

A Story of Units[®]

Eureka Math[™]

Grade 3, Module 2

Student File_A

*Contains copy-ready classwork and homework
as well as templates (including cut outs)*

Published by the non-profit Great Minds.

Copyright © 2015 Great Minds. All rights reserved. No part of this work may be reproduced or used in any form or by any means — graphic, electronic, or mechanical, including photocopying or information storage and retrieval systems — without written permission from the copyright holder. “Great Minds” and “Eureka Math” are registered trademarks of Great Minds.

Printed in the U.S.A.

This book may be purchased from the publisher at eureka-math.org

10 9 8 7 6 5 4 3 2 1

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?



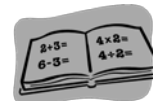
It takes _____ to write
every whole number from 0 to 25.

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. The table to the right shows how much time it takes each of the 5 students to run 100 meters.

Samantha	19 seconds
Melanie	22 seconds
Chester	26 seconds
Dominique	18 seconds
Louie	24 seconds

- a. Who is the fastest runner?
- b. Who is the slowest runner?
- c. How many seconds faster did Samantha run than Louie?
2. List activities at home that take about the following amounts of time to complete. If you do not have a stopwatch, you can use the strategy of counting by *1 Mississippi, 2 Mississippi, 3 Mississippi, ...*

Time	Activities at home
30 seconds	Example: Tying shoelaces
45 seconds	
60 seconds	

3. Match the analog clock with the correct digital clock.



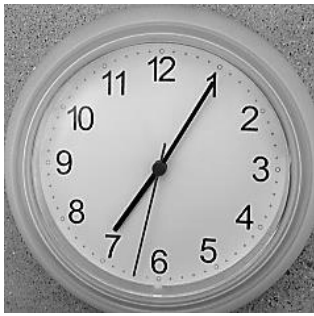
07:05



11:00



10:15

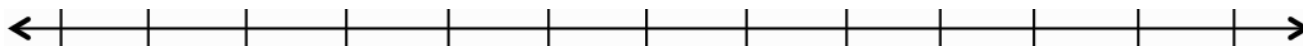


02:50

Name _____

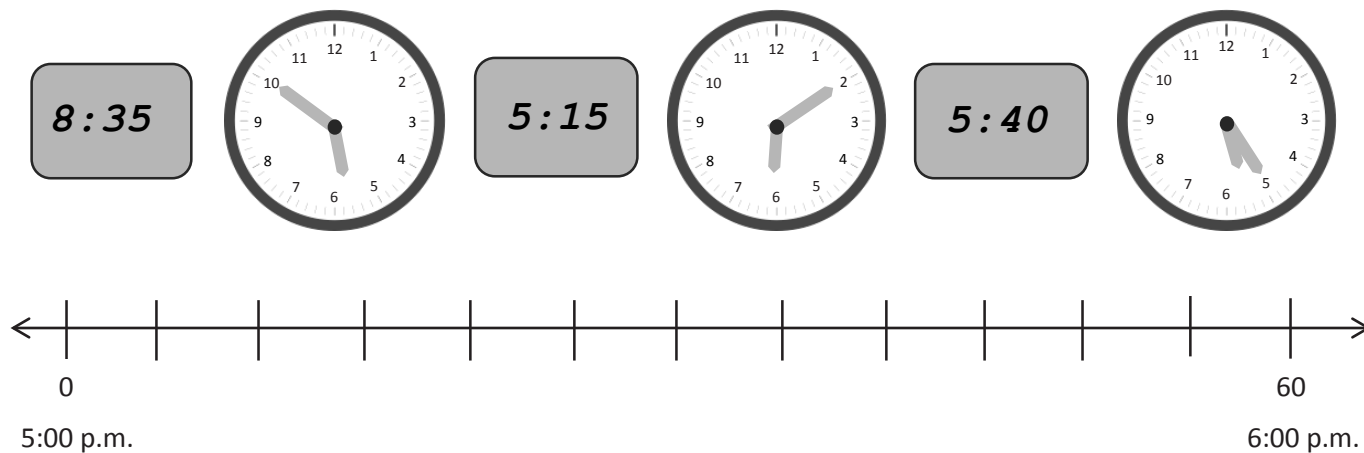
Date _____

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

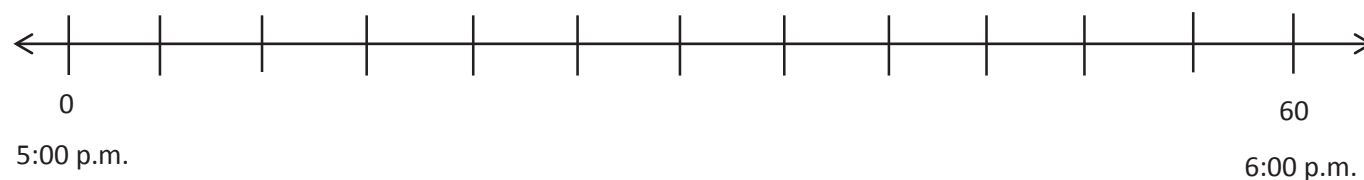


- Ingrid gets ready for school between 7:00 a.m. and 8:00 a.m. Label the first and last tick marks as 7:00 a.m. and 8:00 a.m.
- Each interval represents 5 minutes. Count by fives starting at 0, or 7:00 a.m. Label each 5-minute interval below the number line up to 8:00 a.m.
- Ingrid starts getting dressed at 7:10 a.m. Plot a point on the number line to represent this time. Above the point, write *D*.
- 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*.
- 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*.
- 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*.
- 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.

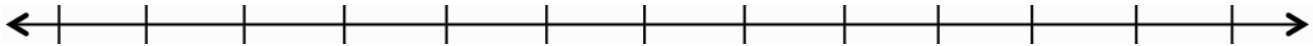


4. Tanner tells his little brother that 11:25 p.m. comes after 11:20 a.m. Do you agree with Tanner? Why or why not?

Name _____

Date _____

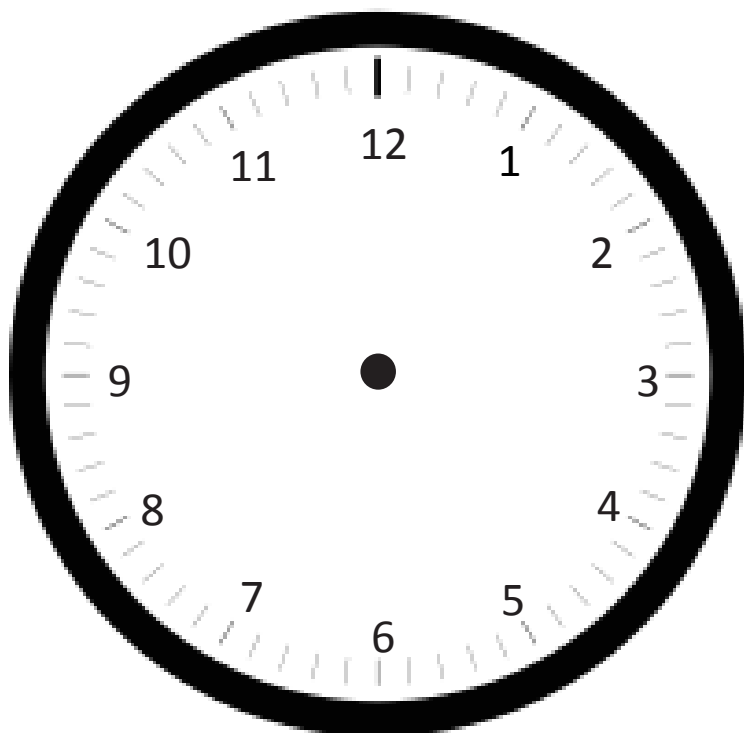
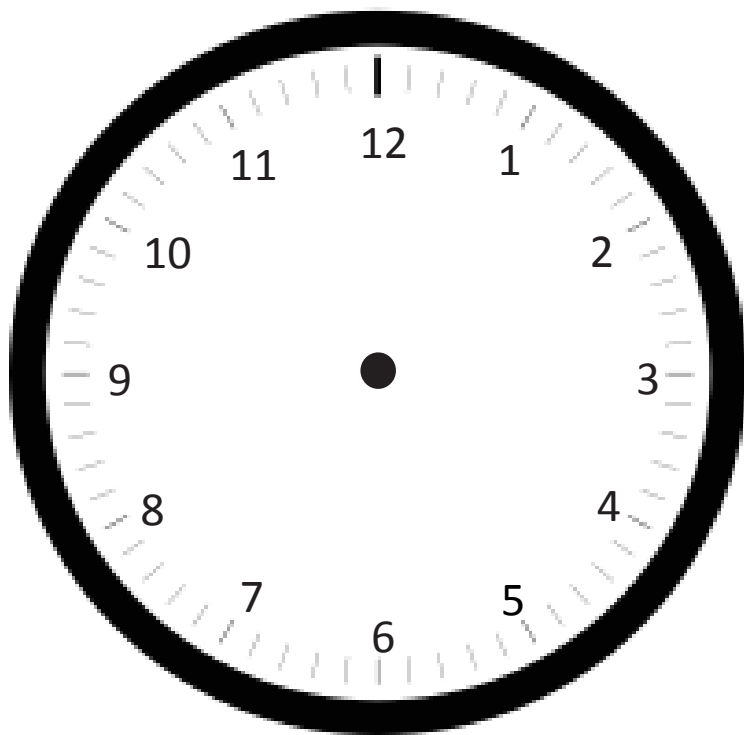
Follow the directions to label the number line below.



- The basketball team practices between 4:00 p.m. and 5:00 p.m. Label the first and last tick marks as 4:00 p.m. and 5:00 p.m.
- Each interval represents 5 minutes. Count by fives starting at 0, or 4:00 p.m. Label each 5-minute interval below the number line up to 5:00 p.m.
- The team warms up at 4:05 p.m. Plot a point on the number line to represent this time. Above the point, write *W*.
- The team shoots free throws at 4:15 p.m. Plot a point on the number line to represent this time. Above the point, write *F*.
- The team plays a practice game at 4:25 p.m. Plot a point on the number line to represent this time. Above the point, write *G*.
- The team has a water break at 4:50 p.m. Plot a point on the number line to represent this time. Above the point, write *B*.
- The team reviews their plays at 4:55 p.m. Plot a point on the number line to represent this time. Above the point, write *P*.



tape diagram

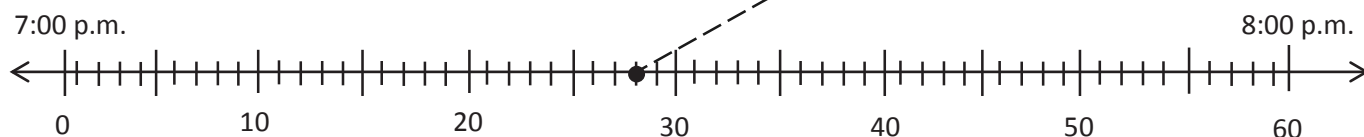
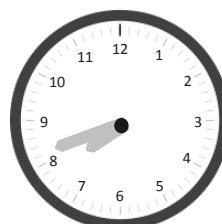
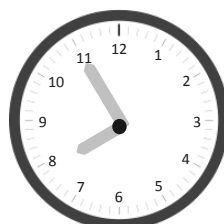
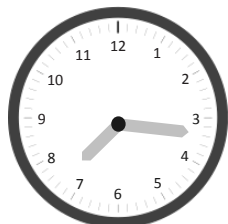


two clocks

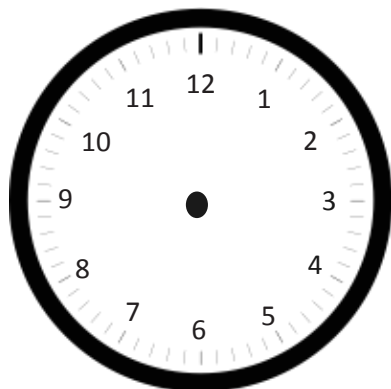
Name _____

Date _____

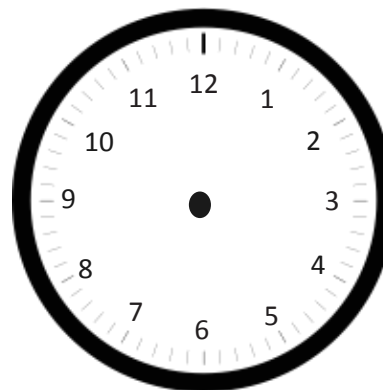
1. Plot a point on the number line for the times shown on the clocks below. Then, draw a line to match the clocks to the points.



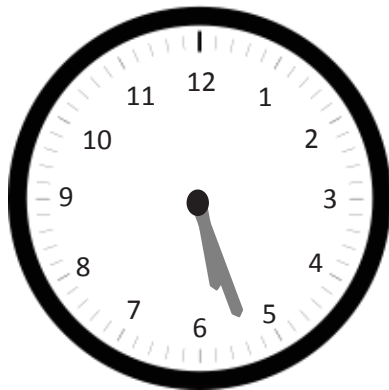
2. Jessie woke up this morning at 6:48 a.m. Draw hands on the clock below to show what time Jessie woke up.



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.

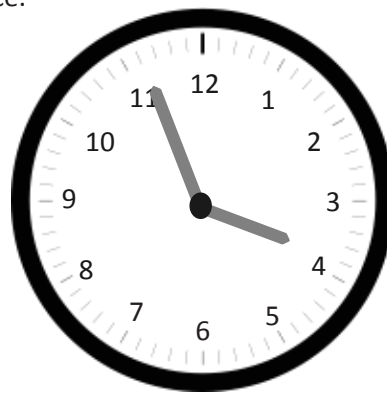


4. The clock shows what time Rebecca finishes her homework. What time does Rebecca finish her homework?



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?

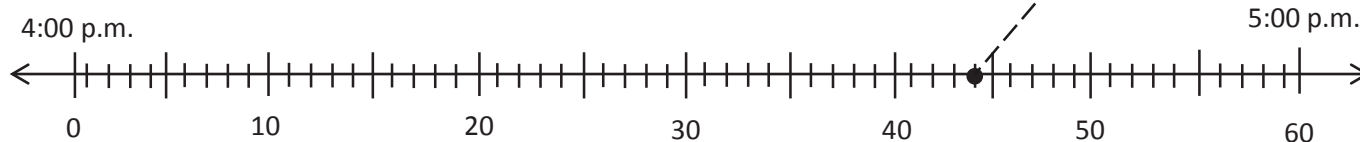
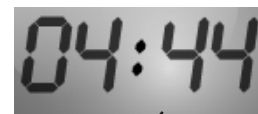
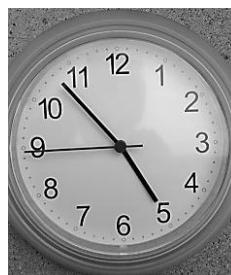
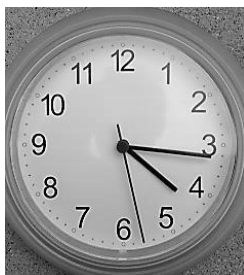
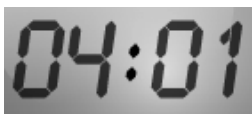
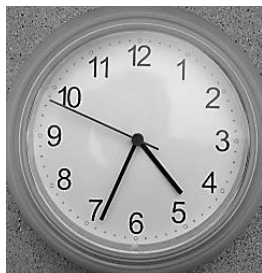


- b. Mason's coach arrived 11 minutes before Mason. What time did Mason's coach arrive?

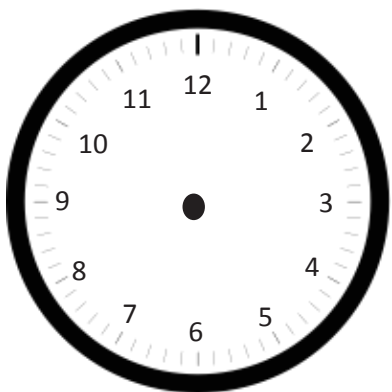
Name _____

Date _____

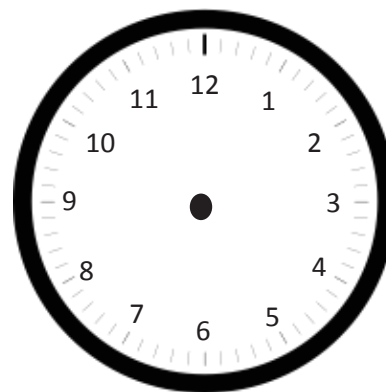
1. Plot points on the number line for each time shown on a clock below. Then, draw lines to match the clocks to the points.



2. Julie eats dinner at 6:07 p.m. Draw hands on the clock below to show what time Julie eats dinner.

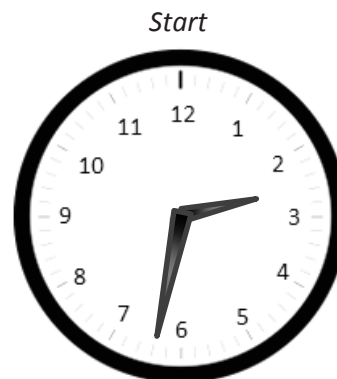


3. P.E. starts at 1:32 p.m. Draw hands on the clock below to show what time P.E. starts.



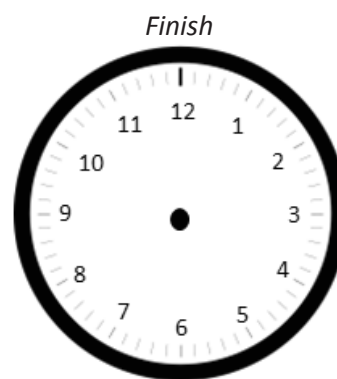
4. The clock shows what time Zachary starts playing with his action figures.

a. What time does he start playing with his action figures?

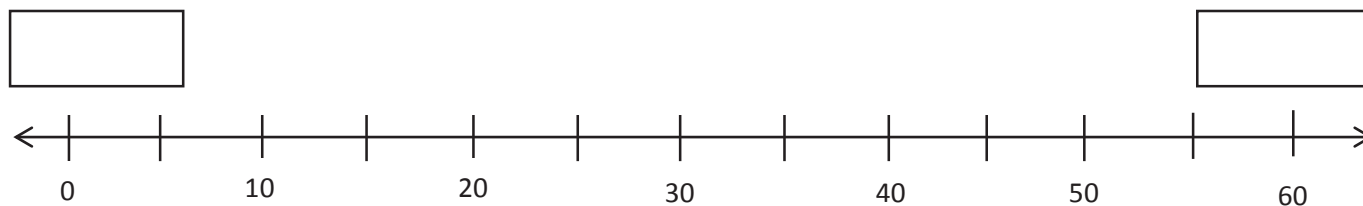


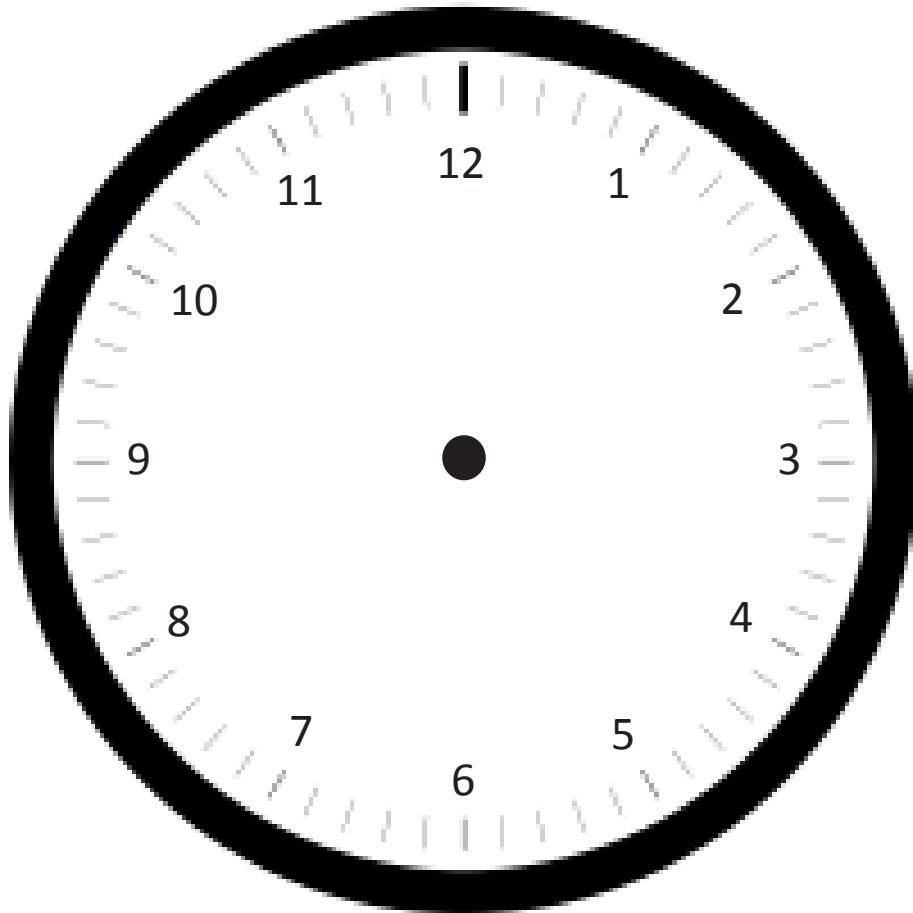
b. He plays with his action figures for 23 minutes. What time does he finish playing?

c. Draw hands on the clock to the right to show what time Zachary finishes playing.



d. Label the first and last tick marks with 2:00 p.m. and 3:00 p.m. Then, plot Zachary's start and finish times. Label his start time with a *B* and his finish time with an *F*.





clock

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?

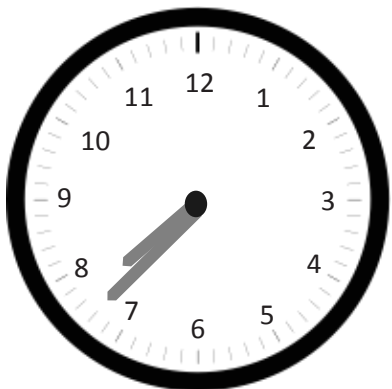
Nate started his homework at _____ p.m.

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

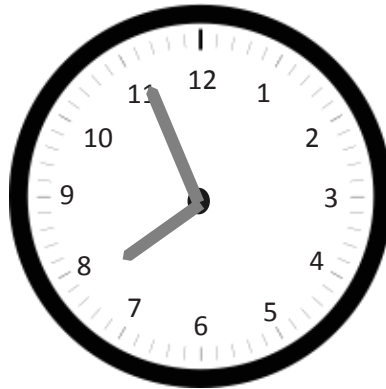
Andrea is done fishing at _____ a.m.

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 _____

Record your homework start time on the clock in Problem 6.

Use a number line to answer Problems 1 through 4.

1. Joy's mom begins walking at 4:12 p.m. She stops at 4:43 p.m. How many minutes does she walk?

Joy's mom walks for _____ minutes.

2. Cassie finishes softball practice at 3:52 p.m. after practicing for 30 minutes. What time did Cassie's practice start?

Cassie's practice started at _____ p.m.

3. Jordie builds a model from 9:14 a.m. to 9:47 a.m. How many minutes does Jordie spend building his model?

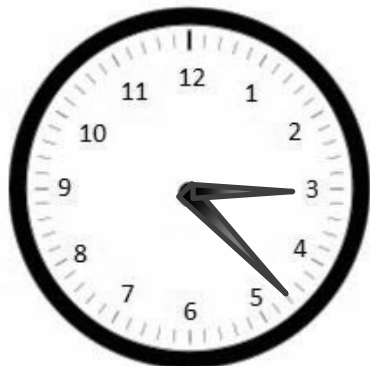
Jordie builds for _____ minutes.

4. Cara finishes reading at 2:57 p.m. She reads for a total of 46 minutes. What time did Cara start reading?

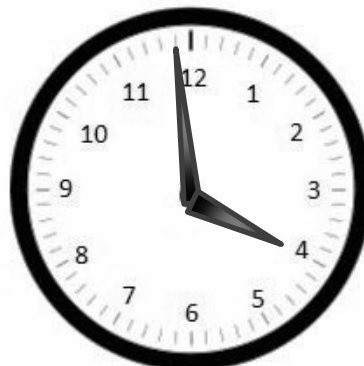
Cara started reading at _____ p.m.

5. Jenna and her mom take the bus to the mall. The clocks below show when they leave their house and when they arrive at the mall. How many minutes does it take them to get to the mall?

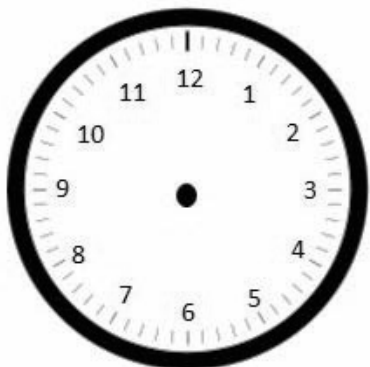
Time when they leave home:



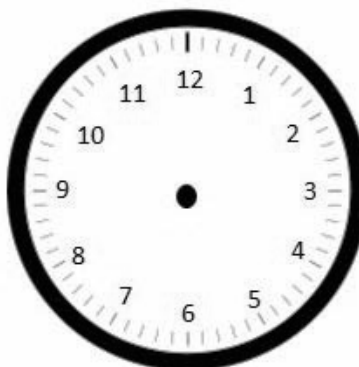
Time when they arrive at the mall:



6. Record your homework start time:



Record the time when you finish Problems 1–5:



How many minutes did you work on Problems 1–5?

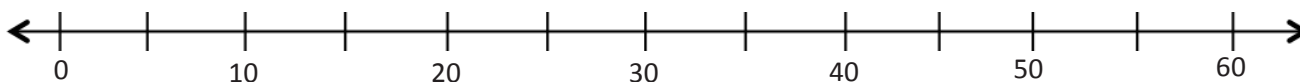


number line

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.

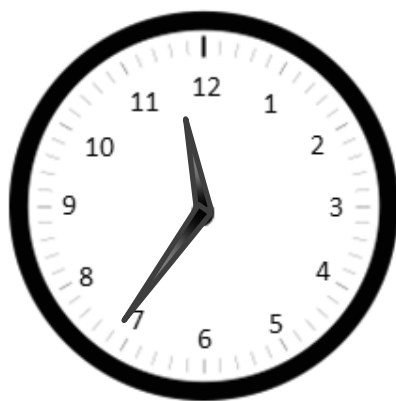


Cole read for _____ minutes.

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?

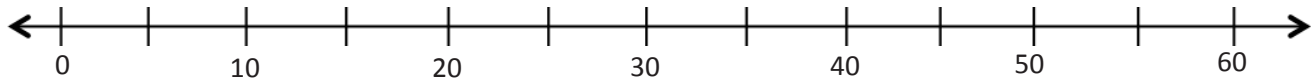
4. a. It takes Austin 4 minutes to take out the garbage, 12 minutes to wash the dishes, and 13 minutes to mop the kitchen floor. How long does it take Austin to do his chores?
- b. Austin's bus arrives at 7:55 a.m. If he starts his chores at 7:30 a.m., will he be done in time to meet his bus? Explain 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. Abby spent 22 minutes working on her science project yesterday and 34 minutes working on it today. How many minutes did Abby spend working on her science project altogether? Model the problem on the number line, and write an equation to solve.



Abby spent _____ minutes working on her science project.

2. Susanna spends a total of 47 minutes working on her project. How many more minutes than Susanna does Abby spend working? Draw a number line to model the problem, and write an equation to solve.

3. Peter practices violin for a total of 55 minutes over the weekend. He practices 25 minutes on Saturday. How many minutes does he practice on Sunday?

4. a. Marcus gardens. He pulls weeds for 18 minutes, waters for 13 minutes, and plants for 16 minutes. How many total minutes does he spend gardening?
- b. Marcus wants to watch a movie that starts at 2:55 p.m. It takes 10 minutes to drive to the theater. If Marcus starts the yard work at 2:00 p.m., can he make it on time for the movie? Explain your reasoning.
5. Arelli takes a short nap after school. As she falls asleep, the clock reads 3:03 p.m. She wakes up at the time shown below. How long is Arelli's nap?



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 _____

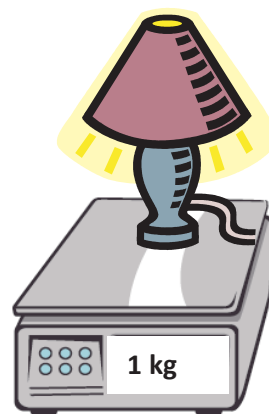
Date _____

1. Use the chart to help you answer the following questions:

1 kilogram	100 grams	10 grams	1 gram

- a. Isaiah puts a 10-gram weight on a pan balance. How many 1-gram weights does he need to balance the scale?
- b. Next, Isaiah puts a 100-gram weight on a pan balance. How many 10-gram weights does he need to balance the scale?
- c. Isaiah then puts a kilogram weight on a pan balance. How many 100-gram weights does he need to balance the scale?
- d. What pattern do you notice in Parts (a–c)?

2. Read each digital scale. Write each weight using the word *kilogram* or *gram* for each measurement.



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. Match each object with its approximate weight.



100 grams



10 grams



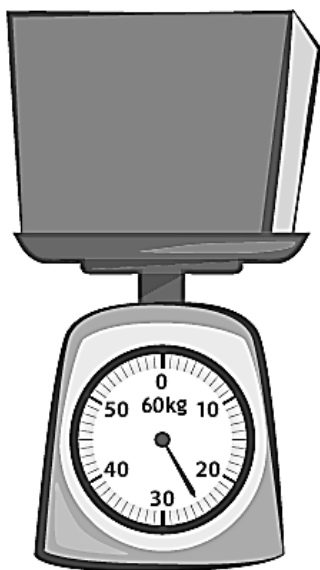
1 gram

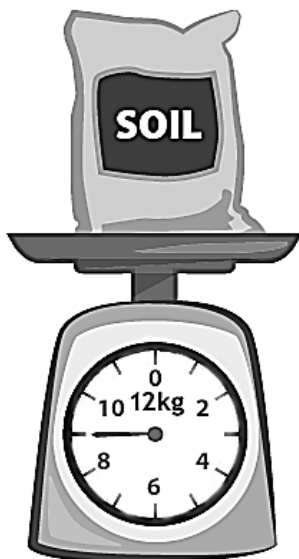


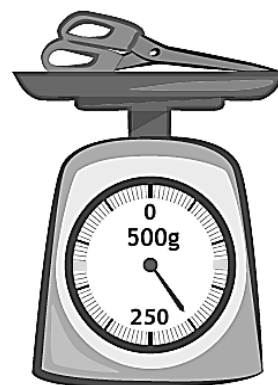
1 kilogram

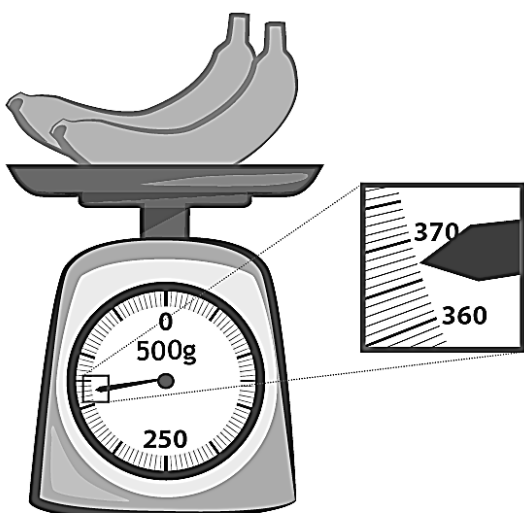
2. Alicia and Jeremy weigh a cell phone on a digital scale. They write down 113 but forget to record the unit. Which unit of measurement is correct, grams or kilograms? How do you know?

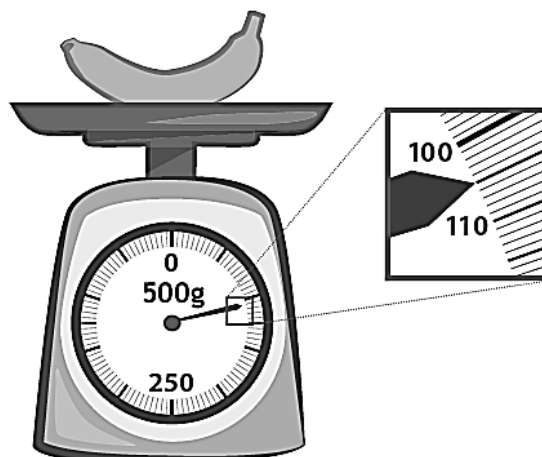
3. Read and write the weights below. Write the word *kilogram* or *gram* with the measurement.







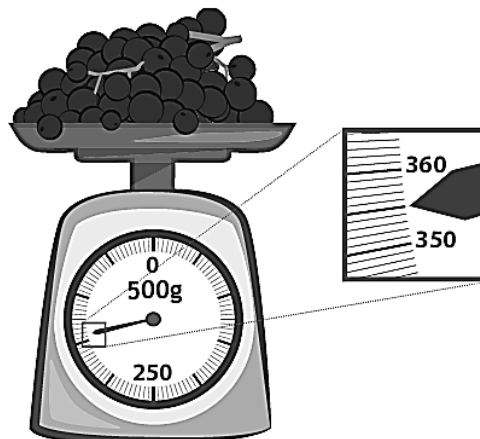
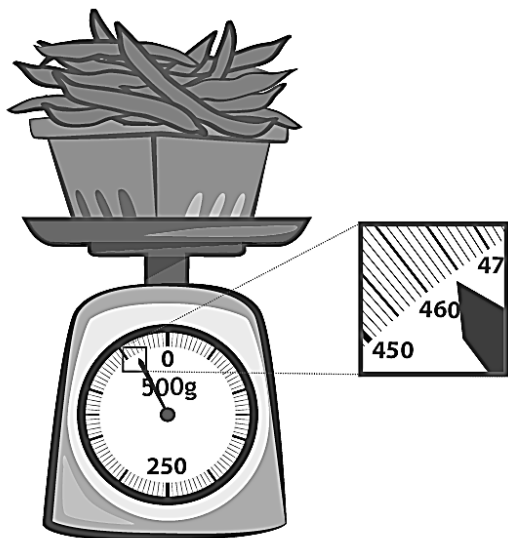




Name _____

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 _____

1. The weights of 3 fruit baskets are shown below.



Basket A
12 kg



Basket B
8 kg



Basket C
16 kg

- a. Basket _____ is the heaviest.
- b. Basket _____ is the lightest.
- c. Basket A is _____ kilograms heavier than Basket B.
- d. What is the total weight of all three baskets?
2. Each journal weighs about 280 grams. What is total weight of 3 journals?
3. Ms. Rios buys 453 grams of strawberries. She has 23 grams left after making smoothies. How many grams of strawberries did she use?

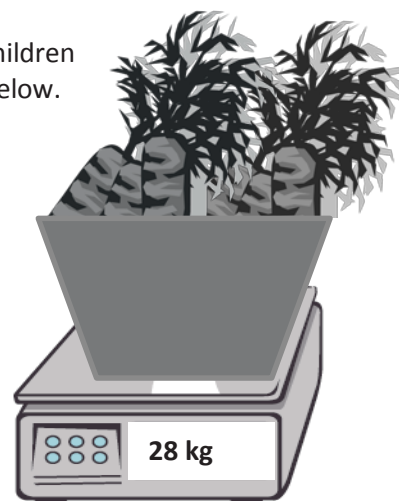
4. Andrea's dad is 57 kilograms heavier than Andrea. Andrea weighs 34 kilograms.

a. How much does Andrea's dad weigh?

b. How much do Andrea and her dad weigh in total?

5. Jennifer's grandmother buys carrots at the farm stand. She and her 3 grandchildren equally share the carrots. The total weight of the carrots she buys is shown below.

a. How many kilograms of carrots will Jennifer get?



b. Jennifer uses 2 kilograms of carrots to bake muffins. How many kilograms of carrots does she have left?

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 _____

Date _____

1. Find containers at home that have a capacity of about 1 liter. Use the labels on containers to help you identify them.

a.

Name of Container
Example: Carton of orange juice

- b. Sketch the containers. How do their sizes and shapes compare?

2. The doctor prescribes Mrs. Larson 5 milliliters of medicine each day for 3 days. How many milliliters of medicine will she take altogether?

3. Mrs. Goldstein pours 3 juice boxes into a bowl to make punch. Each juice box holds 236 milliliters. How much juice does Mrs. Goldstein pour into the bowl?

-
4. Daniel's fish tank holds 24 liters of water. He uses a 4-liter bucket to fill the tank. How many buckets of water are needed to fill the tank?

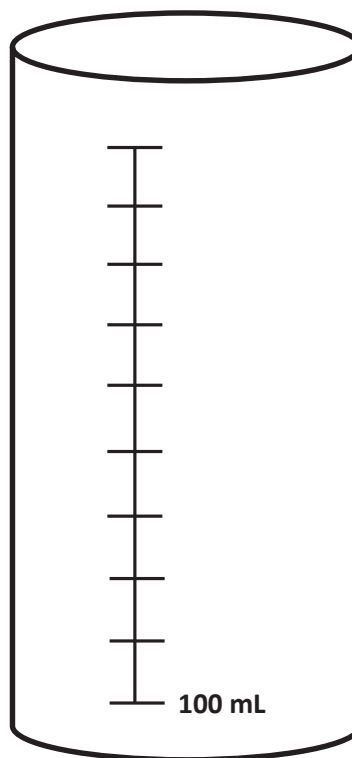
-
5. Sheila buys 15 liters of paint to paint her house. She pours the paint equally into 3 buckets. How many liters of paint are in each bucket?

Name _____

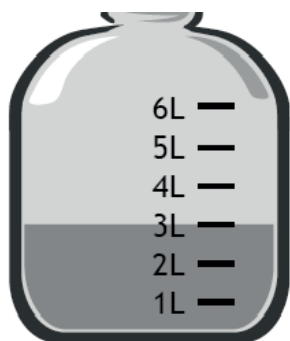
Date _____

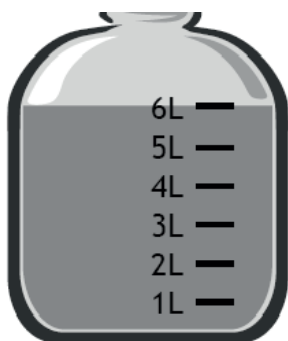
1. Label the vertical number line on the container to the right. Answer the questions below.

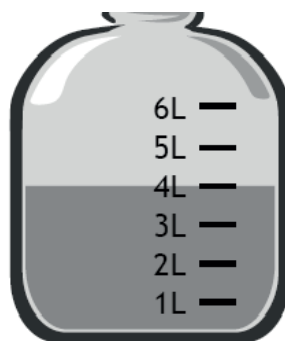
- What did you label as the halfway mark? Why?
- Explain how pouring each plastic cup of water helped you create a vertical number line.
- If you pour out 300 mL of water, how many mL are left in the container?

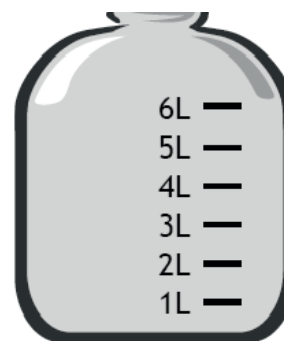


2. How much liquid is in each container?

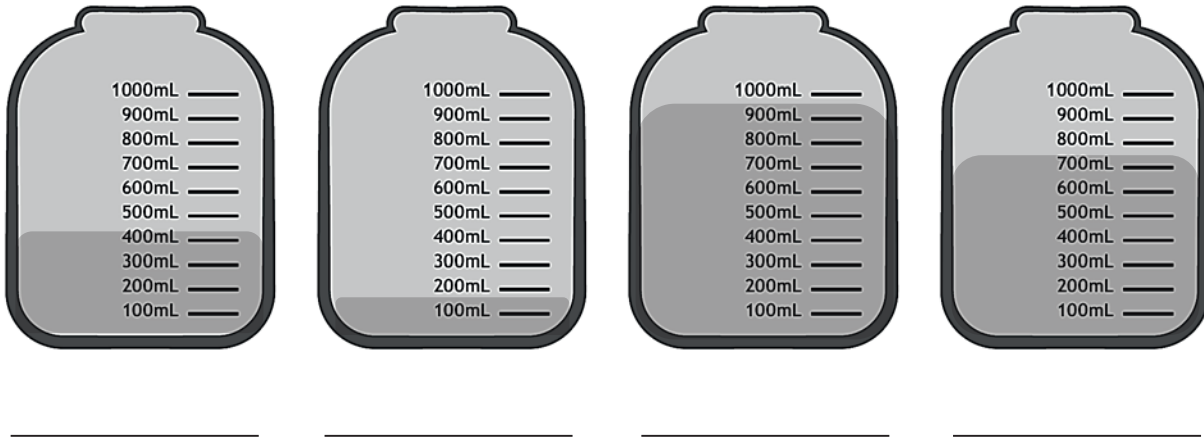








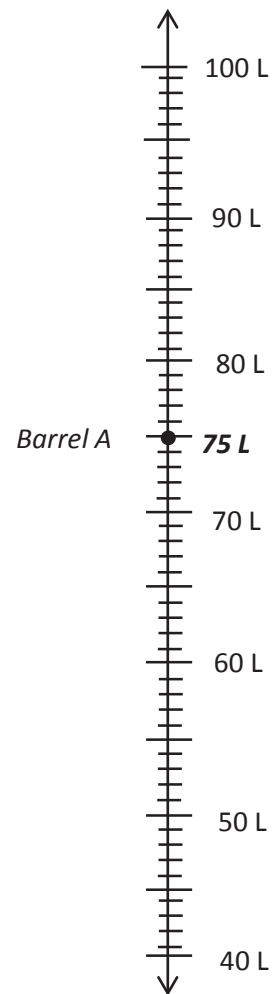
3. Estimate the amount of liquid in each container to the nearest hundred milliliters.



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

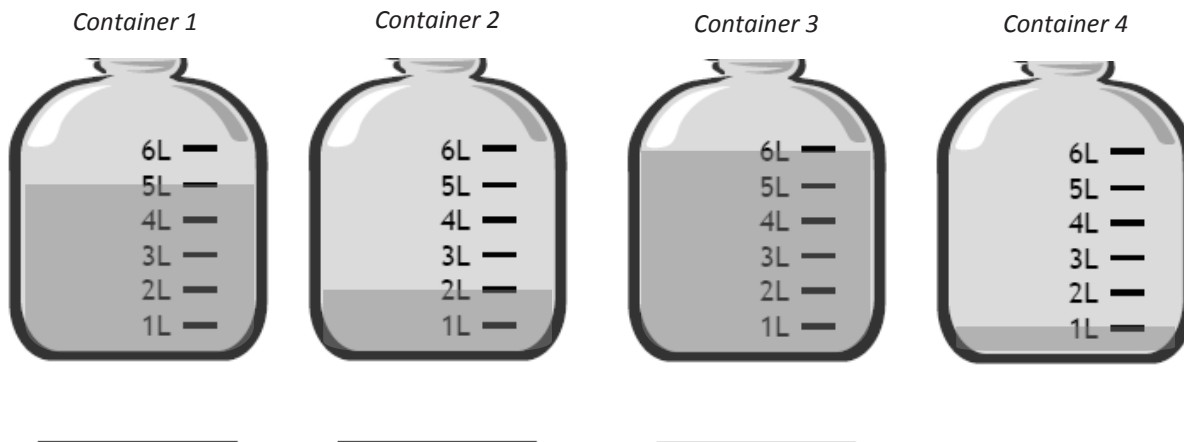
- Label the number line to show the capacity of each barrel. Barrel A has been done for you.
- Which barrel has the greatest capacity?
- Which barrel has the smallest capacity?
- Ben buys a barrel that holds about 70 liters. Which barrel did he most likely buy? Explain why.
- Use the number line to find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



Name _____

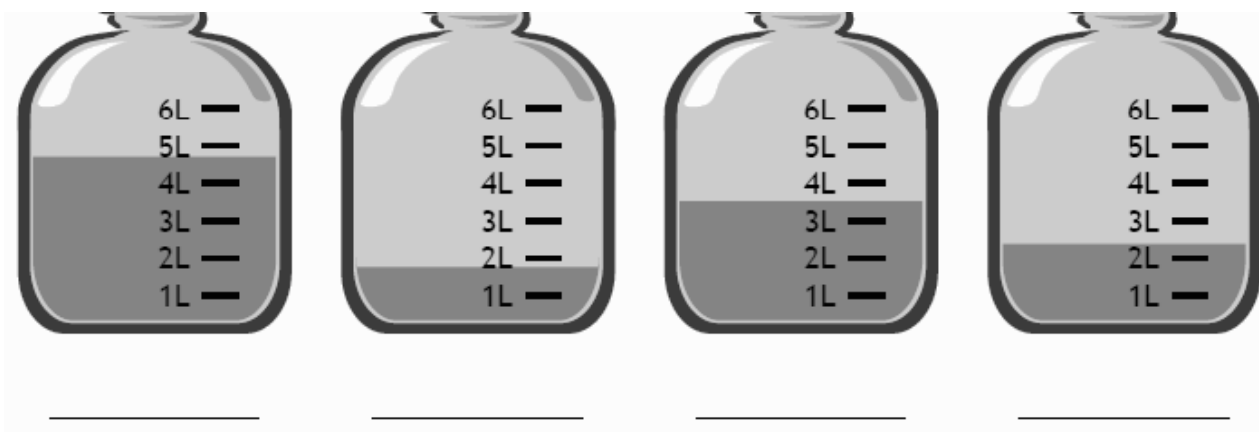
Date _____

1. How much liquid is in each container?



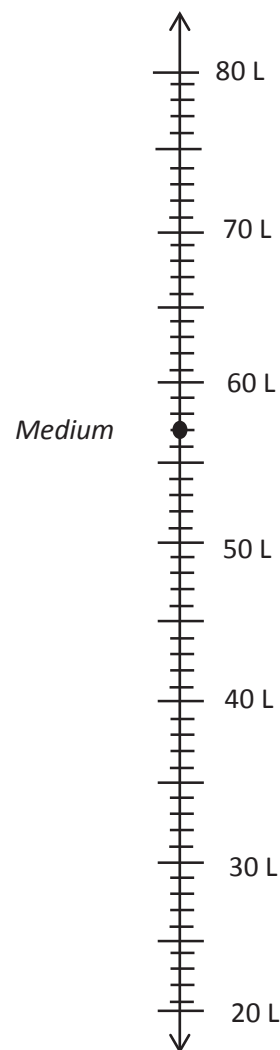
2. Jon pours the contents of Container 1 and Container 3 above into an empty bucket. How much liquid is in the bucket after he pours the liquid?

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



4. Kristen is comparing the capacity of gas tanks in different size cars. Use the chart below to answer the questions.

Size of Car	Capacity in Liters
Large	74
Medium	57
Small	42



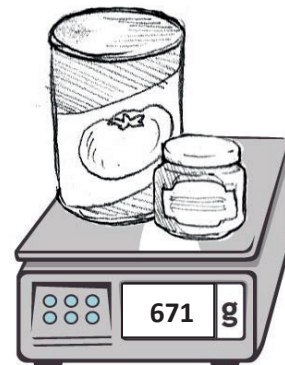
- Label the number line to show the capacity of each gas tank. The medium car has been done for you.
- Which car's gas tank has the greatest capacity?
- Which car's gas tank has the smallest capacity?
- Kristen's car has a gas tank capacity of about 60 liters. Which car from the chart has about the same capacity as Kristen's car?
- Use the number line to find how many more liters the large car's tank holds than the small car's tank.

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?



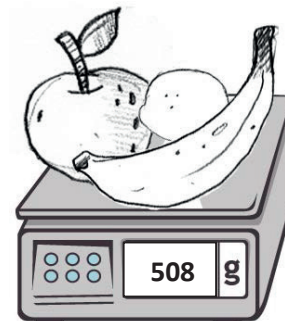
2. The weight of a pen in grams is shown to the right.

- 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. Karina goes on a hike. She brings a notebook, a pencil, and a camera. The weight of each item is shown in the chart. What is the total weight of all three items?

Item	Weight
Notebook	312 g
Pencil	10 g
Camera	365 g

The total weight is _____ grams.

-
2. Together a horse and its rider weigh 729 kilograms. The horse weighs 625 kilograms. How much does the rider weigh?

The rider weighs _____ kilograms.

3. Theresa's soccer team fills up 6 water coolers before the game. Each water cooler holds 9 liters of water. How many liters of water do they fill?

-
4. Dwight purchased 48 kilograms of fertilizer for his vegetable garden. He needs 6 kilograms of fertilizer for each bed of vegetables. How many beds of vegetables can he fertilize?

-
5. Nancy bakes 7 cakes for the school bake sale. Each cake requires 5 milliliters of oil. How many milliliters of oil does she use?

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		<u> </u> and <u> </u> mL	
Container C		<u> </u> and <u> </u> mL	
Container D		<u> </u> and <u> </u> mL	
Container E		<u> </u> and <u> </u> 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		<u> </u> and <u> </u>	
Time I finished Station 1		<u> </u> and <u> </u>	
Time I finished Station 2		<u> </u> and <u> </u>	
Time I finished Station 3		<u> </u> and <u> </u>	

Name _____

Date _____

1. Complete the chart. Choose objects, and use a ruler or meter stick to complete the last two on your own.

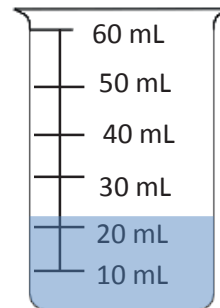
Object	Measurement (in cm)	The object measures between (which two tens)...	Length rounded to the nearest 10 cm
Length of desk	66 cm	_____ and _____ cm	
Width of desk	48 cm	_____ and _____ cm	
Width of door	81 cm	_____ and _____ cm	
		_____ and _____ cm	
		_____ and _____ cm	

2. Gym class ends at 10:27 a.m. Round the time to the nearest 10 minutes.



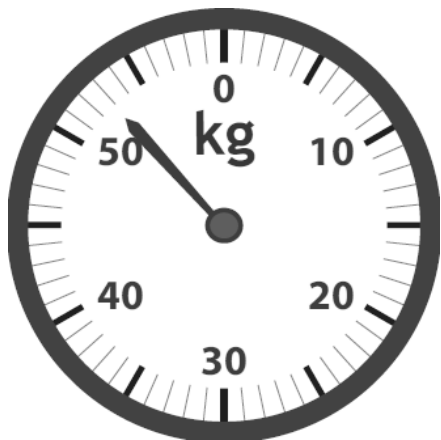
Gym class ends at about _____ a.m.

3. Measure the liquid in the beaker to the nearest 10 milliliters.



There are about _____ milliliters in the beaker.

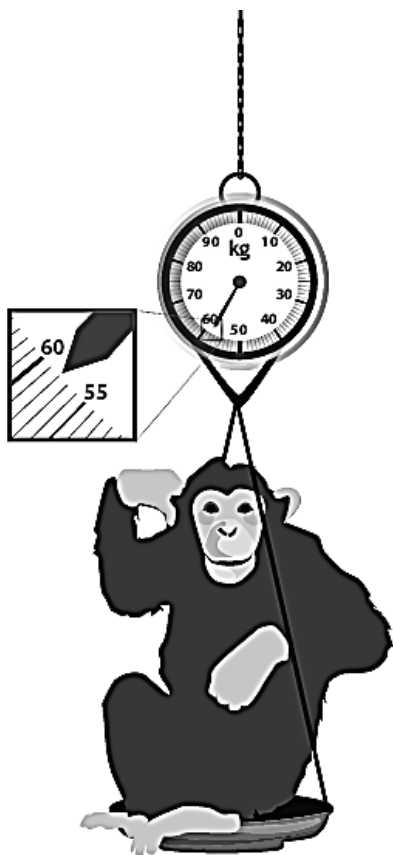
4. Mrs. Santos' weight is shown on the scale. Round her weight to the nearest 10 kilograms.



Mrs. Santos' weight is _____ kilograms.

Mrs. Santos weighs about _____ kilograms.

5. A zookeeper weighs a chimp. Round the chimp's weight to the nearest 10 kilograms.



The chimp's weight is _____ kilograms.

The chimp weighs about _____ kilograms.

Name _____

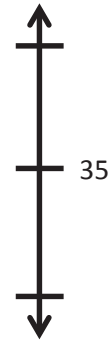
Date _____

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

a. $32 \approx$ _____



b. $36 \approx$ _____



c. $62 \approx$ _____



d. $162 \approx$ _____





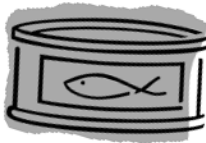
e. $278 \approx$ _____



f. $405 \approx$ _____



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

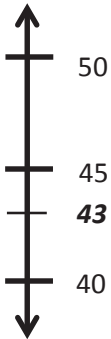





Item	Number Line	Round to the nearest 10 grams
 <p>36 grams</p>		
 <p>52 grams</p>		
 <p>142 grams</p>		

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 ten. Use the number line to model your thinking.

a. $43 \approx$ _____ 	b. $48 \approx$ _____ 
c. $73 \approx$ _____ 	d. $173 \approx$ _____ 
e. $189 \approx$ _____ 	f. $194 \approx$ _____ 

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

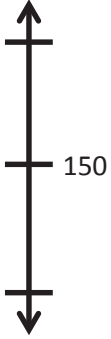





Item	Number Line	Round to the nearest 10 grams
 <p>Cereal bar: 45 grams</p>		
 <p>Loaf of bread: 673 grams</p>		

3. The Garden Club plants rows of carrots in the garden. One seed packet weighs 28 grams. Round the total weight of 2 seed packets to the nearest 10 grams. Model your thinking using a number line.

Name _____

Date _____

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

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

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

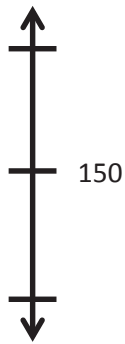
4. The teacher asks students to round 1,865 to the nearest hundred. Christian says that it is one thousand, nine hundred. Alexis disagrees and says it is 19 hundreds. Who is correct? Explain your thinking.

Name _____

Date _____

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

a. $156 \approx$ _____



b. $342 \approx$ _____



c. $260 \approx$ _____



d. $1,260 \approx$ _____



e. $1,685 \approx$ _____



f. $1,804 \approx$ _____



2. Complete the chart.

a. Luis has 217 baseball cards. Round the number of cards Luis has to the nearest hundred.	
b. There were 462 people sitting in the audience. Round the number of people to the nearest hundred.	
c. A bottle of juice holds 386 milliliters. Round the capacity to the nearest 100 milliliters.	
d. A book weighs 727 grams. Round the weight to the nearest 100 grams.	
e. Joanie's parents spent \$1,260 on two plane tickets. Round the total to the nearest \$100.	

3. Circle the numbers that round to 400 when rounding to the nearest hundred.

368

342

420

492

449

464

4. There are 1,525 pages in a book. Julia and Kim round the number of pages to the nearest hundred. Julia says it is one thousand, five hundred. Kim says it is 15 hundreds. Who is correct? Explain your thinking.

unlabeled place value chart

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. Choose mental math or the algorithm.

a. $75 \text{ cm} + 7 \text{ cm}$

c. $362 \text{ mL} + 229 \text{ mL}$

e. $451 \text{ mL} + 339 \text{ mL}$

b. $39 \text{ kg} + 56 \text{ kg}$

d. $283 \text{ g} + 92 \text{ g}$

f. $149 \text{ L} + 331 \text{ L}$

2. The liquid volume of five drinks is shown below.

Drink	Liquid Volume
Apple juice	125 mL
Milk	236 mL
Water	248 mL
Orange juice	174 mL
Fruit punch	208 mL

a. Jen drinks the apple juice and the water. How many milliliters does she drink in all?

Jen drinks _____ mL.

b. Kevin drinks the milk and the fruit punch. How many milliliters does he drink in all?

3. There are 75 students in Grade 3. There are 44 more students in Grade 4 than in Grade 3. How many students are in Grade 4?
4. Mr. Green's sunflower grew 29 centimeters in one week. The next week it grew 5 centimeters more than the previous week. What is the total number of centimeters the sunflower grew in 2 weeks?
5. Kylie records the weights of 3 objects as shown below. Which 2 objects can she put on a pan balance to equal the weight of a 460 gram bag? Show how you know.

Paperback Book	Banana	Bar of Soap
343 grams	108 grams	117 grams

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

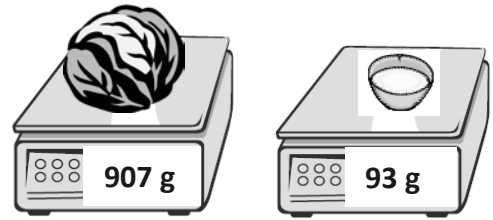
h. $345 \text{ g} + 597 \text{ g}$

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. Find the sums below.

a. $47 \text{ m} + 8 \text{ m}$

b. $47 \text{ m} + 38 \text{ m}$

c. $147 \text{ m} + 383 \text{ m}$

d. $63 \text{ mL} + 9 \text{ mL}$

e. $463 \text{ mL} + 79 \text{ mL}$

f. $463 \text{ mL} + 179 \text{ mL}$

g. $368 \text{ kg} + 263 \text{ kg}$

h. $508 \text{ kg} + 293 \text{ kg}$

i. $103 \text{ kg} + 799 \text{ kg}$

j. $4 \text{ L } 342 \text{ mL} + 2 \text{ L } 214 \text{ mL}$

k. $3 \text{ kg } 296 \text{ g} + 5 \text{ kg } 326 \text{ g}$

2. Mrs. Haley roasts a turkey for 55 minutes. She checks it and decides to roast it for an additional 46 minutes. Use a tape diagram to find the total minutes Mrs. Haley roasts the turkey.

3. A miniature horse weighs 268 fewer kilograms than a Shetland pony. Use the table to find the weight of a Shetland pony.

Types of Horses	Weight in kg
Shetland pony	_____ kg
American Saddlebred	478 kg
Clydesdale horse	_____ kg
Miniature horse	56 kg

4. A Clydesdale horse weighs as much as a Shetland pony and an American Saddlebred horse combined. How much does a Clydesdale horse weigh?

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

$$451 + 253 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$451 + 249 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$448 + 249 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

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

B

$$356 + 161 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$356 + 148 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$347 + 149 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

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

C

$$652 + 158 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$647 + 158 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$647 + 146 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

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.
- Decide how to round the minutes. Then, estimate the total minutes Janet watched movies on Friday and Saturday.
 - How much time did Janet actually spend watching movies?
 - 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.
- Estimate the total weight of Sadie and her cub using whatever method you think best.
 - What is the actual weight of Sadie and her cub? Model the problem with a tape diagram.

Name _____

Date _____

1. Cathy collects the following information about her dogs, Stella and Oliver.

Stella	
<i>Time Spent Getting a Bath</i>	<i>Weight</i>
36 minutes	32 kg

Oliver	
<i>Time Spent Getting a Bath</i>	<i>Weight</i>
25 minutes	7 kg

Use the information in the charts to answer the questions below.

- Estimate the total weight of Stella and Oliver.
- What is the actual total weight of Stella and Oliver?
- Estimate the total amount of time Cathy spends giving her dogs a bath.
- What is the actual total time Cathy spends giving her dogs a bath?
- Explain how estimating helps you check the reasonableness of your answers.

2. Dena reads for 361 minutes during Week 1 of her school's two-week long Read-A-Thon. She reads for 212 minutes during Week 2 of the Read-A-Thon.
 - a. Estimate the total amount of time Dena reads during the Read-A-Thon by rounding.

 - b. Estimate the total amount of time Dena reads during the Read-A-Thon by rounding in a different way.

 - c. Calculate the actual number of minutes that Dena reads during the Read-A-Thon. Which method of rounding was more precise? Why?

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. $70 \text{ L} - 46 \text{ L}$

b. $370 \text{ L} - 46 \text{ L}$

c. $370 \text{ L} - 146 \text{ L}$

d. $607 \text{ cm} - 32 \text{ cm}$

e. $592 \text{ cm} - 258 \text{ cm}$

f. $918 \text{ cm} - 553 \text{ cm}$

g. $763 \text{ g} - 82 \text{ g}$

h. $803 \text{ g} - 542 \text{ g}$

i. $572 \text{ km} - 266 \text{ km}$

j. $837 \text{ km} - 645 \text{ km}$

2. The magazine weighs 280 grams less than the newspaper. The weight of the newspaper is shown below. How much does the magazine weigh? Use a tape diagram to model your thinking.



3. The chart to the right shows how long it takes to play 3 games.

- a. Francesca's basketball game is 22 minutes shorter than Lucas's baseball game. How long is Francesca's basketball game?

Lucas's Baseball Game	180 minutes
Joey's Football Game	139 minutes
Francesca's Basketball Game	? minutes

- b. How much longer is Francesca's basketball game than Joey's football game?

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. Solve the subtraction problems below.

a. $280 \text{ g} - 90 \text{ g}$

b. $450 \text{ g} - 284 \text{ g}$

c. $423 \text{ cm} - 136 \text{ cm}$

d. $567 \text{ cm} - 246 \text{ cm}$

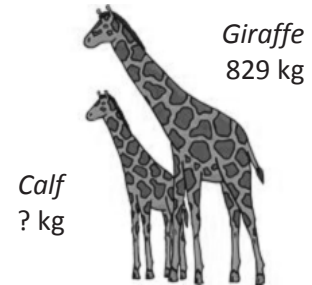
e. $900 \text{ g} - 58 \text{ g}$

f. $900 \text{ g} - 358 \text{ g}$

g. $4 \text{ L } 710 \text{ mL} - 2 \text{ L } 690 \text{ mL}$

h. $8 \text{ L } 830 \text{ mL} - 4 \text{ L } 378 \text{ mL}$

2. The total weight of a giraffe and her calf is 904 kilograms. How much does the calf weigh? Use a tape diagram to model your thinking.



3. The Erie Canal runs 584 kilometers from Albany to Buffalo. Salvador travels on the canal from Albany. He must travel 396 kilometers more before he reaches Buffalo. How many kilometers has he traveled so far?
4. Mr. Nguyen fills two inflatable pools. The kiddie pool holds 185 liters of water. The larger pool holds 600 liters of water. How much more water does the larger pool hold than the kiddie pool?

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

$$448 - 153 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$451 - 153 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$448 - 149 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$451 - 149 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

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

B

$$747 - 261 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$756 - 261 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$747 - 249 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$756 - 248 = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

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 _____

Estimate, and then solve each problem.

1. Melissa and her mom go on a road trip. They drive 87 kilometers before lunch. They drive 59 kilometers after lunch.
 - a. Estimate how many more kilometers they drive before lunch than after lunch by rounding to the nearest 10 kilometers.

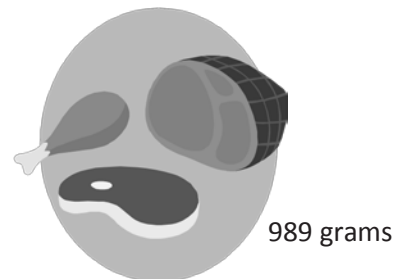
 - b. Precisely how much farther do they drive before lunch than after lunch?

 - c. Compare your estimate from (a) to your answer from (b). Is your answer reasonable? Write a sentence to explain your thinking.

2. Amy measures ribbon. She measures a total of 393 centimeters of ribbon and cuts it into two pieces. The first piece is 184 centimeters long. How long is the second piece of ribbon?
 - a. Estimate the length of the second piece of ribbon by rounding in two different ways.

 - b. Precisely how long is the second piece of ribbon? Explain why one estimate was closer.

3. The weight of a chicken leg, steak, and ham are shown to the right. The chicken and the steak together weigh 341 grams. How much does the ham weigh?

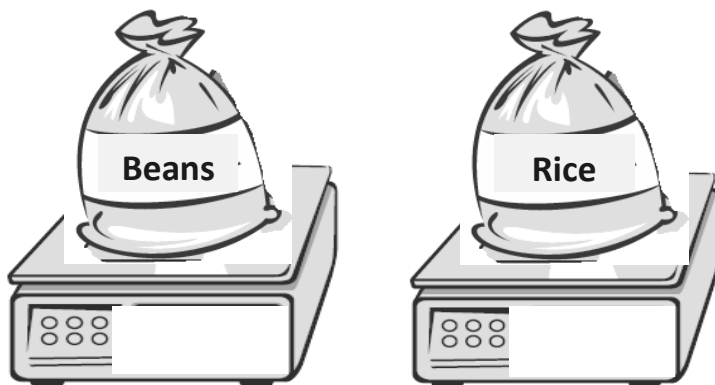


- a. Estimate the weight of the ham by rounding.
- b. How much does the ham actually weigh?
4. Kate uses 506 liters of water each week to water plants. She uses 252 liters to water the plants in the greenhouse. How much water does she use for the other plants?
- a. Estimate how much water Kate uses for the other plants by rounding.
- b. Estimate how much water Kate uses for the other plants by rounding a different way.
- c. How much water does Kate actually use for the other plants? Which estimate was closer? Explain why.

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.
- 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.

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

Name _____

Date _____

1. There are 153 milliliters of juice in 1 carton. A three-pack of juice boxes contains a total of 459 milliliters.

- a. Estimate, and then find the actual total amount of juice in 1 carton and in a three-pack of juice boxes.

$$153 \text{ mL} + 459 \text{ mL} \approx \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

$$153 \text{ mL} + 459 \text{ mL} = \underline{\quad\quad}$$

- b. Estimate, and then find the actual difference between the amount in 1 carton and in a three-pack of juice boxes.

$$459 \text{ mL} - 153 \text{ mL} \approx \underline{\quad\quad} - \underline{\quad\quad} = \underline{\quad\quad}$$

$$459 \text{ mL} - 153 \text{ mL} = \underline{\quad\quad}$$

- c. Are your answers reasonable? Why?

2. Mr. Williams owns a gas station. He sells 367 liters of gas in the morning, 300 liters of gas in the afternoon, and 219 liters of gas in the evening.

- a. Estimate, and then find the actual total amount of gas he sells in one day.

- b. Estimate, and then find the actual difference between the amount of gas Mr. Williams sells in the morning and the amount he sells in the evening.

3. The Blue Team runs a relay. The chart shows the time, in minutes, that each team member spends running.

Blue Team	Time in Minutes
Jen	5 minutes
Kristin	7 minutes
Lester	6 minutes
Evy	8 minutes
Total	

- a. How many minutes does it take the Blue Team to run the relay?

- b. It takes the Red Team 37 minutes to run the relay. Estimate, and then find the actual difference in time between the two teams.

4. The lengths of three banners are shown to the right.

Banner A	437 cm
Banner B	457 cm
Banner C	332 cm

- a. Estimate, and then find the actual total length of Banner A and Banner C.

- b. Estimate, and then find the actual difference in length between Banner B and the combined length of Banner A and Banner C. Model the problem with a tape diagram.