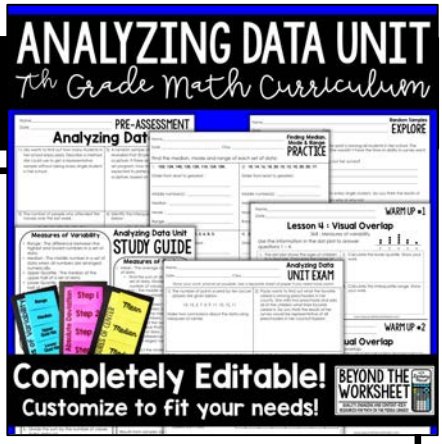
ABOUT THIS RESOURCE



Details :

This 10 day unit covers 7th Grade Data Standards. If the skills don't completely align to your state standards, that's OK because this resource is 100% editable! All content can be modified to make this unit perfect for your classroom!

Included Resources :

- Weekly warm up recording sheets
- Weekly exit ticket sheets
- Blank lesson plans
- Unit tracking pages
- Unit vocabulary sheet
- Unit pre-assessment
- Warm ups
- Partner Activity
- Traditional notes
- Fold and Flip Notes
- Practice assignments (for homework or classwork)
- A complete PDF of the unit
- An editable PPT version of the unit.
- A binder cover and spine labels
- Unit post-assessment

Lessons :

- Lesson 1 : Random Samples
- Lesson 2 : Measures of Center
- Lesson 3 : Measures of Variability
- Lesson 4 : Visual Overlap

Licensing :

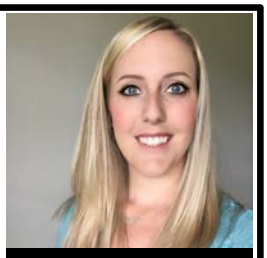
- By purchasing this product, you own a license for **one teacher only** for personal use in their own classroom. Licenses are **non-transferable** and therefore can not be passed from one teacher to another. If the teacher who purchased this license leaves the classroom or changes schools, the license and materials leave with that teacher. No part of this resource is to be shared with colleagues or used by an entire team, grade level, school or district without purchasing the correct number of licenses. If you are a coach, principal or district interested in **transferable licenses** that would accommodate yearly staff changes, please contact me for a transferable license quote at lindsayperro@gmail.com.

Click here for Exclusive FREE Resources, News, Giveaways and More!

STAY IN TOUCH!

Meet the Author :

My name is Lindsay Perro and I have been an educational writer and content developer since 2009. After spending 8 years as a Middle School Math Teacher and Interventionist, I am now following my passion and focusing on creating quality educational resources to make your job easier and keep students engaged and excited about math!



Lindsay Perro

BEYOND THE WORKSHEET
QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

WWW.BEYONDTHEWORKSHEET.COM

ANALYZING DATA UNIT PLAN

10 DAY UNIT

Lesson	Resources
Unit Prep (pages 6 – 14)	• Vocabulary Page • Warm Up Page • Unit Pre-Assessment
(1) Random Samples (pages 13 – 17)	• Two Warm Ups • Random Samples Exploration • Random Samples Notes • Random Samples Practice (2 pages)
(2) Measures of Center (pages 18 – 27)	• Two Warm Ups • Measures of Center Notes • Measures of Center Fold and Flip Notes • Finding Mean Scaffolded Practice • Finding Median, Mode and Range Scaffolded Practice • Measures of Center Practice
(3) Measures of Variability (pages 28 – 36)	• Two Warm Ups • Measures of Variability Notes • Measures of Variability Fold and Flip Notes • Measures of Variability Practice Worksheet • Measures of Variability Real World Practice Worksheet
(4) Visual Overlap (pages 37 – 47)	• Two Warm Ups • Visual Overlap Exploration • Visual Overlap Notes (2 pages) • Mean Absolute Deviation Fold and Flip Notes • Visual Overlap Practice (2 pages)
End of Unit (pages 48 – 52)	• Study Guide • Unit Post-Assessment

Name_____

Date _____

WARM UP #1

Lesson 1 : Random Samples

Skill : Percent of a number

1. What is 56% of 80? Round to the nearest tenth if necessary.	2. Wh… nec…
3. A 6% sales tax is charged on a $450 television. How much sales tax is paid?	4. A $… How…
5. An 18% tip is left on a $54 dinner bill. What is the total paid for dinner?	6. Jen… tele… the…

Name_____

Date _____

WARM UP #1

Lesson 2 : Measures of Center

Skill : Solving proportions

1. Find the missing number in the proportional relationship. $\frac{x}{40} = \frac{60}{200}$	2. Find the missing number in the proportional relationship. $\frac{75}{300} = \frac{100}{x}$
3. The relationship between cows to pigs on a farm is 4 : 5. If there are 20 pigs, how may cows are on the farm? Set up and solve a proportion.	4. 15 out of 30 students in 6th grade have at least one sibling. If there are 400 students in 6th grade, predict how many will have at least one sibling. Set up and solve a proportion. Round to the nearest tenth if necessary.

Name_____

Date _____

WARM UP #1

Lesson 3 : Measures of Variability

Skill : Measures of center

Use the lengths (in inches) below to answer questions 1 – 4.
19, 18, 22, 21, 22, 20, 18, 19

1. Calculate the mean length. Show your work.	2. Calculate the median length. Show your work.
3. Calculate the range of the lengths. Show your work.	4. Det…

Name_____

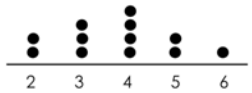
Date _____

WARM UP #1

Lesson 4 : Visual Overlap

Skill : Measures of variability

Use the information in the dot plot to answer questions 1 – 4.



1. The dot plot shows the ages of children in a daycare. Calculate the range of the ages. Show your work.	2. Calculate the lower quartile. Show your work.
3. Calculate the upper quartile. Show your work.	4. Calculate the interquartile range. Show…

Name_____

Date _____

Name_____

Date _____

Name_____

Date _____

WARM UP #2

…easures of Center

…Measures of center

…below to answer questions 1 – 4.

…88, 72, 100, 70, 80, 82, 99

Name_____

Date _____

Lesson 3 : Measures…

Skill : Measures of va…

Use the lengths (in inches) below to…
19, 18, 22, 21, 22, 20…

1. Calculate the range of the lengths. Show your work.	2. Cal… wor…
3. Calculate the upper quartile. Show…	4. Cal…

…between both sets of test scores.

…scores.

BEYOND THE WORKSHEET

WITH Lindsay Perro

QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

Warm Ups

Name_____

Date _____ Class _____

Random Samples
NOTES

What is Bias?

Read each situation and discuss with a partner. Determine if the sample was randomly selected or not. Also discuss if you think the sample would produce biased results.

Survey Question A : How long does it take the average student to complete their math homework? **Sample :** Ask all math teachers in the school.	**Survey Question C :** How many minutes exercise each week, on average, do 7 graders get? **Sample :** Ask 7th grade students who ha PE class on Wednesday.
Survey Question B : Do you enjoy going to the movies? **Sample :** Ask people leaving a movie theater on Saturday night.	**Survey Question D :** Who will win the mi school art contest? **Sample :** Ask the students who sit at you lunch table.

Making Predictions :

Random samples are often use to make predictions about larger populations when the population cannot be surveyed. Take a look at how it works!

➢ The board of education wanted to know how often 7th grade students studied fo

Name_____

Date _____ Class _____

Measures of Variability
NOTES

Key Terms :

- Range : _____
- Lower Quartile : _____
- Upper Quartile : _____
- Interquartile Range : _____
- Outlier : _____

Guided Practice :

➢ Find the measures of variation for the given set of data.

Name_____

Date _____ Class _____

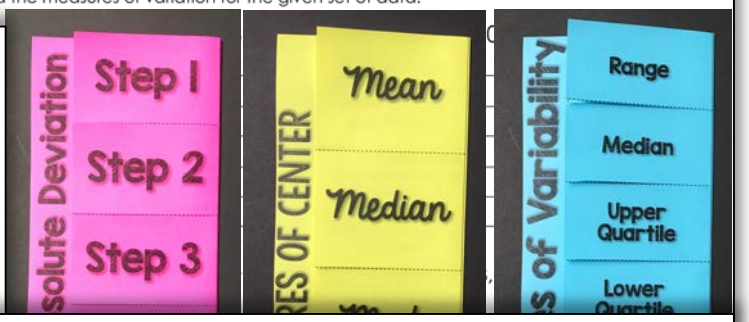
Visual Overlap
EXPLORE

Think About This :

- What do you think the relationship is between the height of children in 2nd grade and the height of children in 4th grade?
  - Do you think there is a lot of overlap between the height of children in 2nd grade and children in 4th grade? A little bit of overlap? Explain.
- What do you think the relationship is between the cost of a small pizza and the cost of large pizza at different restaurants?
  - Do you think there is a lot of overlap between the costs of small and large pizza little bit of overlap? Explain.

Take a look :

The box plots show the results of scores on the same test in two different classes.



Name_____

Date _____ Class _____

Visual Overlap
NOTES

Degree of Overlap :

- High Overlap : _____
- Small Overlap : _____
- No Overlap : _____

ice : Label each pair of box/dot plots as having a high, small or no degree of overlap.

2.

Measures of Variability

- Range : The difference between the highest and lowest numbers in a set of data.
- Median : The middle number in a set of data when all numbers are arranged numerically.
- Upper Quartile : The median of the upper half of a set of data.
- Lower Quartile : The median of the lower half of a set of data.
- Interquartile Range : The range of the middle half of a set of data.
- Outlier : A number in a set of data that is either much greater or smaller than the median.
  - To calculate an outlier - Multiply the interquartile range by 1.5. Add the product to the upper quartile and subtract it from the lower

Analyzing Data Unit
STUDY GUIDE

Measures of Center

- Mean : The average number in a set of data.
  - Find the sum of all values in the set of data. Divide by the total number of values.
- Median : The middle value of a set of data when numbers are written in numerical order.
  - Arrange numbers in order from least to greatest. Identify the number in the middle. If there are two numbers, take the average of the two.
- Mode : The value that occurs most often in a set of data.

Overlap can be strong, weak or not existent.

The steps for calculating mean absolu

Random Samples

A random sample is one that provides everyone in the

BEYOND THE WORKSHEET

WITH Lindsay Perro

QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

Notes

Name_____

Date _____ Class _____

Random Samples PRACTICE

1. A music company wants to know how high school students prefer to listen to their m
on the radio, a computer, a tablet, cell phone or other device.
   - The company decides to randomly sample 250 students from a local town, al
have cell phones. Is this sample random? Explain.

   _____

   _____

   - Could the sample above produce biased results? Explain.

   _____

   _____

   - Suggest a method the company could use to get a true random sample.

   _____

   _____

2. To determine which sport 6th grade students prefer to watch on television, Erik rando
selected 50 students from each middle school to get their opinion. Of those surveye
liked watching football the best. Erik concludes that most 6th grade students prefer
watching football. Is his conclusion valid? Explain why or why not.

   _____

   _____

   _____

   _____

3. The school nurse wants to determine which percent of the students in school bring t
lunch from home each day. There are 1,200 students in the school so she is unable t
each student.
   - Describe a method the nurse could use to get a true random sample.

   _____

   _____

Name_____

Date _____ Class _____

Finding Median, Mode & Range PRACTICE

Find the median, mode and range of each set of data:

1. **102, 124, 140, 130, 120, 110, 124, 100.**

Order from least to greatest :

_____

Middle number(s) : _____

Median : _____

Mode : _____

Range : _____

2) **10, 14, 16, 18, 20, 15, 13, 10, 20, 20, 17.**

Order from least to greatest :

_____

Middle number(s) : _____

Median : _____

Mode : _____

Range : _____

3) **1, 4, 5, 6, 3, 2, 6, 8, 10, 5, 6, 8, 3.**

Order from least to greatest :

_____

Middle number(s) : _____

Median : _____

Mode : _____

Range : _____

4) **20, 22, 25, 30, 25, 20, 19, 28, 20, 21.**

Order from least to greatest :

_____

Middle number(s) : _____

Median : _____

Mode : _____

Range : _____

5) **60, 62, 65, 80, 75, 90, 99, 100, 80, 82, 93.**

om least to greatest :

6) **6, 8, 9, 11, 6, 5, 8, 9, 10, 8, 8, 9, 11.**

Order from least to greatest :

Name_____

Date _____ Class _____

Measures of Variability PRACTICE

The table below shows the number of points scored by the Jaguars in their last 10 game

Game	1	2	3	4	5	6	7	8	9
Points	30	45	22	30	32	50	48	35	60

1. Identify the range of the scores : _____
2. Identify the median score : _____
3. Find the upper and lower quartiles :
   Upper : _____
   Lower : _____
4. Identify the interquartile range : _____
5. Identify the limits for an outlier. Explain how you found the limits : _____

   _____

   _____

The dot plot shows the number of siblings had by a group of students.

1. Identify the range of the data : _____
2. Identify the median of the data : _____
3. Find the upper and lower quartiles :
   Upper : _____
   Lower : _____
4. Identify the interquartile range : _____
5. Identify the limits for an outlier. Explain how you found the limits : _____

   _____

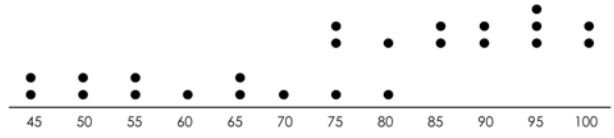
   _____

Name_____

Date _____ Class _____

Visual Overlap PRACTICE

The dot plot below shows the test scores of children in two different classes.



1. Describe the degree of overlap between the two dot plots.

   _____

   _____

2. Calculate the means of both data sets.

   Class A Mean : _____ Class B Mean : _____

3. What is the difference between the means?

   _____

4. Calculate the mean absolute deviations of both data sets.

   Class A MAD : _____

5. What is the difference betw

   _____

6. Which is larger, the differenc
   the degree of overlap.

   _____

BEYOND THE WORKSHEET

WITH Lindsay Perro

QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

Worksheets

Name_____

Date _____ Class _____

Analyzing Data
UNIT EXAM

Show your work whenever possible. Use a separate sheet of paper if you need more room!

1) The number of points scored by ten soccer players are given below :

13, 15, 2, 7, 5, 9, 11, 10, 12, 11

Make two conclusions about the data using measures of center.

2) Paula wants to find out what the favorite cereal is a
county. Sh
all of the
cereal is.
survey wo
preschool

3) The number of people who attended a local fair over the last six days were :

453, 150, 400, 489, 512, 480

Find the:

- Median : _____
- Upper quartile : _____
- Lower quartile : _____
- Interquartile range : _____

4) Identify th
below :

1

5) Two girls are baking cupcakes. The table below shows how many dozen cupcakes the girls baked each day.

	Mon	Tues	W
Ava	7	5	
Mia	5	9	

Find the

Which m

Unit Exam

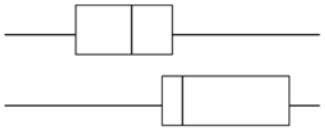
6) The average rainfall (in inches) for one city is given in the table :

Mar.	Apr.	May	Jun.	July	Aug.	Sept.
7.8	12	8.2	8.5	9	10	7.4

Find the given information :

- Range : _____
- Median : _____
- Upper Quartile : _____
- Lower Quartile : _____
- Interquartile Range : _____
- Outliers : _____

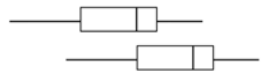
7) Describe the degree of visual overlap in the double box plot.



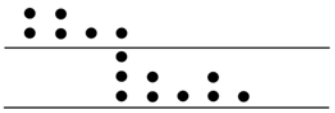
8) 200 adults who own a car were surveyed to find out whether or not they've ever owned a new vehicle. 64% indicated that they have only owned used vehicles. Based on the results of the survey, about how many adults out of a group of 3,500 have owned a new vehicle?

10) Which case below has the highest degree of visual overlap?

a)



b)



c)

Explain your choice.

Name_____

Date _____

PRE-ASSESSMENT
Analyzing Data

1) Lilly wants to find out how many students in her school enjoy pizza. Describe a method she could use to get a representative sample without asking every single student in her school.

2) A random sample of 45 art students revealed that 20 prefer painting over sculpture. If there are 2,000 students in an art program, how many would be expected to prefer painting over sculpture, based on these results?

3) The number of people who attended the movies over the last week :

140, 90, 85, 220, 99, 180, 205

Find the:

- Mean : _____
- Median : _____
- Mode : _____
- Range : _____
- Outliers : _____

4) Identify the interquartile range of the data below :

35, 40, 50, 36, 42, 60, 45

5) The box plots show the results from two different math tests. What are some conclusions you can make about the scores?

BEYOND THE WORKSHEET

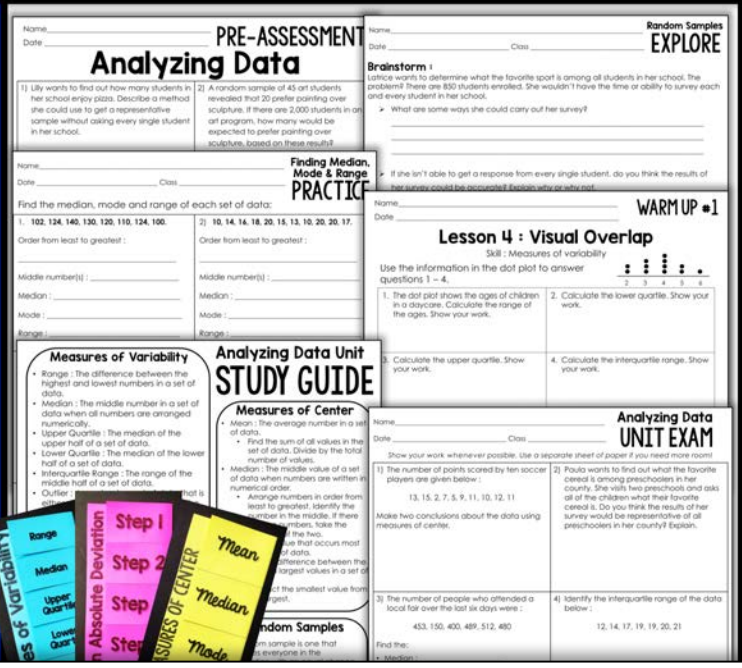
WITH Lindsay Perro

QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

Assessments

7th Grade Math Curriculum

Analyzing Data



Unit 5 — 7th Grade Math

Unit 5 — 7th Grade Math

Unit 5 — 7th Grade Math

7th Grade Math Unit 5
Analyzing Data — STUDENT TRACKING

Name	Pre Assessment	Post Assessment	Notes

Unit FIVE Lesson ONE
Random Samples — STUDENT TRACKING

Name	Warm Up 1	Warm Up 2	Explore	Notes	Practice 1	Practice 2

Unit FIVE Lesson TWO
Measures of Center — STUDENT TRACKING

Name	Warm Up 1	Warm Up 2	Notes	Finding Mean Practice	Median, Mode, Range Practice	Measures of Center PRactice

BEYOND THE WORKSHEET
WITH Lindsay Perro
QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

Tracking Sheets & Binder Labels

ANALYZING DATA UNIT PLAN

Lesson	Resources
Unit Prep (pages 6 – 14)	• Vocabulary Page • Warm Up Page • Unit Pre-Assessment
(1) Random Samples	• Two Warm Ups • Random Samples Exploration • Random Samples Notes • Random Samples Practice (2 pages)
(2) Measures of Center	• Two Warm Ups • Measures of Center Notes • Measures of Center Fold and Flip Notes • Finding Mean Scaffolded Practice • Finding Median, Mode and Range Scaffolded P • Measures of Center Practice

Name_____

Week of _____ to _____

WEEKLY WARM UP SHEET

Date:	
Date:	

Exit Ticket
Name_____
Date _____

Exit Ticket
Name_____
Date _____

Exit Ticket
Name_____
Date _____

Exit Ticket
Name_____
Date _____

Exit Ticket
Name_____
Date _____

Analyzing Data Lesson Plan

Standard(s): _____ **Date(s):** _____

Student Materials:

- ❑ Scissors
- ❑ Glue
- ❑ Protractor
- ❑ Compass
- ❑ Graph paper
- ❑ Dry erase
- ❑ _____
- ❑ _____
- ❑ _____

gression:

ANALYZING DATA UNIT VOCABULARY

Bias	
Interquartile Range	
Lower Quartile	
mean	
Mean Absolute Deviation	
Median	
Mode	
Random	
Representative Sampling	

BEYOND THE WORKSHEET with Lindsay Perro

QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

Planning Pages