Title: Mean, Median, Mode

Objectives		Time frame to Complete
Students will be able to collect data and determine mean, median, mode, and range.		30 minutes
		NRS EFL
		4

Stackable Cert. Documentation	Technology	Study / Life skills	EL-Civics	Career Pathways	Police	Paramedic	Fire Rescue	Medical Asst.	EKG / Cardio	Phlebotomy	Practical Nursing	Healthcare Admin	Pharmacy Tech	IMT	AMT	HVAC	Welding	Other:
X																X		

Standard(s) Addressed in Lesson

Benchmark(s) Addressed in Lesson

M.4.20 Collect, organize and interpret data sets involving a single variable.
M.4.21 Create and interpret data sets using simple frequency distributions and appropriate graphs.
M.4.22 Calculate basic measures of central tendency (mean, median, mode) and variability (range).
M.4.25 Solve multi-step problems.

Materials

- Pencil
- Computer with internet access
- Website: http://www.weatherbase.com/weather/state.php3?c=US&refer=&name=United-States-of-America
- *Mean, Median, Mode* worksheet
- Calculator (optional)

Learner Prior Knowledge
Addition, subtraction, multiplication, division

Activities

Step 1   Distribute the *Mean, Median, Mode* worksheet. Review the definitions and formulas for each with students.

Step 2   Work together to find the mean, median, mode, and range in the sample problem (weekly temperature).

Step 3   Students use the computer to access the website http://www.weatherbase.com/weather/state.php3?c=US&refer=&name=United-States-of-America. By clicking on their state and city, they can find the average monthly temperatures for their hometowns. Students complete the remainder of the worksheet independently and check their answers with a calculator.

Step 4   Check worksheets and re-teach as necessary.

Assessment/Evidence
Completed worksheet. This worksheet may be saved in student portfolios as documentation for a Basic Stackable Certificate.

Adaptations for Beginning Students
Beginning students may use a calculator and have extended time to complete the assignment.
Adaptations for Advanced Students
Advanced students may collect additional data for comparison such as daily high/low temperatures or temperatures from cities in different geographic regions.
Teacher Reflection/Lesson Evaluation
This lesson was created by Middletown ABLE.

Mean   The average of a set of numbers. To find the mean, add all of the numbers in the set, then divide by how many numbers were added together.

Median   The number that appears in the middle of the data set. To find the median, write all numbers in the data set in order from lowest to highest, then find the value that appears exactly in the middle. If using a data set with an even number, you will have to find the average of the two numbers that appear in the middle of the set.

Mode   The value that appears most often in a data set. If no values repeat, there is no mode. There can be more than one mode.

Range   The range is the difference between the lowest and highest numbers in the data set. To calculate the range, subtract the lowest value from the highest value in the set.

Consider these temperatures:

Day	Temp	Question
Sunday	52	What is the mean?
Monday	46	
Tuesday	53	What is the median?
Wednesday	58	
Thursday	70	What is the mode?
Friday	66	
Saturday	58	What is the range?

1.   Survey your classmates. Ask them the temperature at which they keep their thermostats set. Record your findings.

2.   Find the **average** temperature of your classmates' homes.

3.   What is the **range** of temperature in your classmates' homes?

4.	What temperature is the **median** temperature of your classmates' homes?

5.	If one exists, identify the **mode**.

6.	Visit the website
http://www.weatherbase.com/weather/state.php3?c=US&refer=&name=United-States-of-America.
Click your state and find the city closest to your hometown. Click the city to view the temperatures for the past year. Record the average **monthly low temperatures.**

7.	What is the range of low temperatures in the past year?

January		8.	What is the median low temperature?	
February				
March				
April				
May				
June		9.	Identify the mode in this data set.	
July				
August				
September		10.	Calculate the mean of this set of low temperatures.	
October				
November				
December				

11.	Create a graph that illustrates the monthly low temperatures.

Mean   The average of a set of numbers. To find the mean, add all of the numbers in the set, then divide by how many numbers were added together.

Median   The number that appears in the middle of the data set. To find the median, write all numbers in the data set in order from lowest to highest, then find the value that appears exactly in the middle. If using a data set with an even number, you will have to find the average of the two numbers that appear in the middle of the set.

Mode   The value that appears most often in a data set. If no values repeat, there is no mode. There can be more than one mode.

Range   The range is the difference between the lowest and highest numbers in the data set. To calculate the range, subtract the lowest value from the highest value in the set.

Consider these temperatures:

Day	Temp	Question	Answer
Sunday	52	What is the mean?	403/7 = 57.6
Monday	46		
Tuesday	53	What is the median?	58
Wednesday	58		
Thursday	70	What is the mode?	58
Friday	66		
Saturday	58	What is the range?	70-46 = 24

1. Survey your classmates. Ask them the temperature at which they keep their thermostats set. Record your findings.

   Answers will vary throughout this assignment

2. Find the **average** temperature of your classmates' homes.

3. What is the **range** of temperature in your classmates' homes?

4. What temperature is the **median** temperature of your classmates' homes?

5. If one exists, identify the **mode**.

6.   Visit the website
http://www.weatherbase.com/weather/state.php3?c=US&refer=&name=United-States-of-America.
Click your state and find the city closest to your hometown. Click the city to view the temperatures for
the past year. Record the average **monthly low temperatures**

January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

7.   **What** is the range of low temperatures in the past year?

8.   What is the median low temperature?

9.   Identify the mode in this data set.

10.   Calculate the mean of this set of low temperatures.

11.   Create a graph that illustrates the monthly low temperatures.