

NOT SO WIMPY

UNIT 9:

MEASUREMENT

& DATA

4th GRADE

MATH CURRICULUM

20 DAYS OF MATH LESSON PLANS,
POWERPOINTS, ACTIVITIES,
AND ASSESSMENT



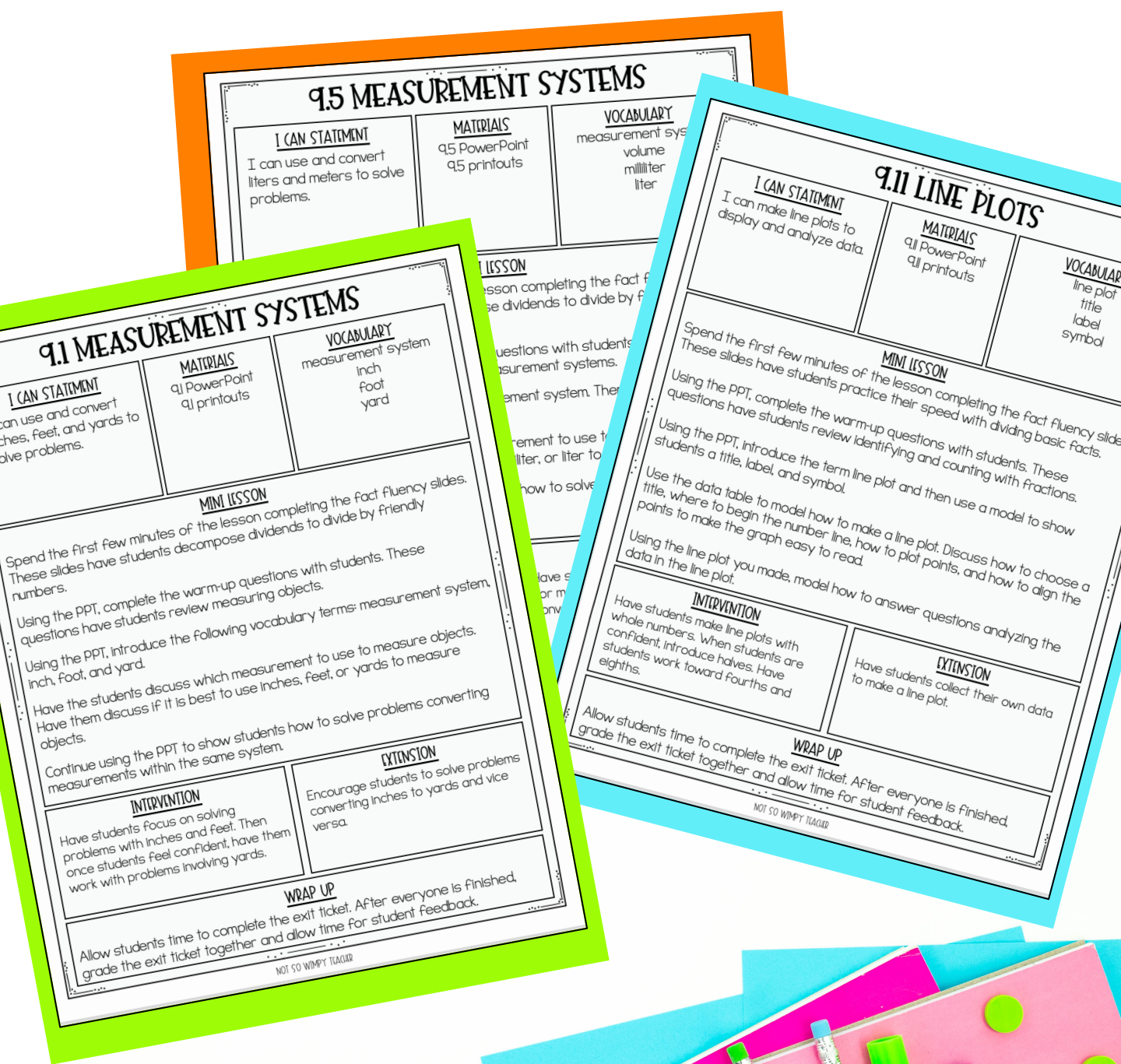


UNIT 9: MEASUREMENT AND DATA *at a glance*

Day 1 Measurement Systems: in., ft., yds.	Day 2 Measurement Systems: cm, m, km	Day 3 Measurement Systems: kilograms and grams	Day 4 Measurement Systems: pounds and ounces	Day 5 Measurement Systems: liters and milliliters
Day 6 Measurement Systems: gallons, pints, quarts, cups	Day 7 Measurement Systems: money	Day 8 Measurement Systems: time	Day 9 Conversion Tables and Number Pairs	Day 10 Review
Day 11 Line Plots	Day 12 Line Plots	Day 13 Area and Perimeter	Day 14 Area and Perimeter	Day 15 Area and Perimeter: Rectilinear Figures
Day 16 Area and Perimeter: Rectilinear Figures	Day 17 Word Problems	Day 18 Word Problems	Day 19 PBL	Day 20 Assessment

UNIT COVERS THE FOLLOWING COMMON CORE MATH STANDARDS: 4.MD.1, 4.MD.2, 4.MD.3, and 4.MD.4

INCLUDES A PACING GUIDE TO SEE YOUR ENTIRE WEEK AT A GLANCE



9.5 MEASUREMENT SYSTEMS

I CAN STATEMENT

I can use and convert liters and meters to solve problems.

MATERIALS

9.5 PowerPoint
9.5 printouts

VOCABULARY

measurement sys
volume
milliliter
liter

9.11 LINE PLOTS

I CAN STATEMENT

I can make line plots to display and analyze data.

MATERIALS

9.11 PowerPoint
9.11 printouts

VOCABULARY

line plot
title
label
symbol

9.1 MEASUREMENT SYSTEMS

I can use and convert inches, feet, and yards to solve problems.

MATERIALS

9.1 PowerPoint
9.1 printouts

VOCABULARY

measurement system
inch
foot
yard

MINI LESSON

Spend the first few minutes of the lesson completing the fact fluency slides. These slides have students decompose dividends to divide by friendly numbers.

Using the PPT, complete the warm-up questions with students. These questions have students review measuring objects.

Using the PPT, introduce the following vocabulary terms: measurement system, inch, foot, and yard.

Have the students discuss which measurement to use to measure objects. Have them discuss if it is best to use inches, feet, or yards to measure objects.

Continue using the PPT to show students how to solve problems converting measurements within the same system.

INTERVENTION

Have students focus on solving problems with inches and feet. Then once students feel confident, have them work with problems involving yards.

EXTENSION

Encourage students to solve problems converting inches to yards and vice versa.

WRAP UP

Allow students time to complete the exit ticket. After everyone is finished, grade the exit ticket together and allow time for student feedback.

NOT SO WIMPY TEACHER

MINI LESSON

Spend the first few minutes of the lesson completing the fact fluency slides. These slides have students practice their speed with dividing basic facts.

Using the PPT, complete the warm-up questions with students. These questions have students review identifying and counting with fractions.

Using the PPT, introduce the term line plot and then use a model to show students a title, label, and symbol.

Use the data table to model how to make a line plot. Discuss how to choose a title, where to begin the number line, how to plot points, and how to align the points to make the graph easy to read.

Using the line plot you made, model how to answer questions analyzing the data in the line plot.

INTERVENTION

Have students make line plots with whole numbers. When students are confident, introduce halves. Have students work toward fourths and eighths.

EXTENSION

Have students collect their own data to make a line plot.

WRAP UP

Allow students time to complete the exit ticket. After everyone is finished, grade the exit ticket together and allow time for student feedback.

NOT SO WIMPY TEACHER

INCLUDES WHOLE GROUP LESSON PLANS!



9.12 MEET THE TEACHER

MATERIALS FOR TEACHER: journal pages for teacher and students, scissors, glue, pencil

MATERIALS FOR STUDENTS: journals, scissors, glue, pencils

APPROACHING
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Complete the first problem with the students. Have students walk you through how to solve the remaining problem. Have students solve the remaining problem on their own. Check together.

ON TRACK
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Model how to solve the first problem. Have students work in pairs to solve each problem. Pairs sit quietly until everyone is finished. Check each other's answers as a group.

MASTERED
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Have students complete the sheet on their own. Then, pair students up to check their answers. Have them correct any mistakes with their partners.

NOTES:

9.11 MEET THE TEACHER

MATERIALS FOR TEACHER: journal pages for teacher and students, scissors, glue, pencil

MATERIALS FOR STUDENTS: journals, scissors, glue, pencils

APPROACHING
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Work together to solve the first problem. Discuss the data. Discuss the number line, etc.

ON TRACK
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Have students represent the data. Review the number line, etc.

MASTERED
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Have students represent the data. Review the number line, etc.

NOTES:

9.18 MEET THE TEACHER

MATERIALS FOR TEACHER: journal pages for teacher and students, scissors, glue, pencil

MATERIALS FOR STUDENTS: journals, scissors, glue, pencils

APPROACHING
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Complete the first problem with the students. Have students walk you through how to solve the remaining problem. Have students solve the remaining problem on their own. Check together.

ON TRACK
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Model how to solve the first problem. Then, allow the students to work in pairs to solve each problem. Have the pairs sit quietly until everyone is finished. Check each other's answers as a group.

MASTERED
Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.
Have students complete the sheet on their own. Then, pair students up to check their answers. Have them correct any mistakes with their partners.

NOTES:

NOT SO WIMPY TEACHER

INCLUDES SMALL GROUP/ MEET WITH TEACHER LESSON PLANS

Unit 9 Lesson 4 Problem Set

Directions: Determine if the weight of each real-life item should be measured in pounds or ounces.

1. _____

Unit 9 Lesson 12 Homework

Directions: Use the data table to make a line plot.

1. Sugar Used (cups)

Unit 9 Lesson 12 Problem Set

Directions: Use the data table to make a line plot.

1. Basketball Circumference (in.)

13 1/2	13 1/2	13	14 1/4	14 3/8
14 3/8	14 3/8	13 3/8	13 3/8	13 3/8
14	13 3/4	14	13 1/4	14 1/4
14 3/8	13 1/4	14 1/2	14 1/4	13 3/8

2. How many basketballs measured greater than _____?

3. How many basketballs measured less than or equal to _____?

4. What was the most frequent measurement? _____

Directions: Use the data table to make a line plot.

5. Millipede Lengths (cm)

5 1/2	7 1/2	5 1/2
7 1/2	5 3/4	5 1/2
5 1/2	7 1/2	7 1/2
6 3/4	5 1/2	7 1/2
5	6	5 3/4

Unit 9 Lesson 15 Homework

Directions: Read and solve each problem by finding the area or perimeter.

Figure below.

3 cm

$9 + 3 + 6 + 2 + 3 + 5 = 28$

Perimeter = 28 cm

Mr. Jones's dollhouse is shown below. What is the area of the wall of his kitchen. What is the perimeter of the key holder?

Area = _____

Unit 9 Lesson 1 Exit Ticket

Directions: Determine if the length of each real-life item should be measured in inches, feet, or yards.

1. _____ 2. _____ 3. _____

Unit 9 Lesson 11 Exit Ticket

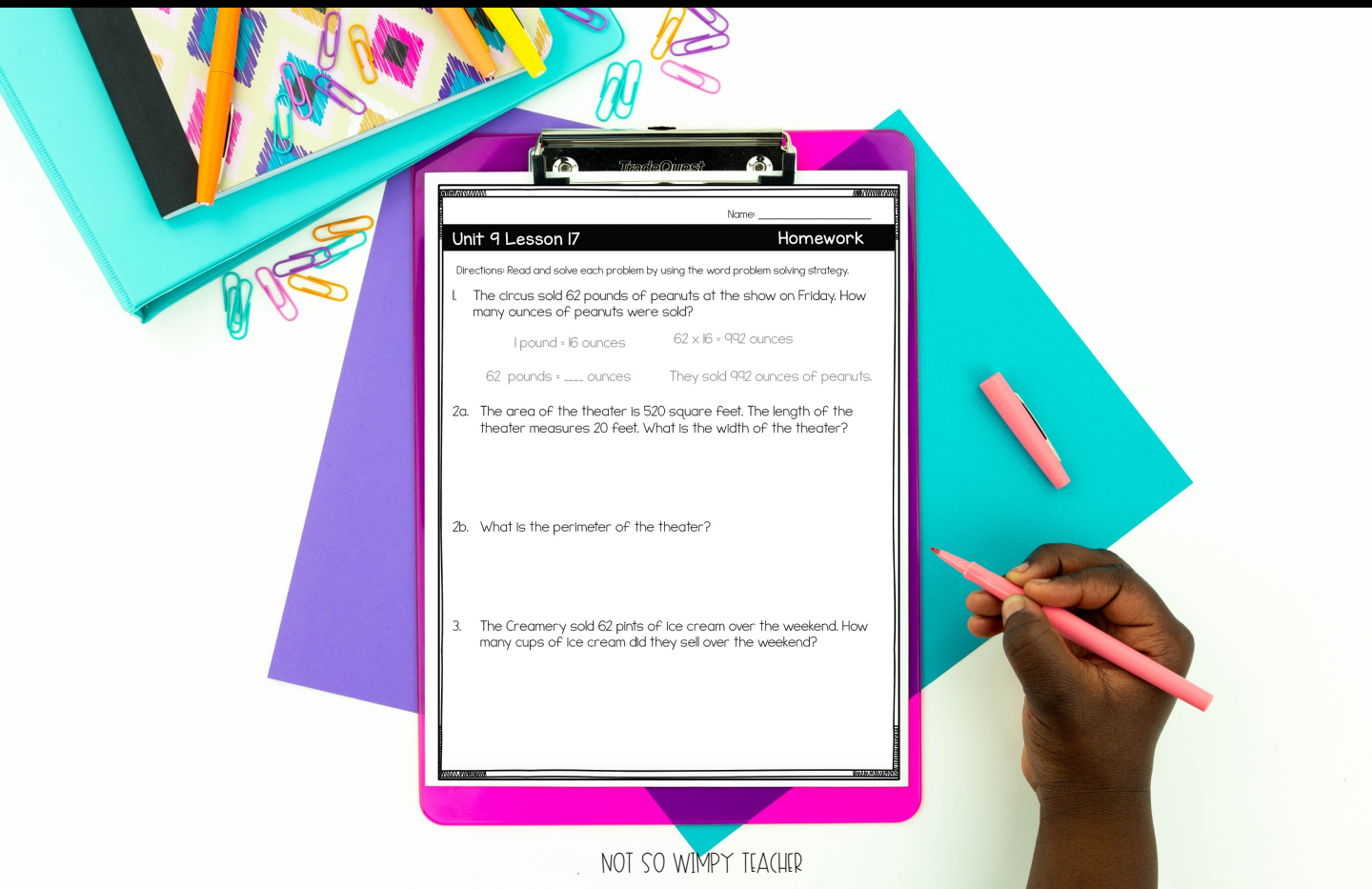
Directions: Use the data table to complete the line plot. Then use the data to answer the questions.

1. Summer Rainfall (in.)

Summer Rainfall (in.)		
3	2 1/2	2 1/4
2 1/4	3 1/2	3 3/4
3 1/4	2	2 1/2
3	3 1/4	3 3/4
2 1/4	2	2 1/4

2 2 1/4 2 1/2 2 3/4 3 3 1/4 3 1/2 3 3/4 4

INCLUDES PROBLEM SETS, HOMEWORK, AND EXIT TICKETS FOR EACH DAY



9.13 Area and Perimeter

Fact Fluency

I can find the area and perimeter

SPEED ROUND

Whisper shout the quotient as quickly as you can.

Warm Up

What is the product?

Area and Perimeter

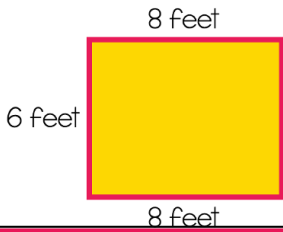
Vocabulary:

Area and Perimeter

Marcel is adding a trim around the wall he painted. How many feet of trim will he need?

Area: the equation used to find the area of a rectangle
 $\text{Area} = \text{length} \times \text{width}$

length



Marcel will need 8 + 8 + 6 + 6 = 28 feet of trim.

Centers

	MON.	TUES.	WED.	THURS.
GROUP 1	Meet the Teacher	Independent	Meet the Teacher	Independent
		Math Facts	Technology	Math Facts
		Meet the Teacher	Independent	Meet the Teacher
		Technology	Math Facts	Technology
		Math Facts	Technology	Math Facts
		Independent	Meet the Teacher	Independent
		Technology	Math Facts	Technology

Exit Ticket

Directions: Read and solve the problem.

- A rectangular patch of grass has a length of 13 feet and a width of 12 feet. What is the area and perimeter of the patch of grass?

INCLUDES DAILY POWERPOINTS FOR TEACHING MATH SKILLS.

REVIEW board game



CARD 10:
 Determine if the length of this object should be measured in inches, feet, or yards.

CARD 19:
 Fill in the blanks in the table.

Feet	Yards
3	
6	1
9	
	4

CARD 1:
 Determine if the volume of this item should be measured in cups or gallons?

pet bowl

games and task cards are included for end of unit review

UNIT NINE TASK CARDS MEASUREMENT & DATA

MEASUREMENT Name: _____

Directions: Read each card and record your answer in the box.

1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.

The softball team sold 70 pints of sports drink fundraiser. How many quarts did the team sell?

Identify the coin and its value.

Sonaj measured the distance between his house and his soccer net as 54 feet. How many yards away is his soccer net from his house?

Fill in the blanks in the table.

Pints	Gallons
16	2
48	4
	8

PBL ACTIVITY

MEASUREMENT & DATA

A RESTAURANT PROJECT-BASED LEARNING ACTIVITY



LAST-MINUTE SHOP

You were about to open your restaurant when you noticed you are missing items from the grocery store! You made a shopping list, but when you go to realize the items are sold in a different unit of measurement! Use your knowledge of measurement systems to convert the units.

SHOPPING LIST

- 10 pounds of peeled tomatoes
- 16 quarts of olive oil
- 5 pounds of milk
- 112 ounces of sugar
- 16 gallons of cheese
- 1600 milliliters of lemonade
- 16 pints of ice cream

CONVERSIONS

- _____ pounds of peeled tomatoes
- _____ milliliters of olive oil
- _____ gallons of milk
- _____ ounces of sugar
- _____ pounds of cheese
- _____ liters of lemonade
- _____ pints of ice cream

PREP TIMES

Let's plan how long it will take to prep and make a pizza! You will start at 11:00 a.m. On each clock, show the time you will finish each task. The first one is done for you. Use the schedule you create to answer the questions on the following page.

Step 1: Gather all the ingredients	Step 2: Mix the sauce ingredients	Step 3: Make dough and let it rise	Step 4: Roll out the dough	Step 5: Add the sauce and toppings	Step 6: Bake the pizza and serve
3 minutes	4 minutes	2 hours 13 minutes	7 minutes	4 minutes	16 minutes
11:03	:	:	:	:	:

MEAL DEALS

Calculate the total cost of each meal deal, then use the information to answer the questions.

MEAL DEAL 2	
ITEM	COST
Breadsticks	
2 Calzones	\$6.79
Gelato	\$9.99
TOTAL	\$2.29

MEAL DEAL 3	
ITEM	
4 Salads	
18-inch Pizza	
4 Brownies	
TOTAL	

- How much more is Meal Deal 3 than Meal Deal 2?
- How much would some...
- What...

INCLUDES A SPECIAL RESTAURANT-THEMED PROJECT-BASED LEARNING ACTIVITY



Unit 9

Directions: Circle which unit each object should be measured with.

1. needle
grams or kilograms pounds

2. book
pounds inches

4. clipboard
meters or centimeters inches

Unit 9

Directions: Use the data from the line plot to answer the questions.

Ribbon Length (in)		
3	2 1/2	2 1/4
2 1/4	3 1/2	3 3/4
3 1/4	2	2 1/2
3	3 1/4	3 3/4
2 1/2	2	2 1/4

Ribbon Length

Unit 9 Assessment

Directions: Read and solve each problem by using the word problem solving strategy.

27. Good Honey and Co. sold 72 pints of honey at the market. How many quarts of honey did they sell?

28. Ursula ran 900 yards after school. How many feet did she run?

Unit 9

Directions: Circle which unit each object should be measured with.

1. needle
grams or kilograms pounds

2. book
pounds inches

4. clipboard
meters or centimeters inches

Directions: Use your knowledge of measurement to solve the problems.

Skill	Measurement Systems	Conversion Tables	Money	Make a Line Plot	Analyzing Line Plots	Area and Perimeter	Decimals: Fractions	Measurement Systems: Word Problems	
Student	1-6	7-10	11-16	17	18-20	21-24	25-26	27-31	TOTAL
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31
	___/6	___/4	___/6	___/1	___/3	___/4	___/2	___/5	___/31

Assessment Answer Key

Directions: Use the data from the line plot to answer the questions.

Ribbon Length (in)

or greater? 7 ribbons

in 2 1/2 inches? 5 ribbons

measured? 5 ribbons

7.

Minutes	Seconds
1	60
2	120
3	180

9.

Inches	Feet
12	1
24	2
36	3

Directions: Use the data table to make a line plot that represents the data.

17.

Spring Rainfall (in)		
2 1/4	2	2 3/4
1	2 3/4	1 1/4
1 1/2	1	2 1/4
1	2 1/4	2
2 1/2	1 3/4	2 1/2

Spring Rainfall (in)

21. A sound booth measures 7 feet wide by 16 feet long. What is the area of the booth?

$16 \times 7 = 112$
The area of the booth is 112 sq. ft.

22. An artist is painting a border around his mural. The mural is 18 feet long by 29 feet wide. How many feet long will the border be?

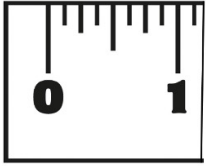
$18 \cdot 29 + 18 + 29 = 94$
The border will be 94 feet long.

INCLUDES PRE- AND POST-ASSESSMENTS, ANSWER KEYS AND A RUBRIC FOR TRACKING STUDENT PROGRESS

INCH, FOOT, & YARD

used to measure

Inch: in.



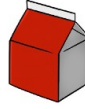
Foot

=
12 inches

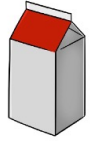
NOT SO WIMPY

CUP, PINT, QUART, GALLON

Cup =
8 ounces



Pint =
16 ounces



Quart =
32 ounces



Gallon =
128 ounces



NOT SO WIMPY TEACHER

FOR USE WITH LESSON 9.6

VOCABULARY CARDS AND ANCHOR CHARTS
FOR TEACHER AND STUDENTS TO
REFERENCE THROUGHOUT THE UNIT

MEASUREMENT SYSTEM

a collection of units and rules
used to measure objects



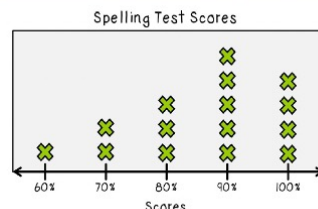
KILOMETER

unit of measurement in the metric

1 kilometer
=
1,000 meters

LINE PLOT

displays data using points
over a number line



NOT SO WIMPY TEACHER

9.8 MEASUREMENT

I CAN STATEMENT

I can use and convert seconds, minutes, and hours to solve problems.

MATERIALS

9.8 PowerPoint
9.8 printouts

MINI LESSON

Spend the first few minutes of the lesson. These slides have students decompose division numbers.

Using the PPT, complete the warm-up questions. These slides have students review finding equivalent numbers.

Using the PPT, review the vocabulary terms. Introduce second, minute, and hour.

Ask the students to put minute, hour, and greatest. Allow them time to discuss and compare.

Model how to solve problems converting units.

INTERVENTION

9.11 MEET THE TEACHER

MATERIALS FOR TEACHER: journal pages for teacher and students, scissors, glue, pencil

MATERIALS FOR STUDENTS: journals, scissors, glue, pencils

APPROACHING

Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages.

Work together with students to make a line plot that models that data. Discuss where to put a title, how to number the number line, how to determine how to order the numbers, etc.

ON TRACK

Model how to quickly cut and glue the journal page. Have students show you that they can do the same using their journal pages.

Have student work in pairs to make a line plot that represents the data. Check each group's work as they finish. Reteach where necessary.

MASTERS

Model how to quickly cut and glue the journal page. Have students show you that they can do the same using their journal pages.

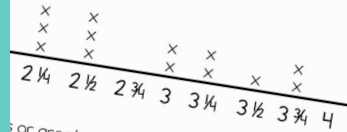
Have students complete the line plot on their own. When they are finished, have them pair up to check their work. If the work matches, encourage students to write their own questions to analyze the data.

NOTES:

Name: _____

Assessment

Use the line plot to answer the questions.
Ribbon Length (in)



How many are greater than 2 1/2 inches?

How many are less than 2 1/2 inches?

How many are equal to 2 1/2 inches?

A square is 16 feet wide by 16 feet long. What is the perimeter?

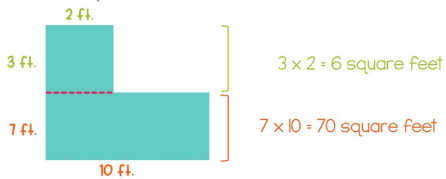
Find the area of the mural. The mural is 18 feet long and 12 feet wide. How long will the border be?

GRAM AND KILOGRAM

Mass: the amount of matter in an object

RECTILINEAR SHAPES: AREA

Break the shape into rectangles.



Find the area (the space inside the shape) of each, and add them together.

MEASUREMENT SYSTEM

a collection of units and rules used to measure objects



KILOMETER

unit of measurement in the metric system

1 kilometer = _____

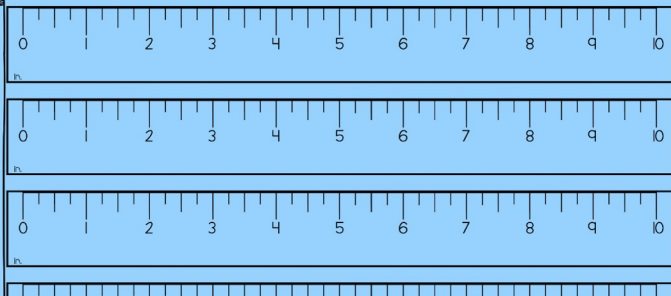
LINE PLOT

displays data using points

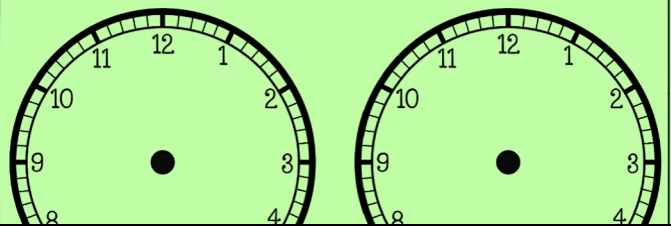
Spelling Test Scores



Rulers



Blank Clocks



each day of math is fully planned for you with all the tools you'll need!