Brandon Valley School District

District Learning Plan
March 16-19, 2020

Grade 6 Math

Brandon Valley School District Distance Learning Plan

LESSON/UNIT: Statistics **SUBJECT/GRADE:** 6th Grade Math **DATES:** March 17 - 19, 2020

What do students need to do?	Monday (3/16): Students will use pages 810 and 811 in the math textbook as examples to complete the <u>Mean worksheet</u>. Tuesday (3/17): Students will use pages 818 and 819 in the math textbook as examples to complete the <u>Median and Mode worksheet</u>. Wednesday (3/18): Students will review Mean, Median and Mode by completing <u>page 828 (1-8)</u> in the math textbook. Thursday (3/19): Students will review Mean, Median and Mode by completing the <u>Measure of Center worksheet.</u>
What do students need to bring back when school resumes?	- Mean worksheet - Median and Mode worksheet - Measures of Center Worksheet - math textbook page 828 (1-8) - math textbook - countdown packet (if applicable)
What standards do the lessons cover?	6.SP.3: Recognize that a measure of center (mean and/or median) for a numerical data set summarizes all of its values with a single number, while a measure of variation (such as mean absolute deviation and/or range) summarizes data points' distances from the mean or each other. 6.SP.5: Summarize numerical data sets in relation to their context b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
What materials do students need? What extra resources can students use?	**Materials Needed** - math textbook (online book is available) - worksheets (see PDF documents below) **Extra Resources** - Video example of how to find Mean, Median and Mode - https://youtu.be/k3aKKasOmIw - Multiplication Table - https://www.mathsisfun.com/tables.html

What can students do if they finish early?	ALEKS topics- https://my.mheducation.com/ *Practice for the state assessment https://login10.cloud1.tds.airast.org/student/V388/Pages/LoginShell.aspx?c=SouthDakota_PT *Continue working on your topics *QuickTables (math fact practice) *assignments (if your teacher has assigned them) Countdown Packet- continue working through the countdown questions Khan Academy- https://www.khanacademy.org/math
Who can we contact if we have questions?	Mrs. VanRoekel: Rebecca.VanRoekel@k12.sd.us Mrs. Lewis: Layne.Lewis@k12.sd.us Mrs. Wiese: Stacey.Wiese@k12.sd.us Mr. Kocer: Cassius.Kocer@k12.sd.us Mrs. Sports: Wendy.Sports@k12.sd.us Mrs. Manitz: Christine.Manitz@k12.sd.us Ms. Murtha: Christine.Murtha@k12.sd.us
Notes: Worksheets do not have to be printed off. Problems can be answered on blank or lined paper. The math textbook can also be accessed online at https://my.mheducation.com/login.	

Brandon Valley School District

Mean Worksheet

ANIMALS For Exercises 1 and 2, use the table about bears.

Bear	Average Height (ft)	Average Weight (lb)
Alaskan Brown	8	1,500
Black	6	338
Grizzly	7	588
Polar	7	850

1. Find the mean of the bear height data.

2. Find the mean of the bear weight data.

3. SALES Andre sold 43 magazines at his mom's work, 32 at his dad's work, 18 around his neighborhood, and 3 at home. What is the mean of the magazines he sold?

4. WORK Carlos earned $23, $29, $25, $16, and $17 working at an ice cream shop after school. What is the mean amount he earned?

5. CARS The cost of the same quantity of gasoline at nine different gas stations is shown below. What is the mean cost of this amount of gas?

Cost of Gas: $17, $18, $22, $15, $17, $16, $25, $21, and $20

6. SCHOOL Sally received scores on math quizzes as shown below. Find her mean score.

Quiz Scores: 84, 85, 91, 81, 52, 92, 99, 91, and 45

Median and Mode Worksheet

Find the median and mode for each set of data.

1. age of children Danielle babysits:
6, 9, 2, 4, 3, 6, 5

2. hours spent studying:
13, 6, 7, 13, 6

3. age of grandchildren:
1, 15, 9, 12, 18, 9, 5, 14, 7

4. points scored in video game:
13, 7, 17, 19, 7, 15, 11, 7

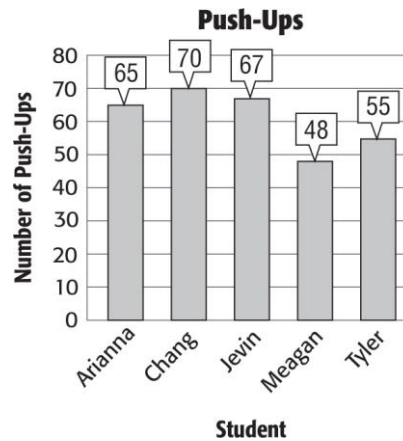**5.** amount of weekly allowances:
3, 9, 4, 3, 9, 4, 2, 3, 8

6. height of trees in feet:
25, 18, 14, 27, 25, 14, 18, 25, 23

Find the mean, median, and mode of the data represented.

7.

Annual Rainfall (in.)			
21	23	27	28
32	32	34	43

8.

9. MUSEUMS Use the table showing the number of visitors to the art museum each month.

Vistors to the Art Museum (thousands)			
3	11	5	4
5	3	6	3
12	2	2	4

a. What is the mean of the data?

b. What is the median of the data?

c. What is the mode of the data?

Mid-Chapter Check

Vocabulary Check

1. Define *mean*. Then determine the mean of the following data set {22, 18, 38, 6, 24, 18}. (Lesson 1)

_____

_____

2. Fill in the blank in the sentence below with the correct term. (Lesson 2)

   The _____ is the number or numbers that occur most often in a set.

Skills Check and Problem Solving

Find the mean of each data set. (Lesson 1)

3. number of home runs by baseball players in a season: 43, 21, 35, 15, 35

   _____

4. number of different birds spotted: 7, 10, 13, 9, 12, 3

   _____

Find the median and mode for each set of data. (Lesson 2)

5. hours spent studying: 4, 2, 5, 7, 1

   _____

6. heights of buildings in feet: 35, 42, 40, 25, 42, 54, 50 _____

7. **Use Math Tools** Use the table that shows the lengths of different lizards. Find and compare the median and mode of the data. (Lesson 2)

   _____

   _____

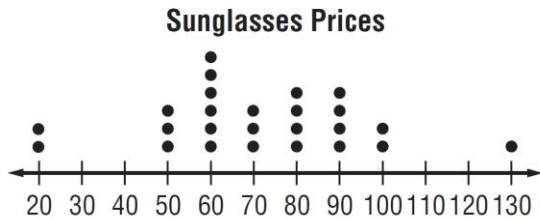| Lizard Length (cm)			
14	12	14	14
19	18	11	16
30	12	19	15

8. **Persevere with Problems** The table shows the number of minutes spent doing different exercises. The mean time spent exercising was 18.2 minutes. How many minutes were spent doing sit-ups? (Lesson 2)

   _____

   _____

Daily Exercises	
Exercise	Time (min)
Pull-ups	8
Push-ups	10
Running	38
Sit-ups	▓▓
Weight lifting	20

Measures of Center Worksheet

For Exercises 1 and 2, use the dot plot which shows the prices for different pairs of sunglasses.

Sunglasses Prices

1. What is the mean?

2. What is the mode?

3. What is the median?

Find the mean for each set of data.

4. cost of tennis shoes: $57, $63, $60, $59, $61

5. ages of students' dogs: 5, 6, 3, 4, 8, 10, 6

6. weights of cats at a pet store in pounds: 5, 4, 10, 7, 6

7. cost of DVDs: $10, $5, $19, $25, $15

For Exercises 7-9, use the following set of data.

TEMPERATURE The temperature in Georgia was recorded for 6 days in November. The temperatures were 62°, 60°, 70°, 78°, 60°, and 66°.

   7. What is the mean for the data?

   8. What is the median for the data?

   9. What is the mode for the data?

Mean

The **mean** of a data set is the sum of the data divided by the number of pieces of data. It is the balance point for the data set.

On the previous page, you found a single number to describe the number of songs downloaded each week. The **average**, or mean, summarizes the data using a single number.

You can find the mean of a set of data shown in different displays such as pictographs and dot plots.
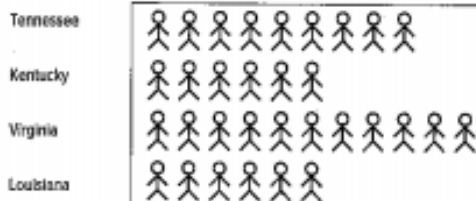
Example

Watch **Tutor**

1. Find the mean number of representatives for the four states shown in the pictograph.

Representatives to U.S. Congress
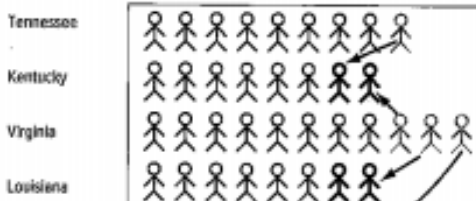
Tennessee

Kentucky

Virginia

Louisiana

Including Data

Even if a data value is 0, it still should be counted in the total number of pieces of data.

Representatives to U.S. Congress

Tennessee

Kentucky

Virginia

Louisiana

Move the figures to equally distribute the total number of representatives among the four states.

Each state has a mean or average of 8 representatives.

Got it? Do this problem to find out.

Show your work.

a. _____

a. The table shows the number of CDs a group of friends bought. Find the mean number of CDs the group bought.

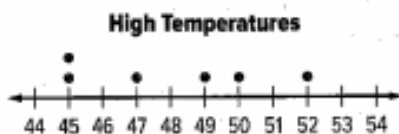| Number of CDs Purchased		
3	4	6
0	2	

Examples

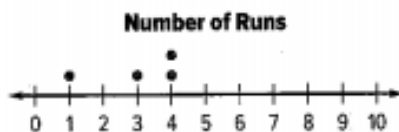**2.** The dot plot shows the recorded high temperatures for six days in Little Rock, Arkansas. Find the mean temperature.

High Temperatures

44 45 46 47 48 49 50 51 52 53 54

$$\text{mean} = \frac{45 + 45 + 47 + 49 + 50 + 52}{6} \quad \blacktriangleleft \cdots \text{ sum of the data}$$
$$\blacktriangleleft \cdots \text{ number of data items}$$
$$= \frac{288}{6} \text{ or } 48 \qquad \text{Simplify.}$$

The mean is 48 degrees. So, all of the data values can be summarized with a single number, 48.

- -

3. The dot plot shows the number of runs a baseball team had for each game of a 4-game series. Find the mean number of runs for the series.

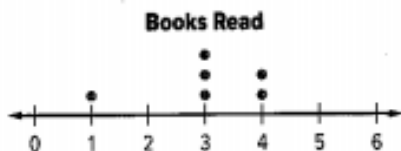**Number of Runs**

0   1   2   3   4   5   6   7   8   9   10

$$\text{mean} = \frac{\boxed{}}{\boxed{}} \quad \blacktriangleleft \cdots \text{ sum of the data}$$
$$\blacktriangleleft \cdots \text{ number of data items}$$

$$= \frac{\boxed{}}{\boxed{}} \text{ or } \boxed{} \qquad \text{Simplify.}$$

The mean number of runs for the series is $\boxed{}$.

Got it? Do this problem to find out.

b. The dot plot shows the number of books Deanna read each week of a reading challenge. Find the mean number of books she read.

Books Read

0   1   2   3   4   5   6

b. _____

Median and Mode

The **median** of a list of values is the value appearing at the center of a sorted version of the list, or the mean of the two central values, if the list contains an even number of values.

The **mode** is the number or numbers that occur most often.

Just as mean is one value used to summarize a data set, the median and mode also summarize a data set with a single number. If there is more than one number that occurs with the same frequency, a data set may have more than one mode.

Examples

Watch | Tutor

1. The table shows the number of monkeys at eleven different zoos. Find the median and mode of the data.

Number of Monkeys					
28	36	18	25	12	44
	18	42	34	16	30

Order the data from least to greatest.

Median 12, 16, 18, 18, 25, (28,) 30, 34, 36, 42, 44   28 is in the center.

Mode 12, 16, (18, 18,) 25, 28, 30, 34, 36, 42, 44   18 occurs most often.

The median is 28 monkeys. The mode is 18 monkeys.

. . . .

2. Dina recorded her scores on 7 tests in the table. Find the median and mode of the data.

Test Scores			
93	88	94	93
	85	97	90

Order the data from least to greatest.

Circle the number in the center. This is the median.

Circle the most frequently occurring numbers. This value is the mode.

The median is a score of [   ]. The mode is a score of [   ].

Got it? Do this problem to find out.

a. The list shows the number of stories in the 11 tallest buildings in Springfield. Find the median and mode of the data.

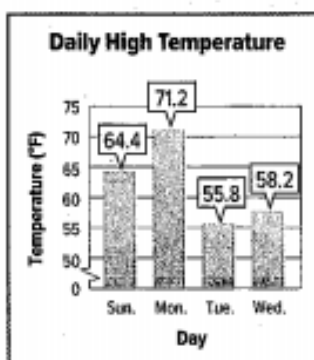40, 38, 40, 37, 33, 30, 20, 24, 21, 17, 19

a. _____

Examples

3. Find the median and mode of the temperatures displayed in the graph.

Median   55.8, 58.2, 64.4, 71.2

$$\frac{58.2 + 64.4}{2} = \frac{122.6}{2}$$

$$= 61.3°$$

> There are an even number of data values. So, to find the median, find the mean of the two central values.

Daily High Temperature

Mode   There is no mode.

4. Miguel researched the average precipitation in several states. Find and compare the median and mode of the average precipitation.

State	Precipitation (in.)	State	Precipitation (in.)
Alabama	58.3	Louisiana	60.1
Florida	54.5	Maine	42.2
Georgia	50.7	Michigan	32.8
Kentucky	48.9	Missouri	42.2

Median   32.8, 42.2, 42.2, 48.9, 50.7, 54.5, 58.3, 60.1

$$\frac{48.9 + 50.7}{2} = \frac{99.6}{2}$$

$$= 49.8$$

Mode   32.8, 42.2, 42.2, 48.9, 50.7, 54.5, 58.3, 60.1

The median is 49.8 inches and the mode is 42.2 inches. The median is 7.6 inches greater than the mode.

Got it? Do these problems to find out.

b. Find the median and mode of the costs in the table.

Cost of Backpacks ($)

16.78	48.75	31.42	18.38
22.89	51.25	28.54	26.79

c. Find and compare the median and mode of the costs in the table.

Cost of Juice ($)

1.65	1.97	2.45	2.87
2.35	3.75	2.49	2.87

Show your work

b. _____

c. _____