



A STORY OF UNITS



Mathematics Curriculum



Grade 3 • MODULE 2

Place Value and Problem Solving with Units of Measure

PROBLEM SETS

Video tutorials: <http://embarc.online>

Version 3



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GRADE 3 • MODULE 2

Place Value and Problem Solving with Units of Measure

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Name _____

Date _____

1. Use a stopwatch. How long does it take you to snap your fingers 10 times?

It takes _____ to snap
10 times.

2. Use a stopwatch. How long does it take to write every whole number from 0 to 25?



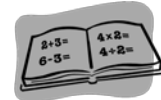
It takes _____ to write
every whole number from 0 to 25.

3. Use a stopwatch. How long does it take you to name 10 animals? Record them below.









It takes _____ to name
10 animals.

4. Use a stopwatch. How long does it take you to write $7 \times 8 = 56$ fifteen times? Record the time below.



It takes _____ to write
 $7 \times 8 = 56$ fifteen times.

5. Work with your group. Use a stopwatch to measure the time for each of the following activities.

Activity		Time
Write your full name.		_____ seconds
Do 20 jumping jacks.		
Whisper count by twos from 0 to 30.		
Draw 8 squares.		
Skip-count out loud by fours from 24 to 0.		
Say the names of your teachers from Kindergarten to Grade 3.		

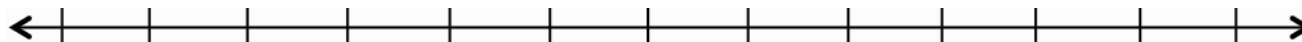
6. 100 meter relay: Use a stopwatch to measure and record your team's times.

Name	Time
	Total time:

Name _____

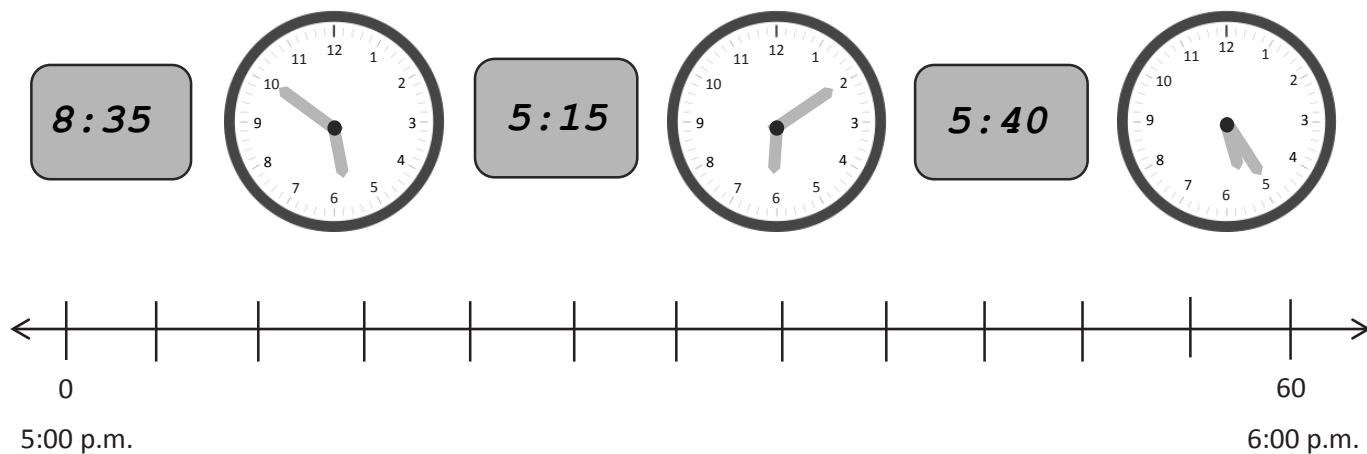
Date _____

1. Follow the directions to label the number line below.

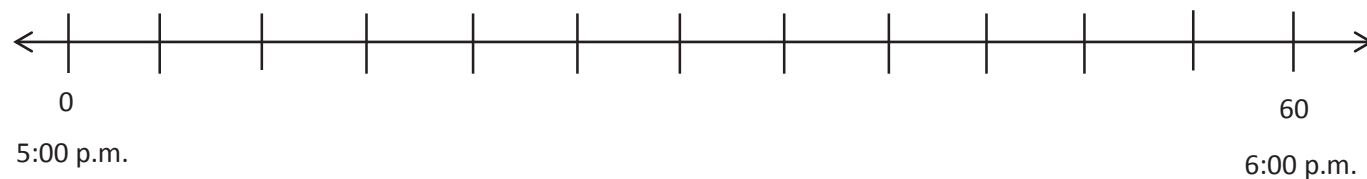


- a. Ingrid gets ready for school between 7:00 a.m. and 8:00 a.m. Label the first and last tick marks as 7:00 a.m. and 8:00 a.m.
- b. Each interval represents 5 minutes. Count by fives starting at 0, or 7:00 a.m. Label each 5-minute interval below the number line up to 8:00 a.m.
- c. Ingrid starts getting dressed at 7:10 a.m. Plot a point on the number line to represent this time. Above the point, write *D*.
- d. Ingrid starts eating breakfast at 7:35 a.m. Plot a point on the number line to represent this time. Above the point, write *E*.
- e. Ingrid starts brushing her teeth at 7:40 a.m. Plot a point on the number line to represent this time. Above the point, write *T*.
- f. Ingrid starts packing her lunch at 7:45 a.m. Plot a point on the number line to represent this time. Above the point, write *L*.
- g. Ingrid starts waiting for the bus at 7:55 a.m. Plot a point on the number line to represent this time. Above the point, write *W*.

2. Label every 5 minutes below the number line shown. Draw a line from each clock to the point on the number line which shows its time. Not all of the clocks have matching points.



3. Noah uses a number line to locate 5:45 p.m. Each interval is 5 minutes. The number line shows the hour from 5 p.m. to 6 p.m. Label the number line below to show his work.

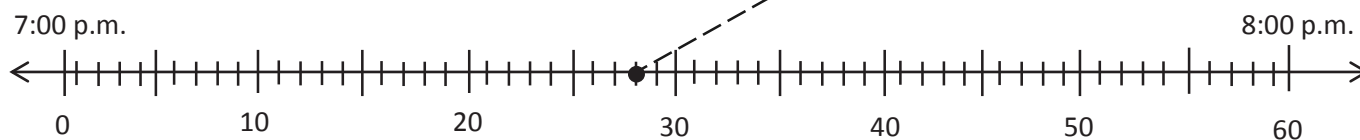
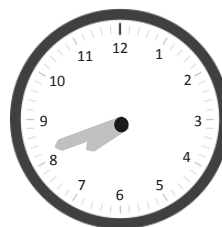
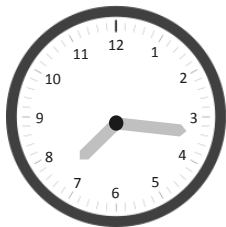


4. Tanner tells his little brother that 11:25 p.m. comes after 11:20 a.m. Do you agree with Tanner? Why or why not?

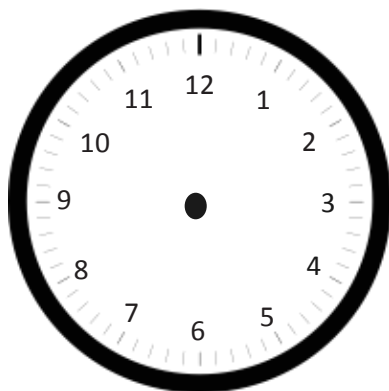
Name _____

Date _____

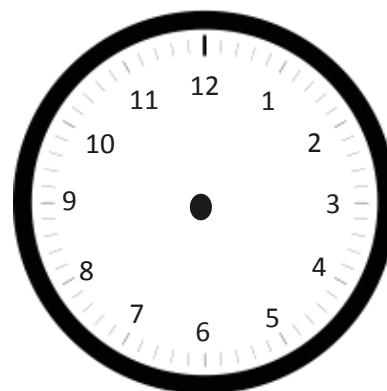
1. Plot a point on the number line for the times shown on the clocks below. Then, draw a line to match the clocks to the points.



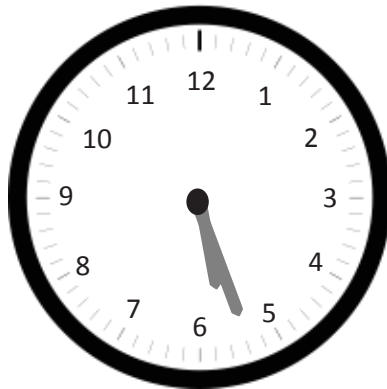
2. Jessie woke up this morning at 6:48 a.m. Draw hands on the clock below to show what time Jessie woke up.



3. Mrs. Barnes starts teaching math at 8:23 a.m. Draw hands on the clock below to show what time Mrs. Barnes starts teaching math.

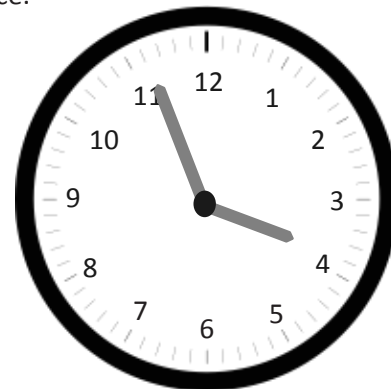


4. The clock shows what time Rebecca finishes her homework. What time does Rebecca finish her homework?



Rebecca finishes her homework at _____.

5. The clock below shows what time Mason's mom drops him off for practice.
a. What time does Mason's mom drop him off?



- b. Mason's coach arrived 11 minutes before Mason. What time did Mason's coach arrive?

Name _____

Date _____

Use a number line to answer Problems 1 through 5.

1. Cole starts reading at 6:23 p.m. He stops at 6:49 p.m. How many minutes does Cole read?

Cole reads for _____ minutes.

2. Natalie finishes piano practice at 2:45 p.m. after practicing for 37 minutes. What time did Natalie's practice start?

Natalie's practice started at _____ p.m.

3. Genevieve works on her scrapbook from 11:27 a.m. to 11:58 a.m. How many minutes does she work on her scrapbook?

Genevieve works on her scrapbook for _____ minutes.

4. Nate finishes his homework at 4:47 p.m. after working on it for 38 minutes. What time did Nate start his homework?

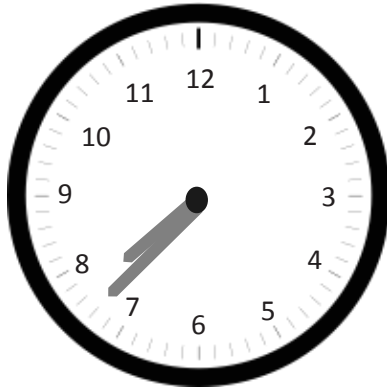
Nate started his homework at _____ p.m.

5. Andrea goes fishing at 9:03 a.m. She fishes for 49 minutes. What time is Andrea done fishing?

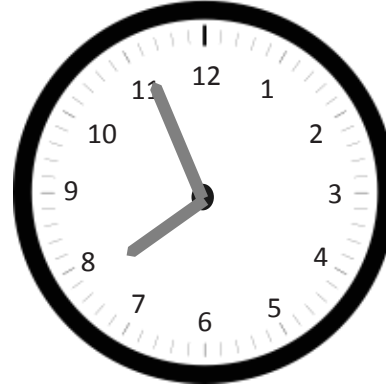
Andrea is done fishing at _____ a.m.

6. Dion walks to school. The clocks below show when he leaves his house and when he arrives at school. How many minutes does it take Dion to walk to school?

Dion leaves his house:



Dion arrives at school:

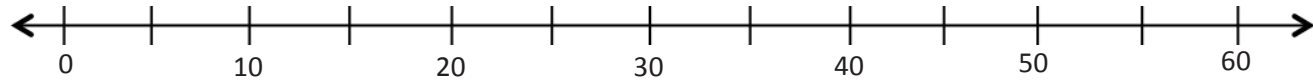


-
7. Sydney cleans her room for 45 minutes. She starts at 11:13 a.m. What time does Sydney finish cleaning her room?

-
8. The third-grade chorus performs a musical for the school. The musical lasts 42 minutes. It ends at 1:59 p.m. What time did the musical start?

Name _____ Date _____

1. Cole read his book for 25 minutes yesterday and for 28 minutes today. How many minutes did Cole read altogether? Model the problem on the number line, and write an equation to solve.



Cole read for _____ minutes.

2. Tessa spends 34 minutes washing her dog. It takes her 12 minutes to shampoo and rinse and the rest of the time to get the dog in the bathtub! How many minutes does Tessa spend getting her dog in the bathtub? Draw a number line to model the problem, and write an equation to solve.

3. Tessa walks her dog for 47 minutes. Jeremiah walks his dog for 30 minutes. How many more minutes does Tessa walk her dog than Jeremiah?

4. a. It takes Austin 4 minutes to take out the garbage, 12 minutes to wash the dishes, and 13 minutes to mop the kitchen floor. How long does it take Austin to do his chores?
- b. Austin's bus arrives at 7:55 a.m. If he starts his chores at 7:30 a.m., will he be done in time to meet his bus? Explain your reasoning.
5. Gilberto's cat sleeps in the sun for 23 minutes. It wakes up at the time shown on the clock below. What time did the cat go to sleep?



Name _____

Date _____

1. Illustrate and describe the process of making a 1-kilogram weight.
2. Illustrate and describe the process of decomposing 1 kilogram into groups of 100 grams.
3. Illustrate and describe the process of decomposing 100 grams into groups of 10 grams.

4. Illustrate and describe the process of decomposing 10 grams into groups of 1 gram.
5. Compare the two place value charts below. How does today's exploration using kilograms and grams relate to your understanding of place value?

1 kilogram	100 grams	10 grams	1 gram

Thousands	Hundreds	Tens	Ones

Name _____

Date _____

Work with a partner. Use the corresponding weights to estimate the weight of objects in the classroom. Then, check your estimate by weighing on a scale.

A.

Objects that Weigh About 1 Kilogram	Actual Weight

B.

Objects that Weigh About 100 Grams	Actual Weight

C.

Objects that Weigh About 10 Grams	Actual Weight

D.

Objects that Weigh About 1 Gram	Actual Weight

E. Circle the correct unit of weight for each estimation.

1. A box of cereal weighs about 350 (grams / kilograms).
2. A watermelon weighs about 3 (grams / kilograms).
3. A postcard weighs about 6 (grams / kilograms).
4. A cat weighs about 4 (grams / kilograms).
5. A bicycle weighs about 15 (grams / kilograms).
6. A lemon weighs about 58 (grams / kilograms).

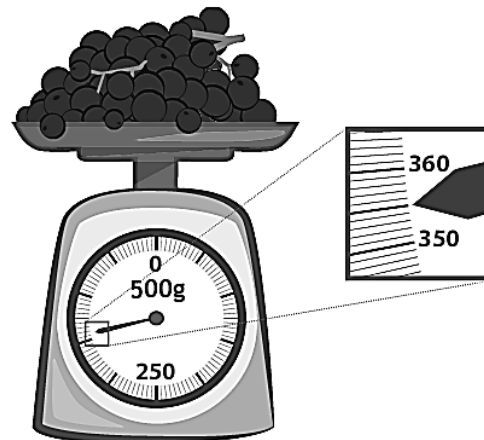
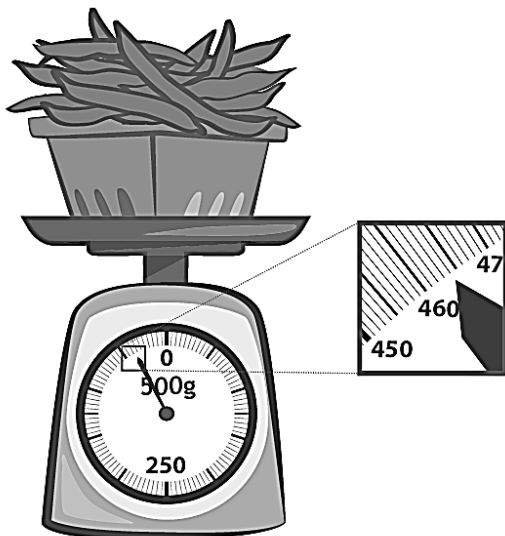
F. During the exploration, Derrick finds that his bottle of water weighs the same as a 1-kilogram bag of rice. He then exclaims, “Our class laptop weighs the same as 2 bottles of water!” How much does the laptop weigh in kilograms? Explain your reasoning.

G. Nessa tells her brother that 1 kilogram of rice weighs the same as 10 bags containing 100 grams of beans each. Do you agree with her? Explain why or why not.

Name _____

Date _____

1. Tim goes to the market to buy fruits and vegetables. He weighs some string beans and some grapes.



List the weights for both the string beans and grapes.

The string beans weigh _____ grams.

The grapes weigh _____ grams.

2. Use tape diagrams to model the following problems. Keiko and her brother Jiro get weighed at the doctor's office. Keiko weighs 35 kilograms, and Jiro weighs 43 kilograms.

- a. What is Keiko and Jiro's total weight?

Keiko and Jiro weigh _____ kilograms.

- b. How much heavier is Jiro than Keiko?

Jiro is _____ kilograms heavier than Keiko.

3. Jared estimates that his houseplant is as heavy as a 5-kilogram bowling ball. Draw a tape diagram to estimate the weight of 3 houseplants.

4. Jane and her 8 friends go apple picking. They share what they pick equally. The total weight of the apples they pick is shown to the right.
- a. About how many kilograms of apples will Jane take home?



- b. Jane estimates that a pumpkin weighs about as much as her share of the apples. About how much do 7 pumpkins weigh altogether?

Name _____

Date _____

Part 1

- a. Predict whether each container holds less than, more than, or about the same as 1 liter.

Container 1 holds	less than / more than / about the same as	1 liter.	Actual:
Container 2 holds	less than / more than / about the same as	1 liter.	Actual:
Container 3 holds	less than / more than / about the same as	1 liter.	Actual:
Container 4 holds	less than / more than / about the same as	1 liter.	Actual:

- b. After measuring, what surprised you? Why?

Part 2

- c. Illustrate and describe the process of decomposing 1 liter of water into 10 smaller units.

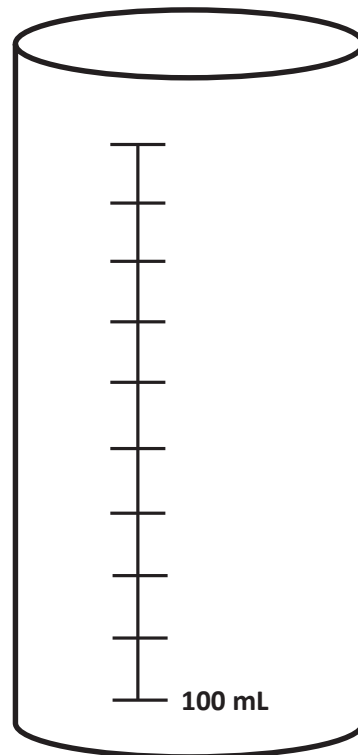
- d. Illustrate and describe the process of decomposing Cup K into 10 smaller units.
- e. Illustrate and describe the process of decomposing Cup L into 10 smaller units.
- f. What is the same about decomposing 1 liter into milliliters and decomposing 1 kilogram into grams?
- g. One liter of water weighs 1 kilogram. How much does 1 milliliter of water weigh? Explain how you know.

Name _____

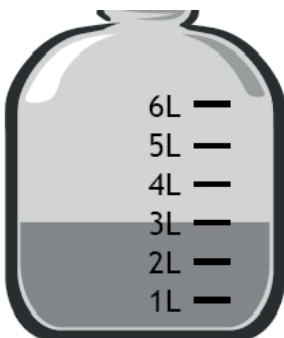
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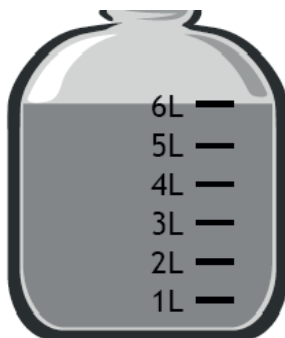
1. Label the vertical number line on the container to the right. Answer the questions below.

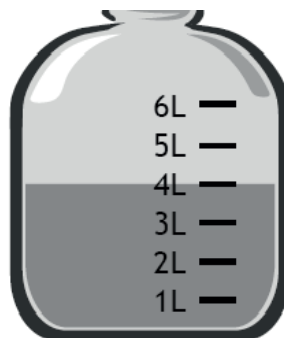
- What did you label as the halfway mark? Why?
- Explain how pouring each plastic cup of water helped you create a vertical number line.
- If you pour out 300 mL of water, how many mL are left in the container?

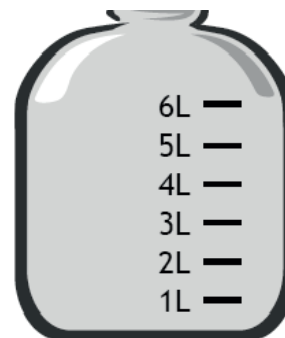


2. How much liquid is in each container?

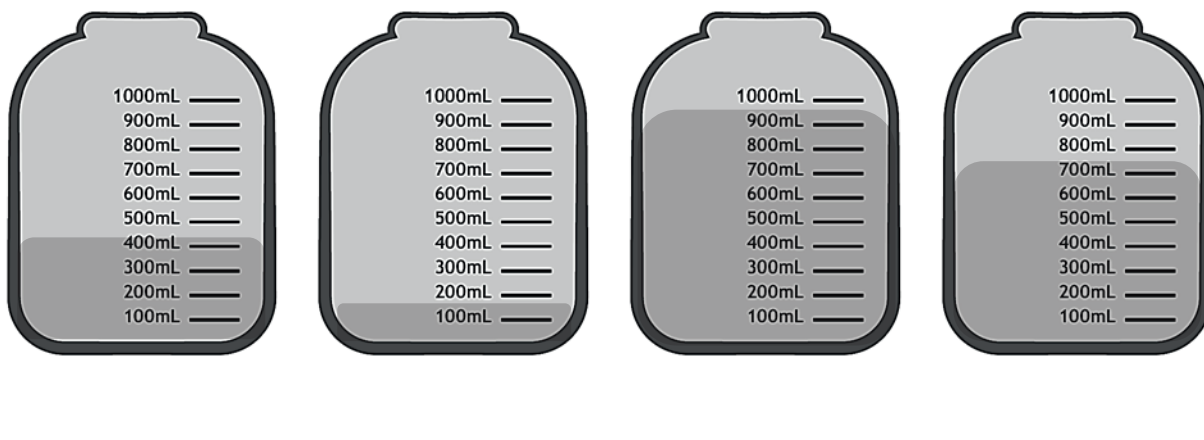








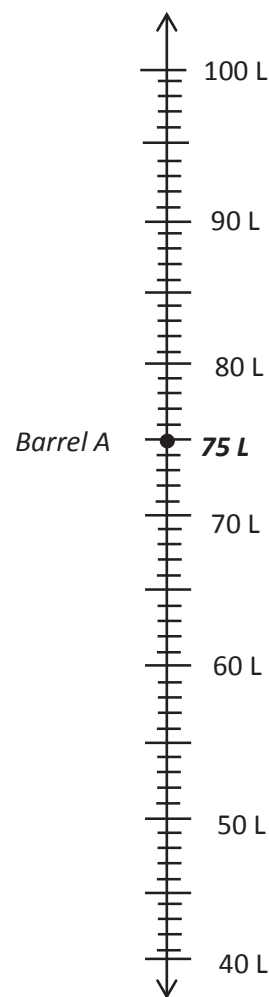
3. Estimate the amount of liquid in each container to the nearest hundred milliliters.



4. The chart below shows the capacity of 4 barrels.

Barrel A	75 liters
Barrel B	68 liters
Barrel C	96 liters
Barrel D	52 liters

- Label the number line to show the capacity of each barrel. Barrel A has been done for you.
- Which barrel has the greatest capacity?
- Which barrel has the smallest capacity?
- Ben buys a barrel that holds about 70 liters. Which barrel did he most likely buy? Explain why.
- Use the number line to find how many more liters Barrel C can hold than Barrel B.



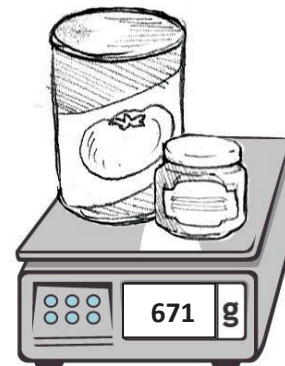
Name _____

Date _____

1. The total weight in grams of a can of tomatoes and a jar of baby food is shown to the right.

a. The jar of baby food weighs 113 grams. How much does the can of tomatoes weigh?

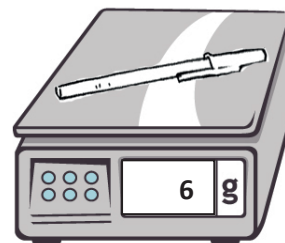
b. How much more does the can of tomatoes weigh than the jar of baby food?



2. The weight of a pen in grams is shown to the right.

a. What is the total weight of 10 pens?

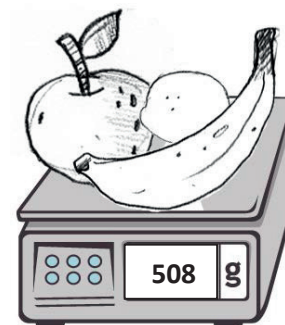
b. An empty box weighs 82 grams. What is the total weight of a box of 10 pens?



3. The total weight of an apple, lemon, and banana in grams is shown to the right.

a. If the apple and lemon together weigh 317 grams, what is the weight of the banana?

b. If we know the lemon weighs 68 grams less than the banana, how much does the lemon weigh?



c. What is the weight of the apple?

4. A frozen turkey weighs about 5 kilograms. The chef orders 45 kilograms of turkey. Use a tape diagram to find about how many frozen turkeys he orders.

-
5. A recipe requires 300 milliliters of milk. Sara decides to triple the recipe for dinner. How many milliliters of milk does she need to cook dinner?

-
6. Marian pours a full container of water equally into buckets. Each bucket has a capacity of 4 liters. After filling 3 buckets, she still has 2 liters left in her container. What is the capacity of her container?

Name _____ Date _____

1. Work with a partner. Use a ruler or a meter stick to complete the chart below.

Object	Measurement (in cm)	The object measures between (which two tens)...	Length rounded to the nearest 10 cm
<i>Example:</i> My shoe	23 cm	___ 20 ___ and ___ 30 ___ cm	20 cm
Long side of a desk		_____ and _____ cm	
A new pencil		_____ and _____ cm	
Short side of a piece of paper		_____ and _____ cm	
Long side of a piece of paper		_____ and _____ cm	

2. Work with a partner. Use a digital scale to complete the chart below.

Bag	Measurement (in g)	The bag of rice measures between (which two tens)...	Weight rounded to the nearest 10 g
<i>Example:</i> Bag A	8 g	___ 0 ___ and ___ 10 ___ g	10 g
Bag B		_____ and _____ g	
Bag C		_____ and _____ g	
Bag D		_____ and _____ g	
Bag E		_____ and _____ g	

3. Work with a partner. Use a beaker to complete the chart below.

Container	Measurement (in mL)	The container measures between (which two tens)...	Liquid volume rounded to the nearest 10 mL
<i>Example:</i> Container A	33 mL	<u>30</u> and <u>40</u> mL	30 mL
Container B		_____ and _____ mL	
Container C		_____ and _____ mL	
Container D		_____ and _____ mL	
Container E		_____ and _____ mL	

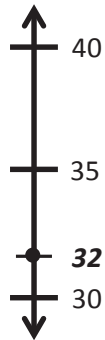
4. Work with a partner. Use a clock to complete the chart below.

Activity	Actual time	The activity measures between (which two tens)...	Time rounded to the nearest 10 minutes
<i>Example:</i> Time we started math	10:03	<u>10:00</u> and <u>10:10</u>	10:00
Time I started the Problem Set		_____ and _____	
Time I finished Station 1		_____ and _____	
Time I finished Station 2		_____ and _____	
Time I finished Station 3		_____ and _____	

Name _____ Date _____

1. Round to the nearest ten. Use the number line to model your thinking.

a. $32 \approx$ _____



b. $36 \approx$ _____



c. $62 \approx$ _____



d. $162 \approx$ _____





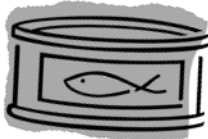
e. $278 \approx$ _____



f. $405 \approx$ _____



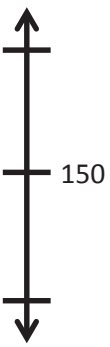





2. Round the weight of each item to the nearest 10 grams. Draw number lines to model your thinking.

Item	Number Line	Round to the nearest 10 grams
 36 grams		
 52 grams		
 142 grams		

3. Carl's basketball game begins at 3:03 p.m. and ends at 3:51 p.m.
- How many minutes did Carl's basketball game last?
 - Round the total number of minutes in the game to the nearest 10 minutes.

Name _____ Date _____

1. Round to the nearest hundred. Use the number line to model your thinking.

<p>a. $143 \approx$ _____</p> 	<p>b. $286 \approx$ _____</p> 
<p>c. $320 \approx$ _____</p> 	<p>d. $1,320 \approx$ _____</p> 
<p>e. $1,572 \approx$ _____</p> 	<p>f. $1,250 \approx$ _____</p> 

2. Complete the chart.

a. Shauna has 480 stickers. Round the number of stickers to the nearest hundred.	
b. There are 525 pages in a book. Round the number of pages to the nearest hundred.	
c. A container holds 750 milliliters of water. Round the capacity to the nearest 100 milliliters.	
d. Glen spends \$1,297 on a new computer. Round the amount Glen spends to the nearest \$100.	
e. The drive between two cities is 1,842 kilometers. Round the distance to the nearest 100 kilometers.	

3. Circle the numbers that round to 600 when rounding to the nearest hundred.

527

550

639

681

713

603

4. The teacher asks students to round 1,865 to the nearest hundred. Christian says that it is one thousand, nine hundred. Alexis disagrees and says it is 19 hundreds. Who is correct? Explain your thinking.

Name _____

Date _____

1. Find the sums below. Choose mental math or the algorithm.

a. $46 \text{ mL} + 5 \text{ mL}$

b. $46 \text{ mL} + 25 \text{ mL}$

c. $46 \text{ mL} + 125 \text{ mL}$

d. $59 \text{ cm} + 30 \text{ cm}$

e. $509 \text{ cm} + 83 \text{ cm}$

f. $597 \text{ cm} + 30 \text{ cm}$

g. $29 \text{ g} + 63 \text{ g}$

h. $345 \text{ g} + 294 \text{ g}$

i. $480 \text{ g} + 476 \text{ g}$

j. $1 \text{ L } 245 \text{ mL} + 2 \text{ L } 412 \text{ mL}$

k. $2 \text{ kg } 509 \text{ g} + 3 \text{ kg } 367 \text{ g}$

2. Nadine and Jen buy a small bag of popcorn and a pretzel at the movie theater. The pretzel weighs 63 grams more than the popcorn. What is the weight of the pretzel?



? grams



44 grams

3. In math class, Jason and Andrea find the total liquid volume of water in their beakers. Jason says the total is 782 milliliters, but Andrea says it is 792 milliliters. The amount of water in each beaker can be found in the table to the right. Show whose calculation is correct. Explain the mistake of the other student.

Student	Liquid Volume
Jason	475 mL
Andrea	317 mL

4. It takes Greg 15 minutes to mow the front lawn. It takes him 17 more minutes to mow the back lawn than the front lawn. What is the total amount of time Greg spends mowing the lawns?

Name _____

Date _____

1. Find the sums below.

a. $52 \text{ mL} + 68 \text{ mL}$

b. $352 \text{ mL} + 68 \text{ mL}$

c. $352 \text{ mL} + 468 \text{ mL}$

d. $56 \text{ cm} + 94 \text{ cm}$

e. $506 \text{ cm} + 94 \text{ cm}$

f. $506 \text{ cm} + 394 \text{ cm}$

g. $697 \text{ g} + 138 \text{ g}$

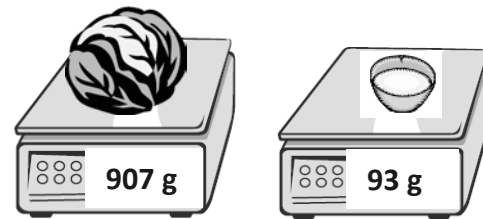
h. $345 \text{ g} + 597 \text{ g}$

i. $486 \text{ g} + 497 \text{ g}$

j. $3 \text{ L } 251 \text{ mL} + 1 \text{ L } 549 \text{ mL}$

k. $4 \text{ kg } 384 \text{ g} + 2 \text{ kg } 467 \text{ g}$

2. Lane makes sauerkraut. He weighs the amounts of cabbage and salt he uses. Draw and label a tape diagram to find the total weight of the cabbage and salt Lane uses.



3. Sue bakes mini-muffins for the school bake sale. After wrapping 86 muffins, she still has 58 muffins left cooling on the table. How many muffins did she bake altogether?

4. The milk carton to the right holds 183 milliliters more liquid than the juice box. What is the total capacity of the juice box and milk carton?



Name _____ Date _____

1. a. Find the actual sum either on paper or using mental math. Round each addend to the nearest hundred, and find the estimated sums.

A

$$451 + 253 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$451 + 249 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$448 + 249 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Circle the estimated sum that is the closest to its real sum.

B

$$356 + 161 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$356 + 148 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$347 + 149 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Circle the estimated sum that is the closest to its real sum.

C

$$652 + 158 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$647 + 158 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$647 + 146 = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Circle the estimated sum that is the closest to its real sum.

- b. Look at the sums that gave the most precise estimates. Explain below what they have in common. You might use a number line to support your explanation.

2. Janet watched a movie that is 94 minutes long on Friday night. She watched a movie that is 151 minutes long on Saturday night.
 - a. Decide how to round the minutes. Then, estimate the total minutes Janet watched movies on Friday and Saturday.
 - b. How much time did Janet actually spend watching movies?
 - c. Explain whether or not your estimated sum is close to the actual sum. Round in a different way, and see which estimate is closer.
3. Sadie, a bear at the zoo, weighs 182 kilograms. Her cub weighs 74 kilograms.
 - a. Estimate the total weight of Sadie and her cub using whatever method you think best.
 - b. What is the actual weight of Sadie and her cub? Model the problem with a tape diagram.

Name _____

Date _____

1. Solve the subtraction problems below.

a. $60 \text{ mL} - 24 \text{ mL}$

b. $360 \text{ mL} - 24 \text{ mL}$

c. $360 \text{ mL} - 224 \text{ mL}$

d. $518 \text{ cm} - 21 \text{ cm}$

e. $629 \text{ cm} - 268 \text{ cm}$

f. $938 \text{ cm} - 440 \text{ cm}$

g. $307 \text{ g} - 130 \text{ g}$

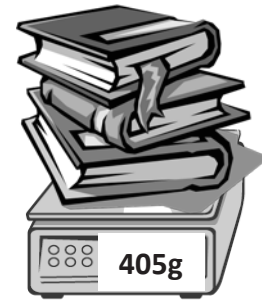
h. $307 \text{ g} - 234 \text{ g}$

i. $807 \text{ g} - 732 \text{ g}$

j. $2 \text{ km } 770 \text{ m} - 1 \text{ km } 455 \text{ m}$

k. $3 \text{ kg } 924 \text{ g} - 1 \text{ kg } 893 \text{ g}$

2. The total weight of 3 books is shown to the right. If 2 books weigh 233 grams, how much does the third book weigh? Use a tape diagram to model the problem.



3. The chart to the right shows the lengths of three movies.

- a. The movie *Champions* is 22 minutes shorter than *The Lost Ship*. How long is *Champions*?

<i>The Lost Ship</i>	117 minutes
<i>Magical Forests</i>	145 minutes
<i>Champions</i>	? minutes

- b. How much longer is *Magical Forests* than *Champions*?

4. The total length of a rope is 208 centimeters. Scott cuts it into 3 pieces. The first piece is 80 centimeters long. The second piece is 94 centimeters long. How long is the third piece of rope?

Name _____

Date _____

1. Solve the subtraction problems below.

a. $340 \text{ cm} - 60 \text{ cm}$

b. $340 \text{ cm} - 260 \text{ cm}$

c. $513 \text{ g} - 148 \text{ g}$

d. $641 \text{ g} - 387 \text{ g}$

e. $700 \text{ mL} - 52 \text{ mL}$

f. $700 \text{ mL} - 452 \text{ mL}$

g. $6 \text{ km } 802 \text{ m} - 2 \text{ km } 569 \text{ m}$

h. $5 \text{ L } 920 \text{ mL} - 3 \text{ L } 869 \text{ mL}$

2. David is driving from Los Angeles to San Francisco. The total distance is 617 kilometers. He has 468 kilometers left to drive. How many kilometers has he driven so far?

3. The piano weighs 289 kilograms more than the piano bench. How much does the bench weigh?



4. Tank A holds 165 fewer liters of water than Tank B. Tank B holds 400 liters of water. How much water does Tank A hold?

Name _____

Date _____

1. a. Find the actual differences either on paper or using mental math. Round each total and part to the nearest hundred and find the estimated differences.

A

$$448 - 153 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$451 - 153 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$448 - 149 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$451 - 149 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Circle the estimated differences that are the closest to the actual differences.

B

$$747 - 261 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$756 - 261 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$747 - 249 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$756 - 248 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Circle the estimated differences that are the closest to the actual differences.

- b. Look at the differences that gave the most precise estimates. Explain below what they have in common. You might use a number line to support your explanation.

2. Camden uses a total of 372 liters of gas in two months. He uses 184 liters of gas in the first month. How many liters of gas does he use in the second month?
- Estimate the amount of gas Camden uses in the second month by rounding each number as you think best.
 - How many liters of gas does Camden actually use in the second month? Model the problem with a tape diagram.

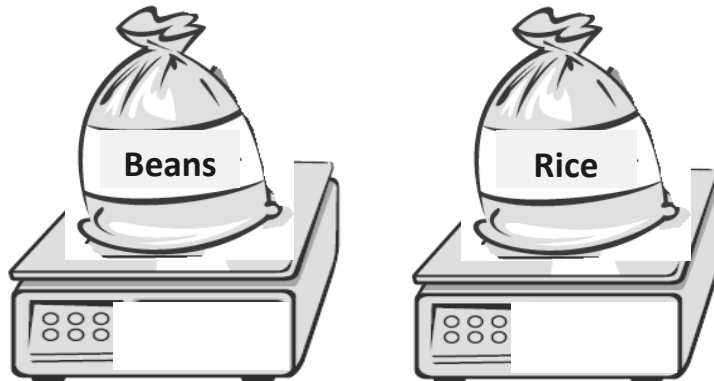
3. The weight of a pear, apple, and peach are shown to the right. The pear and apple together weigh 372 grams. How much does the peach weigh?
- Estimate the weight of the peach by rounding each number as you think best. Explain your choice.



- How much does the peach actually weigh? Model the problem with a tape diagram.

Name _____ Date _____

1. Weigh the bags of beans and rice on the scale. Then, write the weight on the scales below.



- a. Estimate, and then find the total weight of the beans and rice.

Estimate: _____ + _____ \approx _____ + _____ = _____

Actual: _____ + _____ = _____

- b. Estimate, and then find the difference between the weight of the beans and rice.

Estimate: _____ - _____ \approx _____ - _____ = _____

Actual: _____ - _____ = _____

- c. Are your answers reasonable? Explain why.

2. Measure the lengths of the three pieces of yarn.
- a. Estimate the total length of Yarn A and Yarn C. Then, find the actual total length.

Yarn A	_____ cm \approx _____ cm
Yarn B	_____ cm \approx _____ cm
Yarn C	_____ cm \approx _____ cm

- b. Subtract to estimate the difference between the total length of Yarns A and C, and the length of Yarn B. Then, find the actual difference. Model the problem with a tape diagram.

3. Plot the amount of liquid in the three containers on the number lines below. Then, round to the nearest 10 milliliters.

Container D



Container E



Container F



- a. Estimate the total amount of liquid in three containers. Then, find the actual amount.
- b. Estimate to find the difference between the amount of water in Containers D and E. Then, find the actual difference. Model the problem with a tape diagram.

4. Shane watches a movie in the theater that is 115 minutes long, including the trailers. The chart to the right shows the length in minutes of each trailer.

Trailer	Length in minutes
1	5 minutes
2	4 minutes
3	3 minutes
4	5 minutes
5	4 minutes
Total	

- a. Find the total number of minutes for all 5 trailers.
- b. Estimate to find the length of the movie without trailers. Then, find the actual length of the movie by calculating the difference between 115 minutes and the total minutes of trailers.

- c. Is your answer reasonable? Explain why.



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