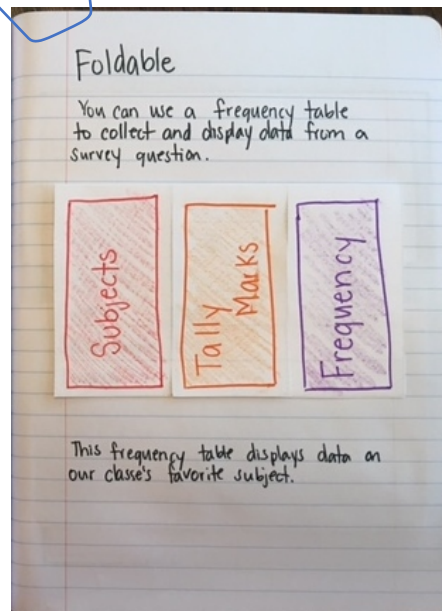
Frequency Table – Assembly Notes & Directions

Anchor Chart

Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about place value.



Foldable - Outside



Foldable - Inside

The inside view of the foldable shows a table with the following data:

Subjects	Tally Marks	Frequency
Math		8
Reading		4
Science		6
Social Studies		2
English		1

A handwritten note at the bottom says: "This frequency table displays data on our class's favorite subject."

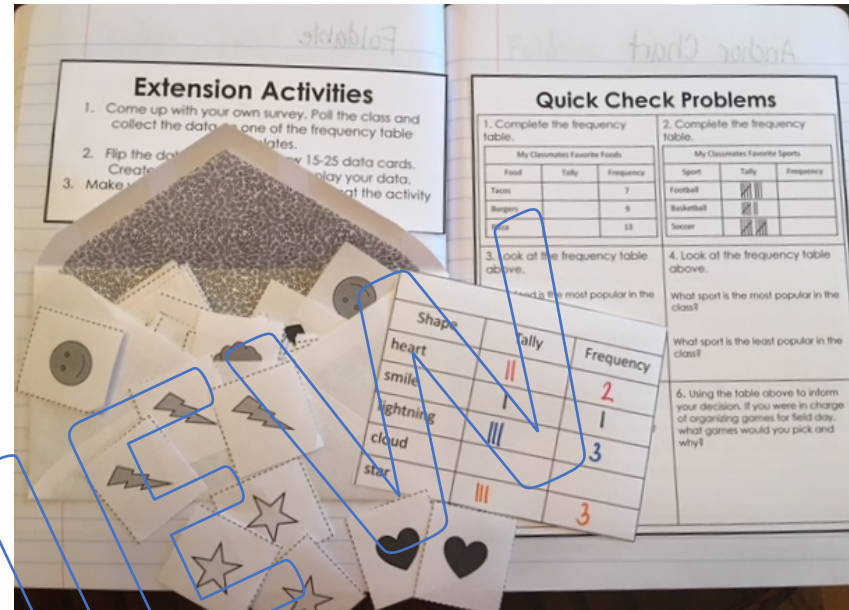
Foldable

See the example provided in the pictures to the right. Create foldable with students. You can modify the examples to meet your students specific learning needs.

Frequency Table – Assembly Notes & Directions

Extension Activities

Give each student a copy of the Extension Activities list to place in their journal as well as a copy of the mini cards. Have students glue a small envelope into their math journal to store their mini cards. You can use the mini card activities as an extension or early finisher activity.



Quick Check

Give each student a copy of the Quick Check sheet. Students can glue them in their math journal as a reference page, or you can collect them. The quick check can be used as a formative assessment to see where your students level of mastery is after you have spent a few days practicing the skill.

Quick Check

Quick Check Problems					
1. Complete the frequency table.			2. Complete the frequency table.		
My Classmates Favorite Foods			My Classmates Favorite Sports		
Food	Tally	Frequency	Sport	Tally	Frequency
Tacos		7	Football		
Burgers		9	Basketball		
Pizza		13	Soccer		
3. Look at the frequency table above.			4. Look at the frequency table above.		
What food is the most popular in the class?			What sport is the most popular in the class?		
What food is the least popular in the class?			What sport is the least popular in the class?		
5. Using the table above to inform your decision, if you were going to serve food at a party for your classmates, what would you serve? Why?			6. Using the table above to inform your decision, if you were in charge of organizing games for field day, what games would you pick and why?		

Quick Check - Key

Quick Check Problems - KEY	
1. In the number 135,082,149, the digit 5 is in which place? One millions place	2. In the number 135,082,149, the digit 9 is in which place? Ones place
What is the value of the 5? 5,000,000	What is the value of the 9? 9
3. In the number 135,082,149, the digit 8 is in which place? Ten thousands place	4. In the number 135,082,149, the digit 3 is in which place? Ten millions place
What is the value of the 8? 80,000	What is the value of the 3? 30,000,000
5. In the number 135,082,149, the digit 4 is in which place? Tens place	6. In the number 135,082,149, the digit 0 is in which place? Hundred thousands place
What is the value of the 4? 40	What is the value of the 0? 0

Frequency Table

A frequency table is a way you can collect and show data.

My Classmate's Favorite Colors		
Color Choices	Tally Marks	Frequency
Red		4
Blue	/	7
Yellow	/	5
Orange		2

Keep in mind the following when you are making a frequency table.

1. Give the frequency table a title so you know what data you are sharing.
2. Label the columns so you know what the information in each column means.
3. As you are collecting data use tally marks to keep track of your data points.
4. When you finish collecting all the data you can total up the tally marks to find the frequency.
5. Use the data you collect to make an informed decision.

Subjects	Tally Marks	Frequency

PREVIEW

Frequency Table – Foldable

Extension Activities

1. Come up with your own survey. Poll the class and collect the data on one of the frequency table templates.
2. Flip the data cards over. Draw 15-25 data cards. Create a frequency table to display your data.
3. Make your own set of data cards. Repeat the activity above with your own data cards.

Extension Activities

1. Come up with your own survey. Poll the class and collect the data on one of the frequency table templates.
2. Flip the data cards over. Draw 15-25 data cards. Create a frequency table to display your data.
3. Make your own set of data cards. Repeat the activity above with your own data cards.

	Tally	Frequency

	Tally	Frequency

	Tally	Frequency

	Tally	Frequency

PREVIEW

	Tally	Frequency

	Tally	Frequency

	Tally	Frequency













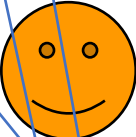

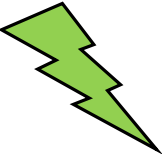
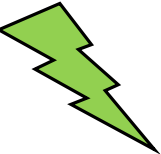
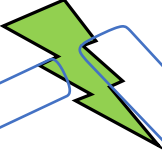
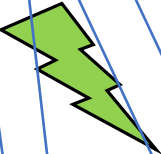
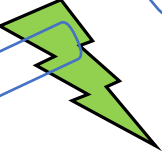
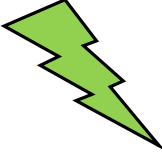
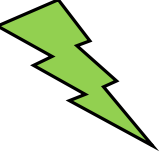

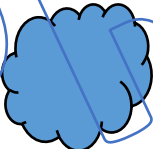












	Tally	Frequency

Shape	Tally	Frequency
heart		
smile		
lightning		
cloud		
star		

Shape	Tally	Frequency
heart		
smile		
lightning		
cloud		
star		

Shape	Tally	Frequency
heart		
smile		
lightning		
cloud		
star		

Shape	Tally	Frequency
heart		
smile		
lightning		
cloud		
star		

Frequency Table – Data Cards

Quick Check Problems

1. Complete the frequency table.

My Classmates Favorite Foods		
Food	Tally	Frequency
Tacos		7
Burgers		9
Pizza		13

2. Complete the frequency table.

My Classmates Favorite Sports		
Sport	Tally	Frequency
Football		
Basketball		
Soccer		

3. Look at the frequency table above.

What food is the most popular in the class?

What food is the least popular in the class?

4. Look at the frequency table above.

What sport is the most popular in the class?

What sport is the least popular in the class?

5. Using the table above to inform your decision. If you were going to serve food at a party for your classmates, what would you serve? Why?

6. Using the table above to inform your decision. If you were in charge of organizing games for field day, what games would you pick and why?

Quick Check Problems - KEY

1. Complete the frequency table.

My Classmates Favorite Foods		
Food	Tally	Frequency
Tacos		7
Burgers		9
Pizza		13

2. Complete the frequency table.

My Classmates Favorite Sports		
Sport	Tally	Frequency
Football		
Basketball		
Soccer		

3. Look at the frequency table above.

What food is the most popular in the class?

Pizza

What food is the least popular in the class?

Tacos

4. Look at the frequency table above.

What sport is the most popular in the class?

Soccer

What sport is the least popular in the class?

Basketball

5. Using the table above to inform your decision. If you were going to serve food at a party for your classmates, what would you serve? Why?

Pizza. Because it is the most popular food in the class and most kids would like it. (Explanations will vary)

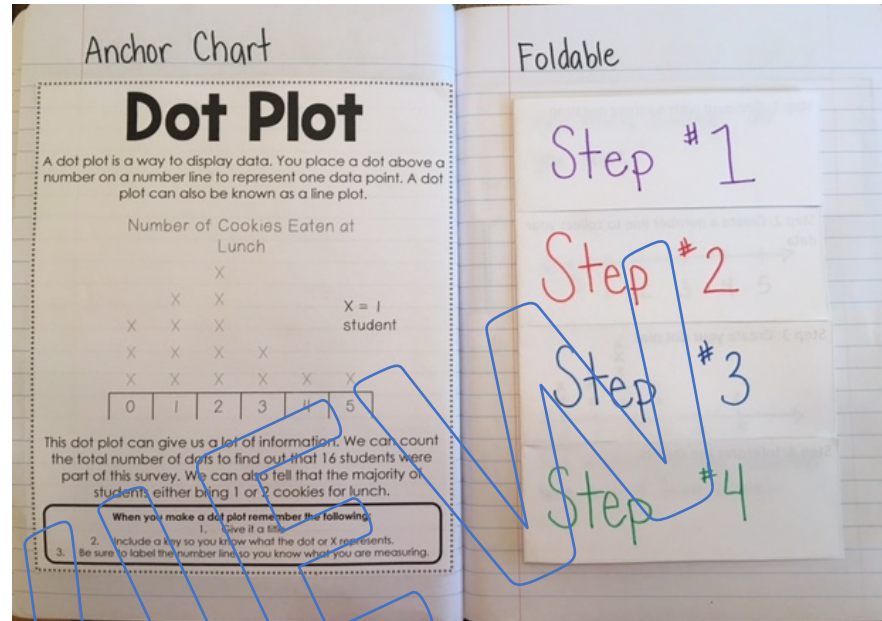
6. Using the table above to inform your decision. If you were in charge of organizing games for field day, what games would you pick and why?

Soccer. Because it is the most popular sport in the class and most kids would like playing it. (Explanations will vary)

Dot Plot – Assembly Notes & Directions

Anchor Chart

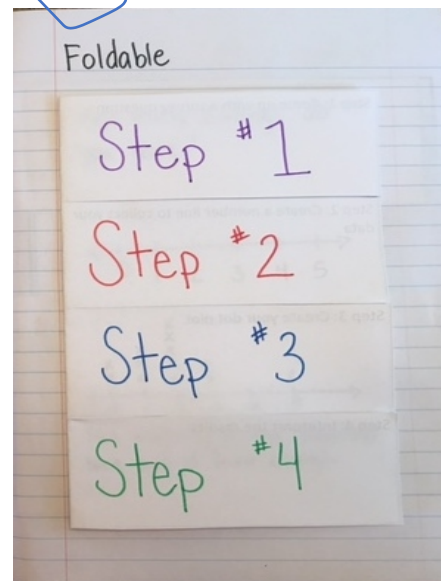
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about place value.



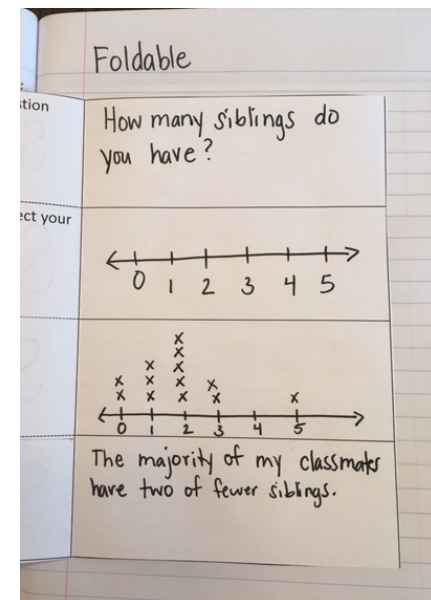
Foldable - Outside

Foldable

See the example provided in the pictures to the right. Create foldable with students. You can modify the examples to meet your students specific learning needs.



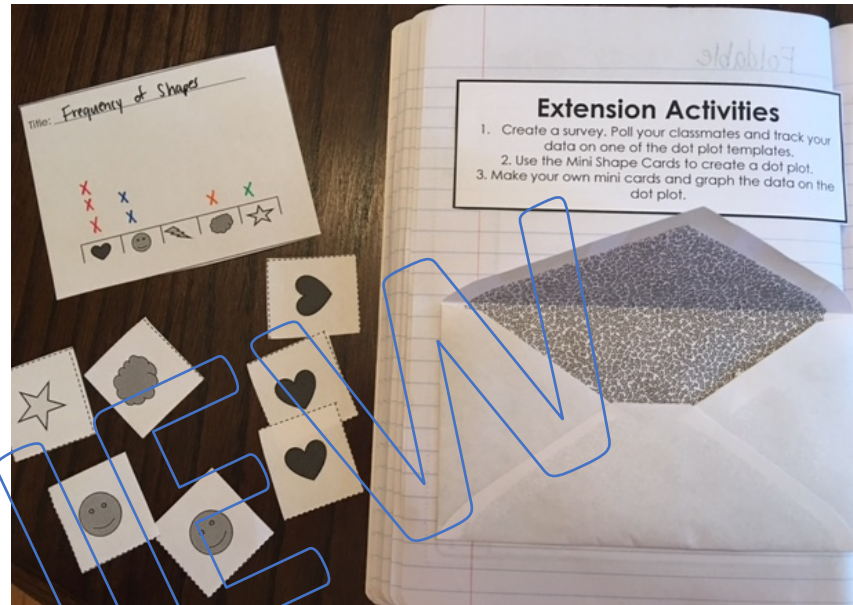
Foldable - Inside



Dot Plot – Assembly Notes & Directions

Extension Activities

Give each student a copy of the Extension Activities list to place in their journal as well as a copy of the mini cards. Have students glue a small envelope into their math journal to store their mini cards. You can use the mini card activities as an extension or early finisher activity.



Quick Check

Give each student a copy of the Quick Check sheet. Students can glue them in their math journal as a reference page, or you can collect them. The quick check can be used as a formative assessment to see where your students level of mastery is after you have spent a few days practicing the skill.

Quick Check

Interpreting Place Value - Quick Check

Quick Check Problems	
1. Multiply 456 by 10, 100, and 1,000.	2. Divide 56,000 by 10, 100, and 1,000.
3. How does a number change when you multiply it?	4. How does a number change when you divide it?
How many zeros do you add to a number when you multiply it by 100?	How many zeros do you remove from a number when you divide it by 10?
5. Matt read 134 pages each week for 10 weeks. How many pages did he read in all?	6. Bev is counting her pennies. She counted 6,500 pennies. How many dollars is this?

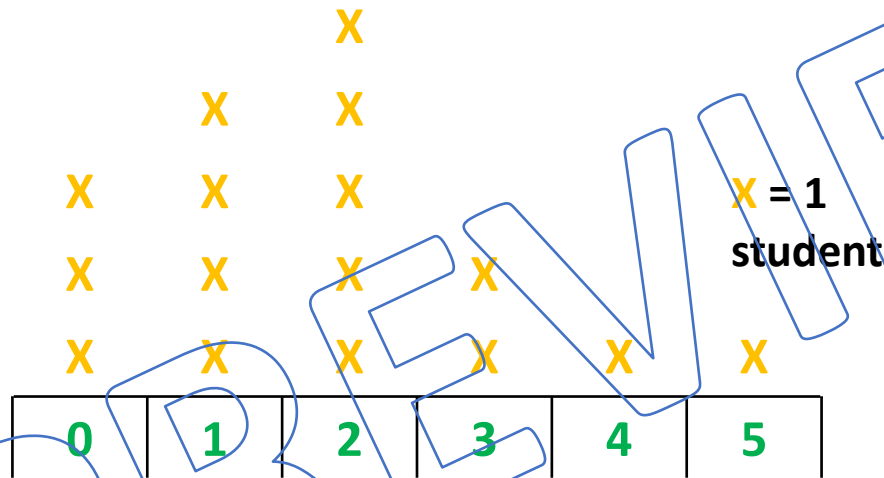
Quick Check - Key

Quick Check Problems - KEY	
1. Multiply 456 by 10, 100, and 1,000. 4,560 45,600 456,000	2. Divide 56,000 by 10, 100, and 1,000. 5,600 560 56
3. How does a number change when you multiply it? It gets larger	4. How does a number change when you divide it? It gets smaller
How many zeros do you add to a number when you multiply it by 100? two	How many zeros do you remove from a number when you divide it by 10? one
5. Matt read 134 pages each week for 10 weeks. How many pages did he read in all? 1,340 pages	6. Bev is counting her pennies. She counted 6,500 pennies. How many dollars is this? \$65

Dot Plot

A dot plot is a way to display data. You place a dot above a number on a number line to represent one data point. A dot plot can also be known as a line plot.

Number of Cookies Eaten at Lunch



This dot plot can give us a lot of information. We can count the total number of dots to find out that 16 students were part of this survey. We can also tell that the majority of students either bring 1 or 2 cookies for lunch.

When you make a dot plot remember the following:

1. Give it a title
2. Include a key so you know what the dot or X represents.
3. Be sure to label the number line so you know what you are measuring.

Step 1: Come up with a survey question

Step 2: Create a number line to collect your data

Step 3: Create your dot plot

Step 4: Interpret the results

PREVIEW

Extension Activities

1. Create a survey. Poll your classmates and track your data on one of the dot plot templates.
2. Use the Mini Shape Cards to create a dot plot.
3. Make your own mini cards and graph the data on the dot plot.

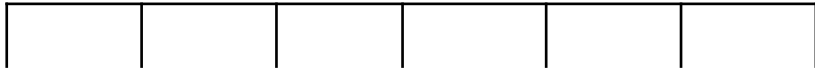
Extension Activities

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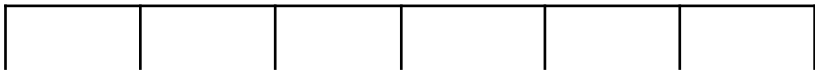
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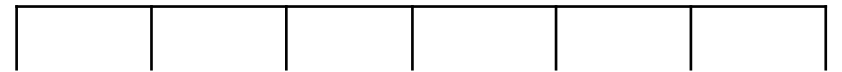
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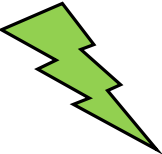
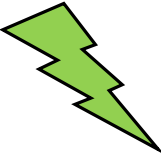
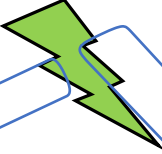
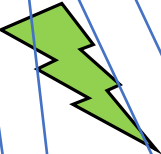
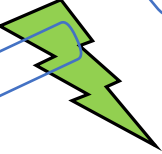
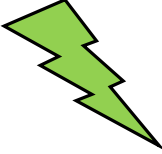
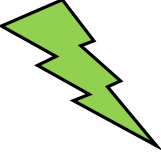
















Title: _____



Title: _____

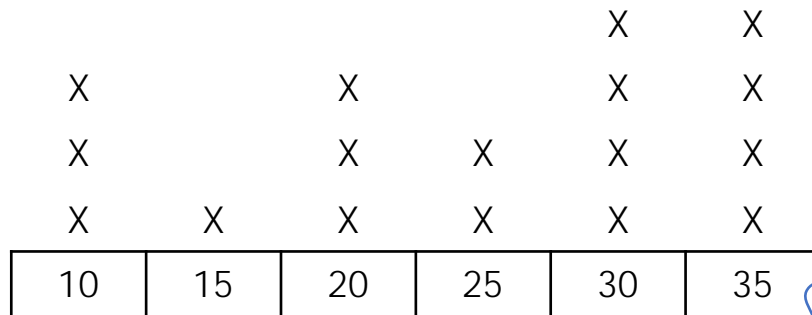


Frequency Table – Data Cards

Quick Check Problems

Number of Minutes Students Read at Home on Monday



X = 1 student

Use the dot plot to answer the questions below.

1. How many students took the survey?

2. How many students read 20 minutes?

3. How many students read 25 minutes or more?

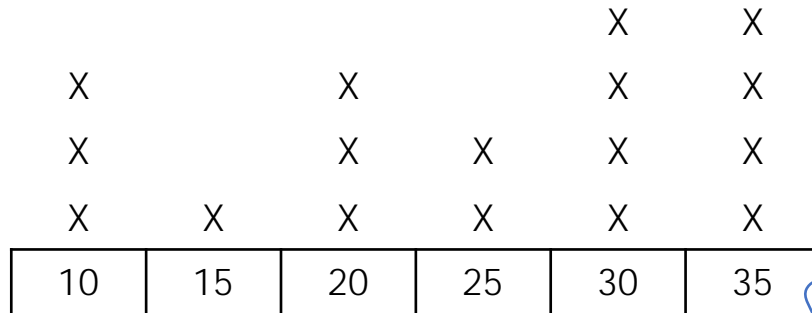
4. How many students read 15 minutes or less?

1. If the key changed to $X = 2$ students, how many students would have read for 30 minutes?

1. What can you conclude based off of this data?

Quick Check Problems - KEY

Number of Minutes Students Read at Home on Monday



X = 1 student

Use the dot plot to answer the questions below.

1. How many students took the survey?

17 students

2. How many students read 20 minutes?

3 students

3. How many students read 25 minutes or more?

10 students

4. How many students read 15 minutes or less?

4 students

1. If the key changed to X = 2 students, how many students would have read for 30 minutes?

8 students

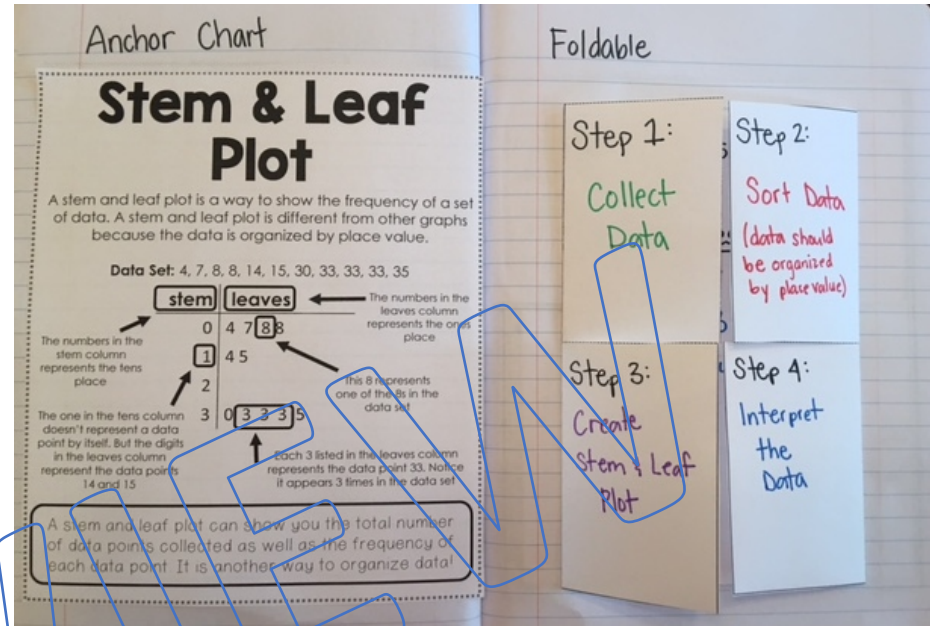
1. What can you conclude based off of this data?

Answers will vary

Stem and Leaf Plot – Assembly Notes & Directions

Anchor Chart

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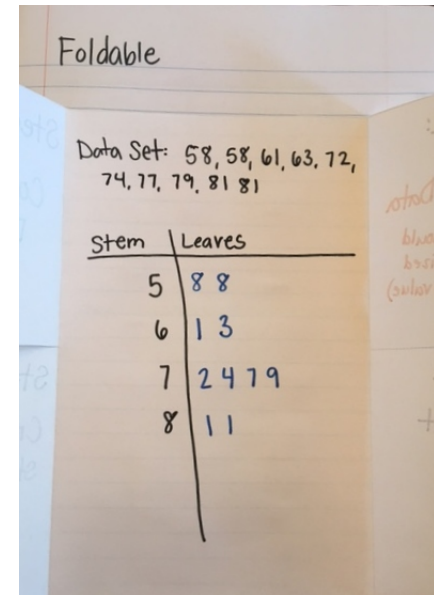
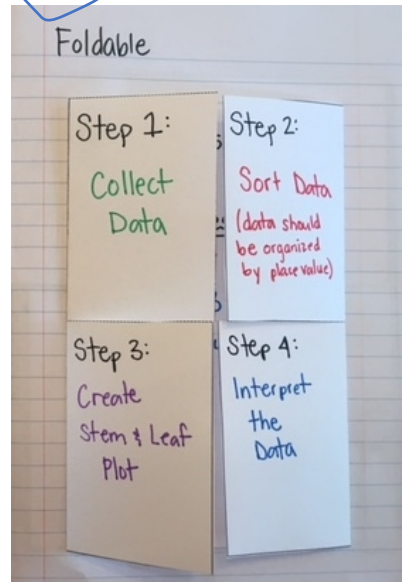


Foldable - Outside

Foldable - Inside

Foldable

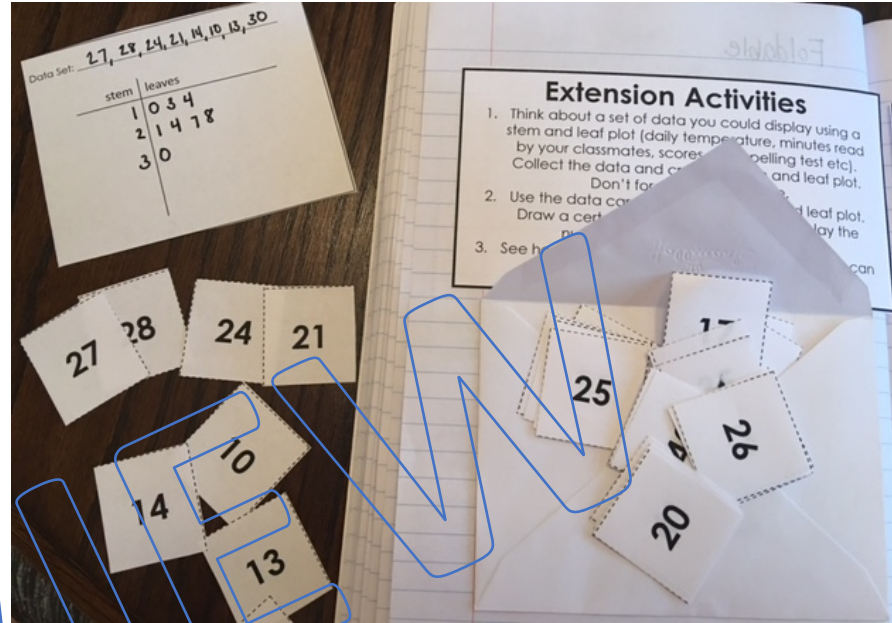
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Stem and Leaf Plot – Assembly Notes & Directions

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Quick Check

Quick Check Problems	
1. Create a stem and leaf plot for the data set. Data Set: 16, 28, 8, 16, 15, 23, 24	2. Create a stem and leaf plot for the data set. Data Set: 84, 83, 76, 77, 79, 90
3. Create a stem and leaf plot for the data set. Data Set: 45, 39, 38, 45, 45, 41, 52, 53	4. Create a stem and leaf plot for the data set. Data Set: 3, 13, 23, 15, 7, 22, 9, 8
5. Create a stem and leaf plot for the data set. Data Set: 63, 64, 61, 75, 80, 73, 72	6. Create a stem and leaf plot for the data set. Data Set: 48, 52, 64, 47, 48, 51, 66, 51

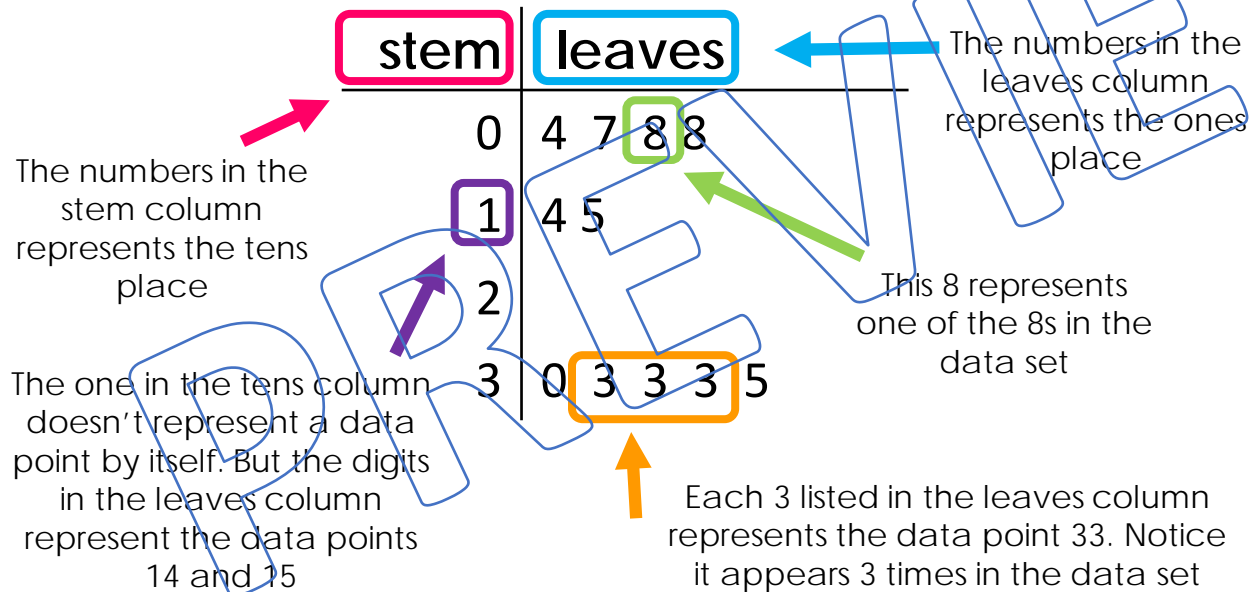
Quick Check - Key

Quick Check Problems - KEY	
1. A total of 7,093,502 people attended the super bowl last year. What is another way to write that total? A. 7 million nine hundred thirty thousand five hundred two B. $7,000,000 + 90,000 + 3,000 + 500 + 2$ C. $7 \times 1000 + 9 \times 1000 + 3 \times 1000 + 5 \times 100$ D. 7 million ninety three thousand five hundred twenty	2. Ralph wrote a number in expanded form: $70,000 + 4,000 + 500 + 30 + 9$ and Nathan wrote the same number in word form. What did Nathan write? ANSWER: Seventy four thousand five hundred thirty nine
3. Miles counted out all the money in his piggy bank and wrote it in expanded notation to show the number of each type of bill. This is what Miles wrote: $4 \times 100 + 9 \times 10 + 4 \times 1$ What's another way to show how much money he had? 491 Four hundred ninety one $400 + 90 + 1$	4. Write an example of each type of number. Answers will vary Standard Form: Expanded Form: Expanded Notation: Word Form:
5. How would you write two hundred thirty four thousand, eight hundred nineteen in standard form? 234,819	6. Karla's teacher asked her to write a number in expanded notation. Karla wrote: $80,000 + 3,000 + 200 + 40 + 5$ What was her mistake? She wrote the number in expanded form. She should have written $8 \times 10,000 + 3 \times 1,000 + 2 \times 100 + 4 \times 10 + 5 \times 1$

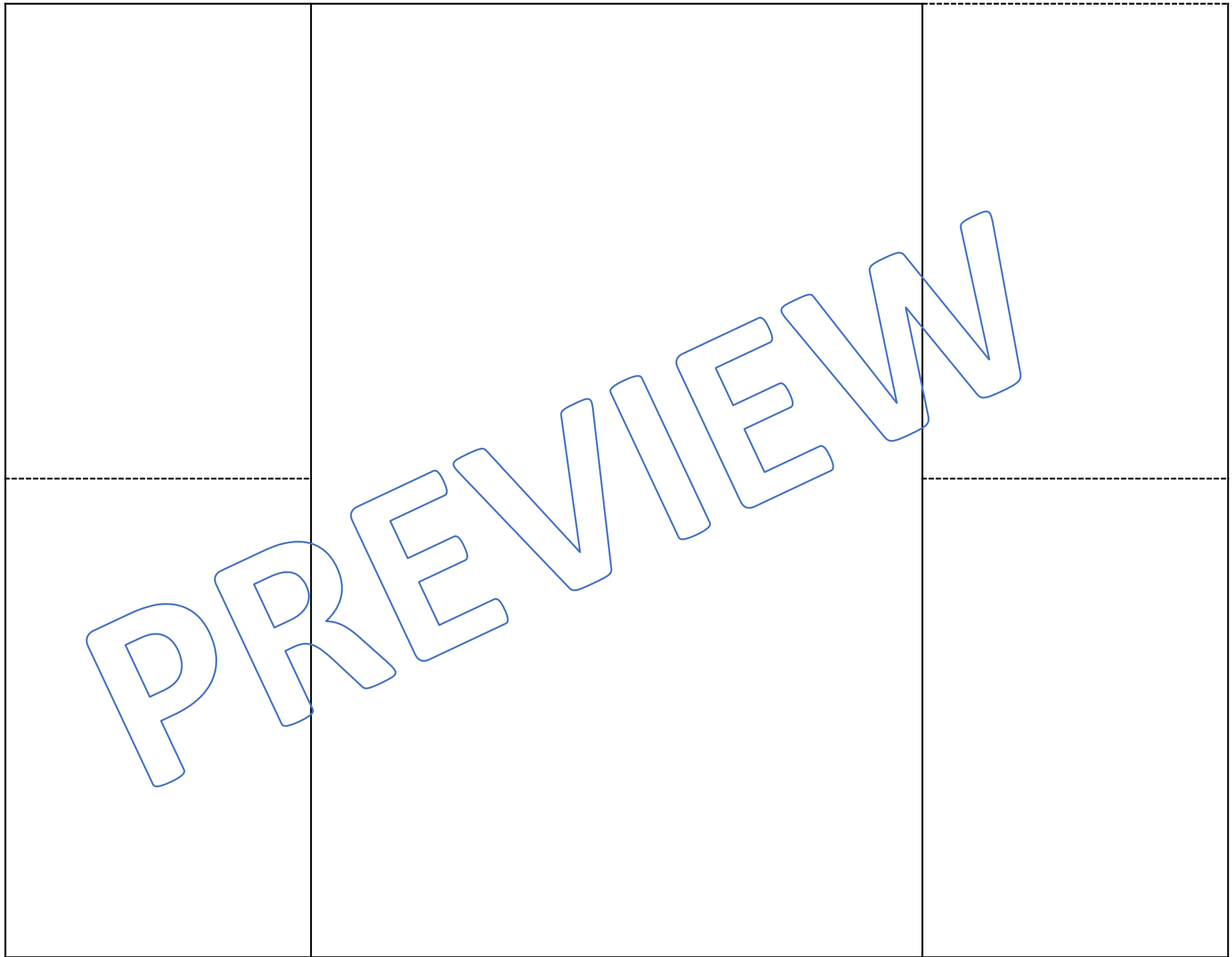
Stem & Leaf Plot

A stem and leaf plot is a way to show the frequency of a set of data. A stem and leaf plot is different from other graphs because the data is organized by place value.

Data Set: 4, 7, 8, 8, 14, 15, 30, 33, 33, 33, 35



A stem and leaf plot can show you the total number of data points collected as well as the frequency of each data point. It is another way to organize data!



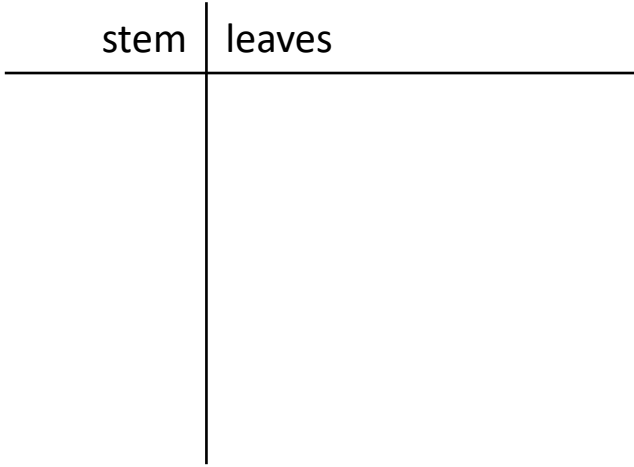
Extension Activities

1. Think about a set of data you could display using a stem and leaf plot (daily temperature, minutes read by your classmates, scores on a spelling test etc). Collect the data and create a stem and leaf plot.
Don't forget to make a title.
2. Use the data cards to create a stem and leaf plot.
Draw a certain number of cards and display the numbers using a stem and leaf plot.
3. See how many different stem and leaf plots you can make by just drawing 10 cards.

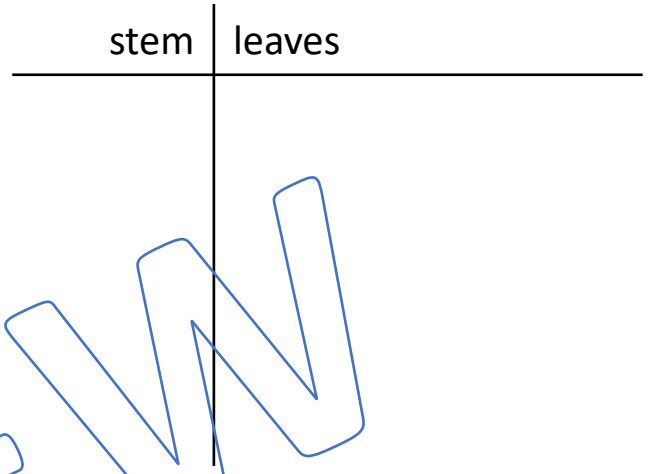
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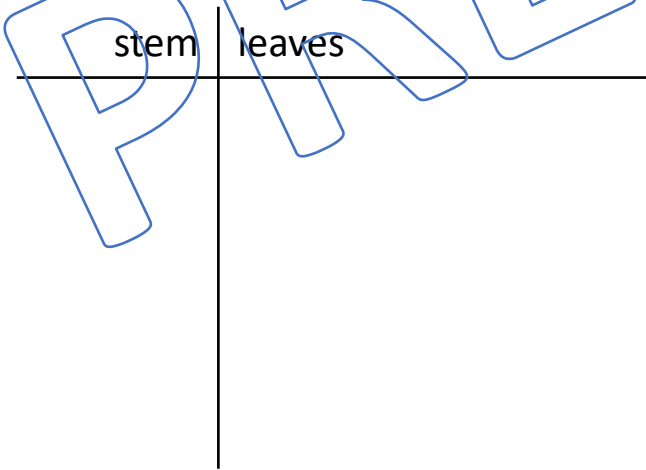
Data Set: _____



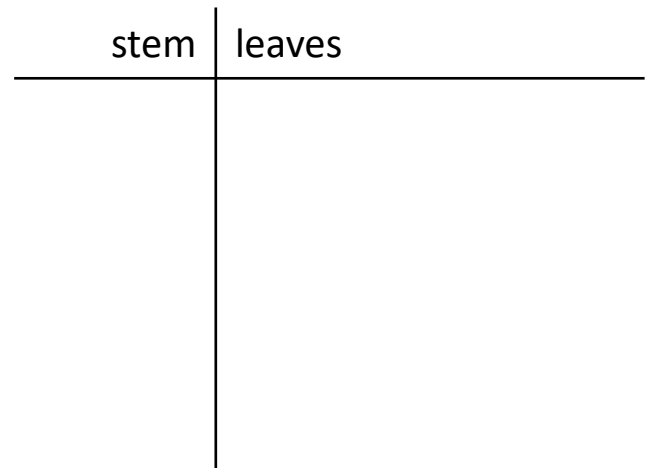
Data Set: _____



Data Set: _____



Data Set: _____

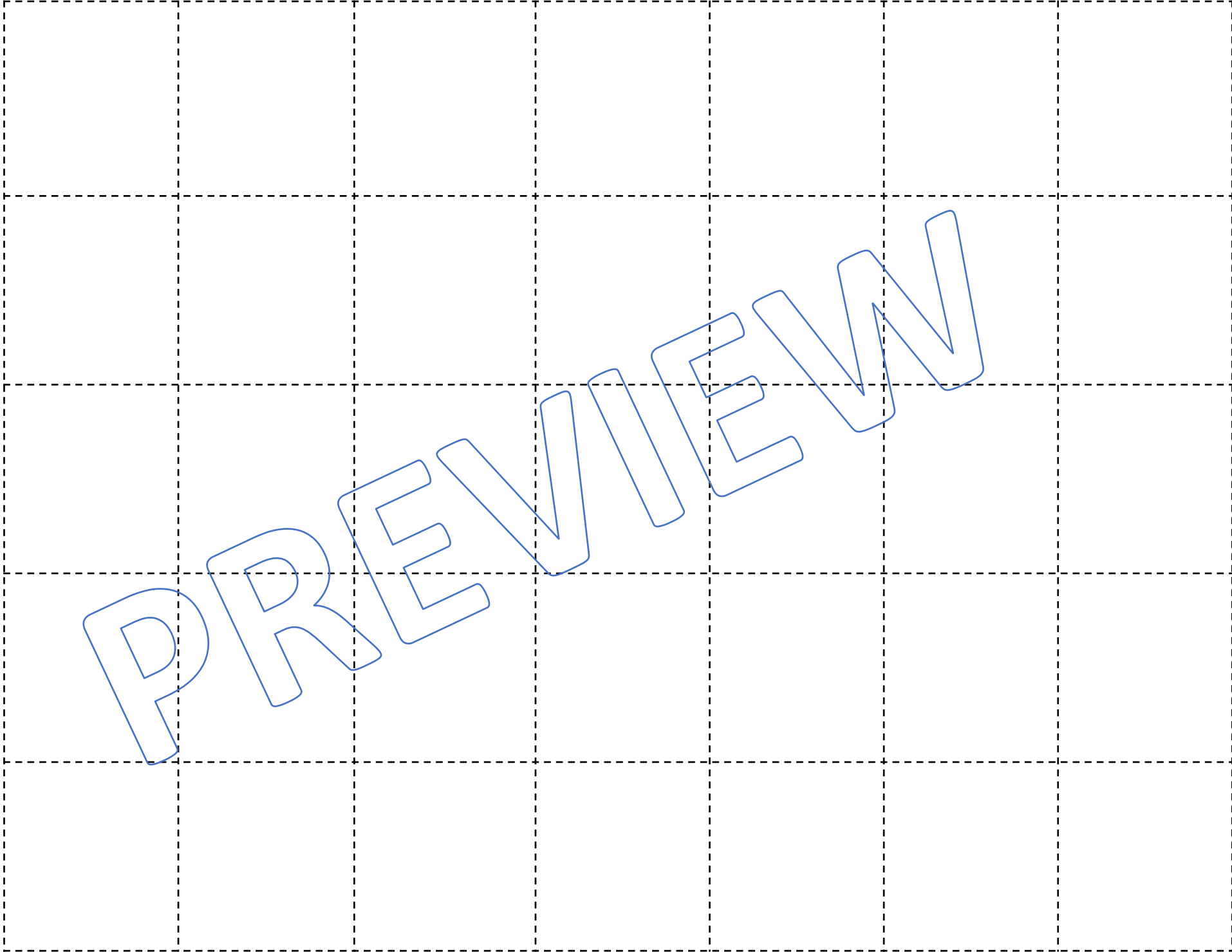


10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	32	33	34	35	36	37
38	39	40	41	42	43	44

PREVIEW

45	46	47	48	49	50	51
52	53	54	55	56	57	58
59	60	61	62	63	64	65
66	67	68	69	70	71	72
73	74	75	76	77	78	79

PREVIEW

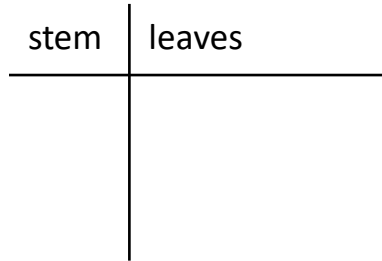


Stem and Leaf Plot – Blank Data Cards

Quick Check Problems

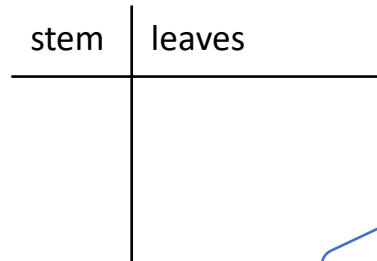
1. Create a stem and leaf plot for the data set.

Data Set: 16, 28, 8, 16, 15, 23, 24



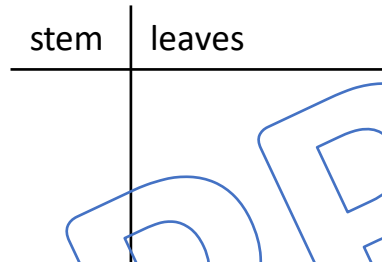
2. Create a stem and leaf plot for the data set.

Data Set: 84, 83, 76, 77, 79, 90



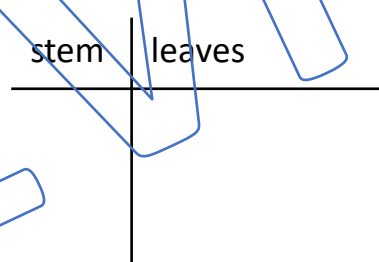
3. Create a stem and leaf plot for the data set.

Data Set: 45, 39, 38, 45, 45, 41, 52, 53



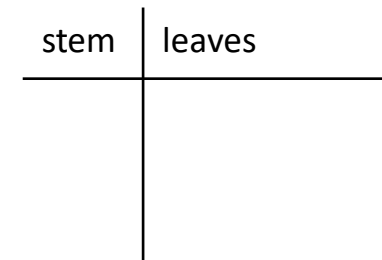
4. Create a stem and leaf plot for the data set.

Data Set: 3, 13, 23, 15, 7, 22, 9, 8



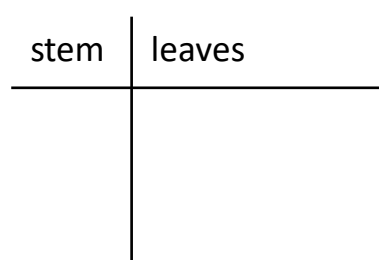
5. Create a stem and leaf plot for the data set.

Data Set: 63, 64, 61, 75, 80, 73, 72



6. Create a stem and leaf plot for the data set.

Data Set: 48, 52, 64, 47, 48, 51, 66, 51



Quick Check Problems - Key

1. Create a stem and leaf plot for the data set.

Data Set: 16, 28, 8, 16, 15, 23, 24

stem	leaves
0	8
1	5 6 6
2	2 4 8

2. Create a stem and leaf plot for the data set.

Data Set: 84, 83, 76, 77, 79, 90

stem	leaves
7	6 7 9
8	3 4
9	0

3. Create a stem and leaf plot for the data set.

Data Set: 45, 39, 38, 45, 45, 41, 52, 53

stem	leaves
3	8 9
4	1 5 5 5
5	2 3

4. Create a stem and leaf plot for the data set.

Data Set: 3, 13, 23, 15, 7, 22, 9, 8

stem	leaves
0	3 8 9
1	3 5
2	2 3

5. Create a stem and leaf plot for the data set.

Data Set: 63, 64, 61, 75, 80, 73, 72

stem	leaves
6	1 3 4
7	2 3 5
8	0

6. Create a stem and leaf plot for the data set.

Data Set: 48, 52, 64, 47, 48, 51, 66, 51

stem	leaves
4	7 8 8
5	1 1 2
6	4 6

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