

MSP

Grade 3 Module 2

Lesson Refreshers

&

Homework Starters



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?
 Dominique
 least number of seconds

b. Who is the slowest runner?
 Chester
 greatest number of seconds

c. How many seconds faster did Samantha run than Louie?
 19 24

*Comparing two numbers... subtract

$$\begin{array}{r} 24 \\ -19 \\ \hline 05 \end{array}$$

Samantha is 5 seconds faster than Louie.

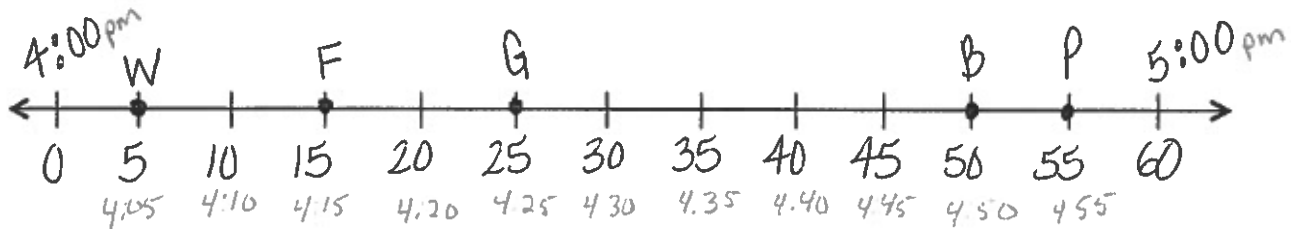
2. List activities at home that take about the following amounts of time to complete. If you do not have a stopwatch, you can use the strategy of counting by 1 Mississippi, 2 Mississippi, 3 Mississippi,

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

Name _____

Date _____

Follow the directions to label the number line below.



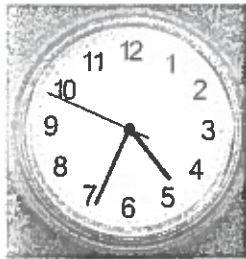
- ✓ a. The basketball team practices between 4:00 p.m. and 5:00 p.m. Label the first and last tick marks as 4:00 p.m. and 5:00 p.m.
- ✓ b. Each interval represents 5 minutes. Count by fives starting at 0, or 4:00 p.m. Label each 5-minute interval below the number line up to 5:00 p.m.
- ✓ c. The team warms up at 4:05 p.m. Plot a point on the number line to represent this time. Above the point, write *W*.
- ✓ d. 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*.
- ✓ e. 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*.
- ✓ f. 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*.
- ✓ g. 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*.

JMD

Name _____

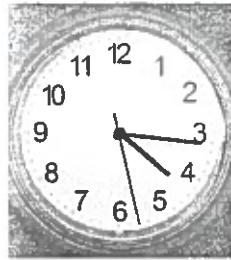
Date _____

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.

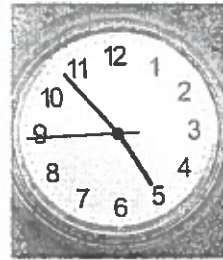


4:34

04:01



4:16



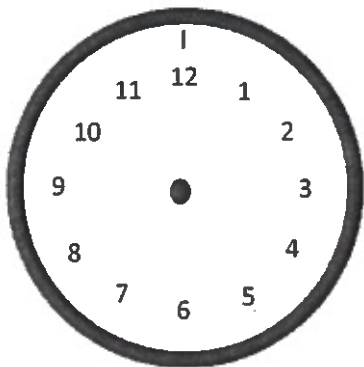
4:53

04:44

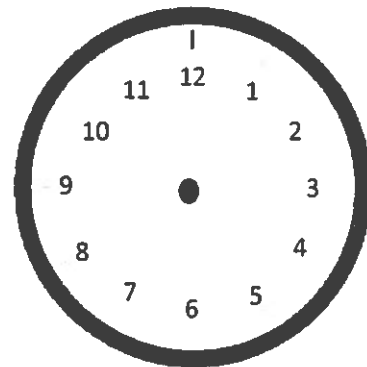


★ This number line has the same numbers and tick marks as a clock.

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.



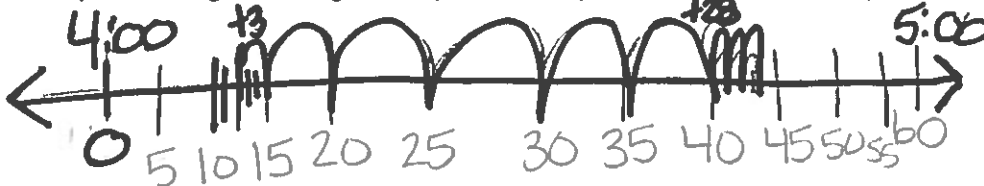
Name _____

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 31 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.

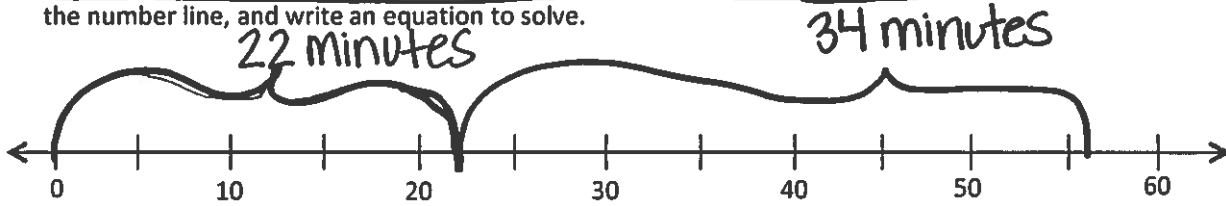
4. Cara finishes reading at 2:57 p.m. She reads for a total of 46 minutes. What time did Cara start reading?

Cara started reading at _____ p.m.

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.



$22 + 34 = 56$ minutes Abby spent 56 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?

Krawe



Name _____

Date _____

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

1 kilogram	100 grams	10 grams	1 gram
1,000 grams			

a. Isaiah puts a 10-gram weight on a pan balance. How many 1-gram weights does he need to balance the scale?

Isaiah needs 10 1-gram weights 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?

Isaiah needs 10 10-gram weights 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?

Isaiah needs 10 100-gram weights to balance the scale.

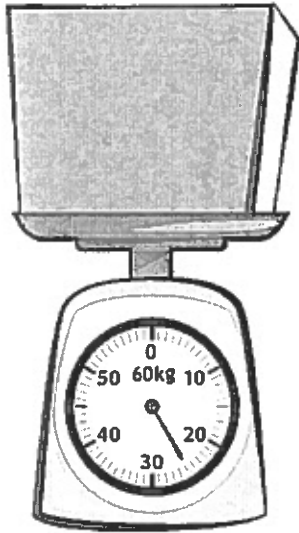
d. What pattern do you notice in Parts (a-c)?

The pattern relates to place value.
 10 1-gram equal 10 grams
 10 10-grams equal 100 grams
 10 100-grams equal 1000 grams or 1 Kilogram

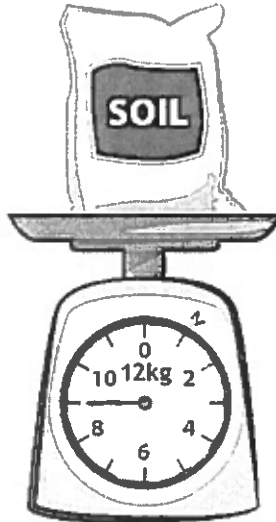
3. Read and write the weights below. Write the word *kilogram* or *gram* with the measurement.

• kg is the same as kilogram

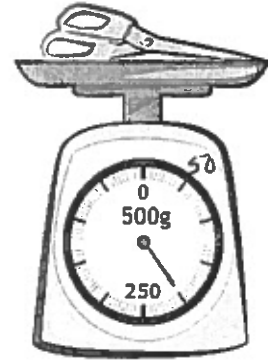
• g is the same as gram



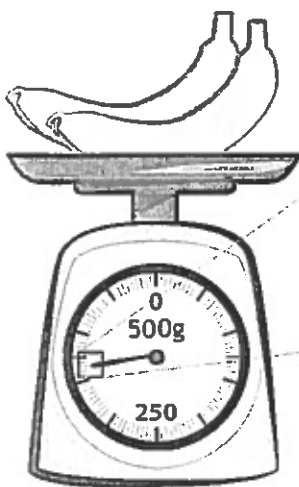
25 kilograms



9 kilograms

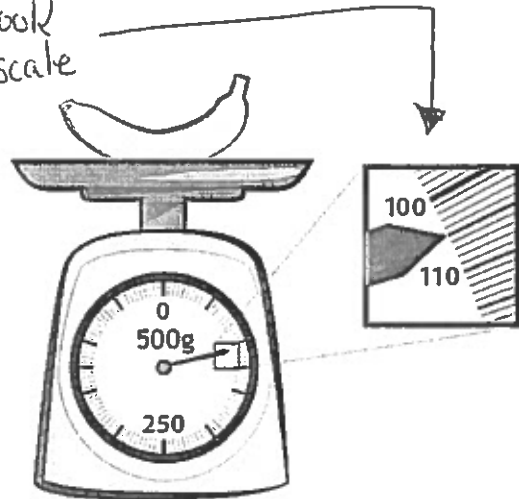


200 grams



367 grams

• Be sure to look at enlarged section



105 grams

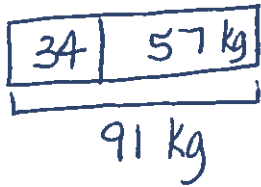
KNW



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

a. How much does Andrea's dad weigh?

$$\begin{array}{r} 57 \\ + 34 \\ \hline 91 \end{array}$$



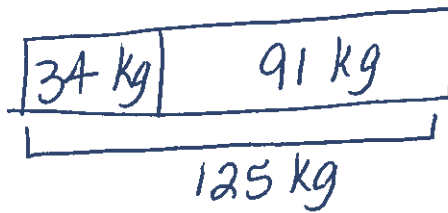
Andrea's dad weighs 91 kg.

← * Key phrase for using addition

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

Andrea = 34 kg
Dad = 91 kg

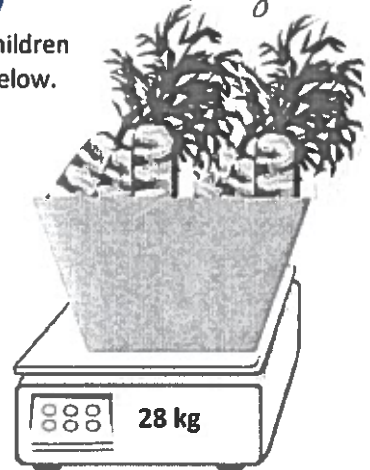
$$\begin{array}{r} 34 \\ + 91 \\ \hline 125 \end{array}$$



Andrea and her dad weigh 125 kg 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?

JMD



Name _____

Date _____

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

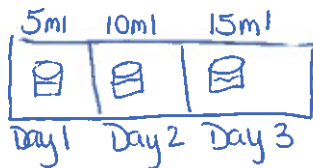
a.

Name of Container
Example: Carton of orange juice

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

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

*Each day she takes 5ml.
 $3 \times 5 = 15 \text{ ml.}$



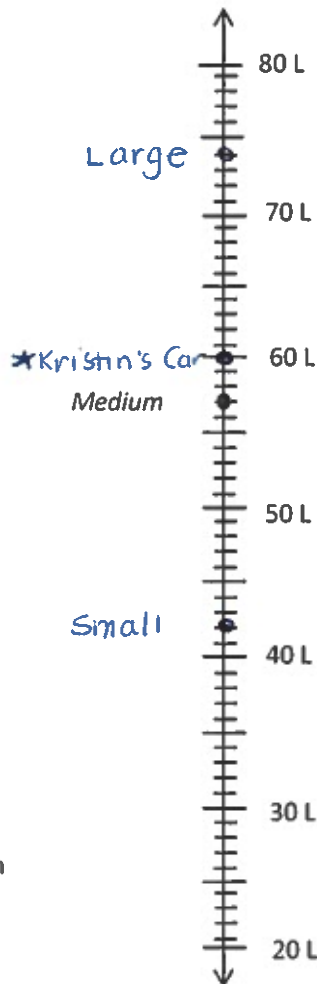
All together she takes 15ml.

AK

the amount of liquid a container holds

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



a. Label the number line to show the capacity of each gas tank. The medium car has been done for you.

b. Which car's gas tank has the greatest capacity?

Large Car

c. Which car's gas tank has the smallest capacity?

Small Car

d. 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?

Medium

e. Use the number line to find how many more liters the large car's tank holds than the small car's tank.

Subtraction
key words

$$\begin{array}{r} 74 \\ - 42 \\ \hline 32 \end{array}$$

32 more liters

The large car holds 32 more liters than the small car.

Name _____

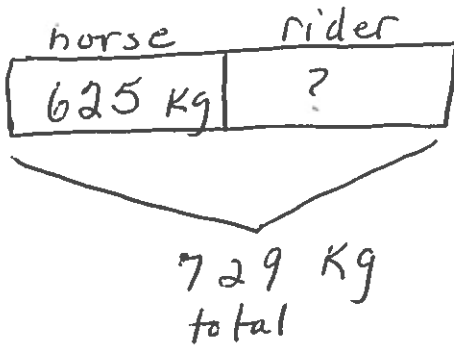
Date _____

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?

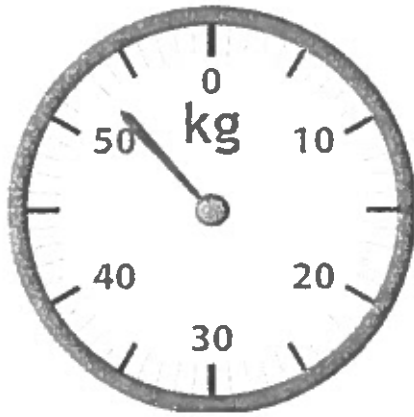


$$\begin{array}{r}
 729 \text{ kg total weight} \\
 - 625 \text{ kg horse} \\
 \hline
 104 \text{ kg rider}
 \end{array}$$

The rider weighs 104 kilograms.



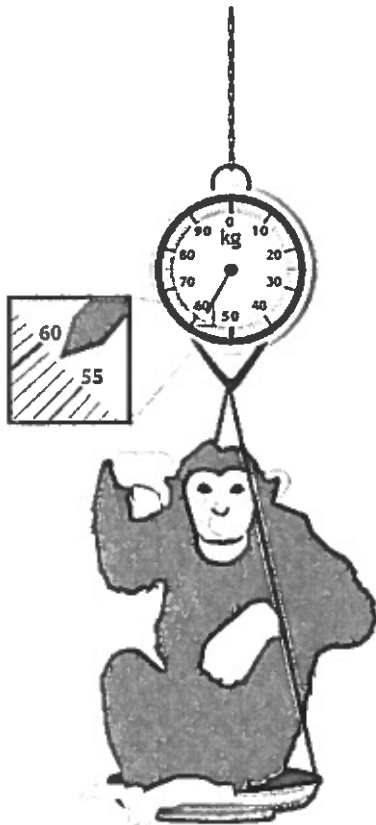
4. Mrs. Santos' weight is shown on the scale. Round her weight to the nearest 10 kilograms.



Mrs. Santos' weight is 53 kilograms.

Mrs. Santos weighs about 50 kilograms.

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


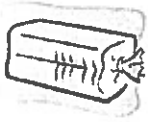


The chimp's weight is 58 kilograms.

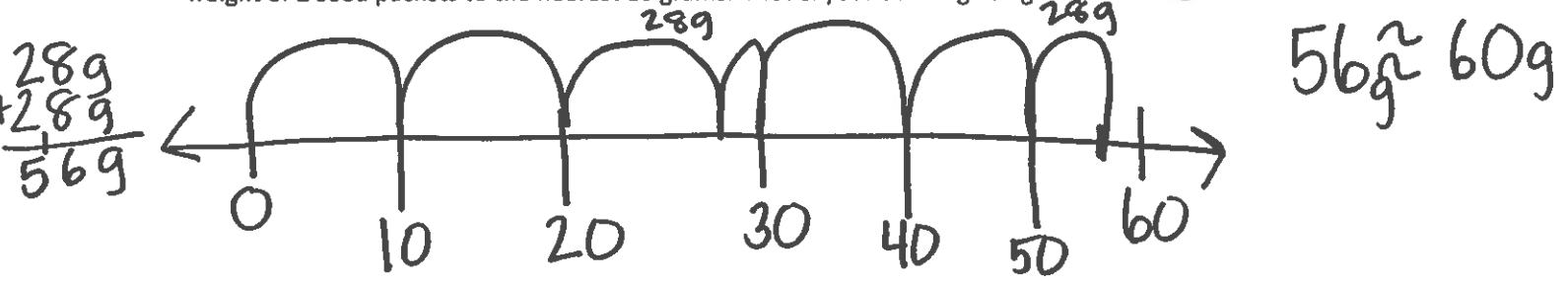
The chimp weighs about 60 kilograms.



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.



The garden club plants 56 grams of carrots.

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

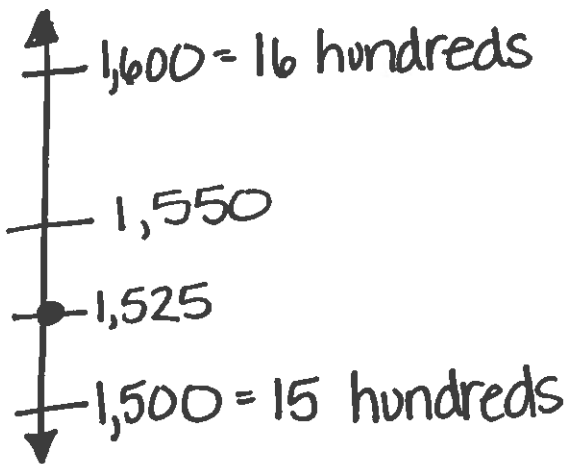
420

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.



Julia and Kim are both correct. 1,525 rounded to the nearest hundred is 1,500. 1,500 in unit form is 15 hundreds.

Kim

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?

$$\begin{array}{r} 75 \\ + 44 \\ \hline 119 \end{array}$$

There are 119 students 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?

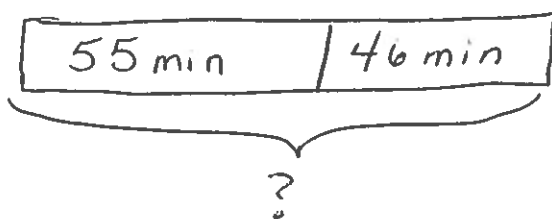
5. Kylie records the weights of 3 objects as shown below. Which 2 objects can she put on a pan balance to equal the weight of a 460 gram bag? Show how you know.

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

JMD



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.



$$55 \text{ min} + 46 \text{ min} = 101 \text{ min}$$

The total minutes Mrs. Haley roasts the turkey is 101 min.

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

Stella	
Time Spent Getting a Bath	Weight
36 minutes	32 kg

Oliver	
Time Spent Getting a Bath	Weight
25 minutes	7 kg

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

a. Estimate the total weight of Stella and Oliver.

$$30 + 10 = 40 \text{ kg}$$

Notes

$$\begin{array}{r} 32 \rightarrow 30 \\ 7 \rightarrow +10 \\ \hline 40 \end{array}$$

b. What is the actual total weight of Stella and Oliver?

$$32 + 7 = 39 \text{ kg}$$

c. Estimate the total amount of time Cathy spends giving her dogs a bath.

$$40 + 30 = 70 \text{ minutes}$$

$$\begin{array}{r} 36 \rightarrow 40 \\ 25 \rightarrow 30 \\ \hline 60 \\ \hline 70 \end{array}$$

d. What is the actual total time Cathy spends giving her dogs a bath?

$$36 + 25 = 61 \text{ minutes}$$

e. Explain how estimating helps you check the reasonableness of your answers.

When you estimate it should give you an answer that is pretty close to the actual answer.

**Make sure when you estimate you are getting numbers that are reasonable compared to the original number.*



Name _____

Date _____

1. Solve the subtraction problems below. Remember subtraction means to decompose or take-away

a. $70L - 46L$

b. $370L - 46L$

c. $370L - 146L$

→ line the Problems up vertically and check place value

$$\begin{array}{r} \overset{6}{7} \overset{10}{0} L \\ - 46L \\ \hline 24L \end{array}$$

$$\begin{array}{r} \overset{6}{3} \overset{10}{7} \overset{0}{0} L \\ - 46L \\ \hline 324L \end{array}$$

$$\begin{array}{r} \overset{6}{3} \overset{10}{7} \overset{0}{0} L \\ - 146L \\ \hline 224L \end{array}$$

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

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

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

check to be sure that digits in the one's place are line up with digits in the one's place
ex) $\begin{array}{r} 07 \\ - 32 \\ \hline \end{array}$

$$\begin{array}{r} \overset{5}{6} \overset{10}{0} \overset{7}{7} \text{ cm} \\ - 32 \text{ cm} \\ \hline 575 \text{ cm} \end{array}$$

$$\begin{array}{r} \overset{8}{5} \overset{12}{9} \overset{2}{2} \text{ cm} \\ - 258 \text{ cm} \\ \hline 234 \text{ cm} \end{array}$$

$$\begin{array}{r} \overset{8}{9} \overset{11}{1} \overset{8}{8} \text{ cm} \\ - 553 \text{ cm} \\ \hline 365 \text{ cm} \end{array}$$

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

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

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

$$\begin{array}{r} \overset{6}{7} \overset{16}{6} \overset{3}{3} \text{ g} \\ - 82 \text{ g} \\ \hline 681 \text{ g} \end{array}$$

$$\begin{array}{r} \overset{10}{8} \overset{0}{0} \overset{3}{3} \text{ g} \\ - 542 \text{ g} \\ \hline 261 \text{ g} \end{array}$$

$$\begin{array}{r} \overset{12}{5} \overset{7}{7} \overset{2}{2} \text{ km} \\ - 266 \text{ km} \\ \hline 306 \text{ km} \end{array}$$

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

KNW



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.

giraffe + calf	904 kg
giraffe	829 kg
calf	?

$$\begin{array}{r} 8 \ 9 \ 14 \\ 904 \\ - 829 \\ \hline 75 \end{array}$$

The calf weighs 75 kg.

H	T	O
9	0	4
□□□□□	—	□□□□

H	T	O
8	9	14
□□□□□		□□□□□



The picture provides important information.

- We need to subtract 9 ones but there are only 4 ones. There are no tens to regroup.
- Decompose 1 hundred to make 10 tens. Decompose 1 ten to make 10 ones.

Calf ? kg

H	T	O
8	9	14
-8	-2	-9
0	7	5

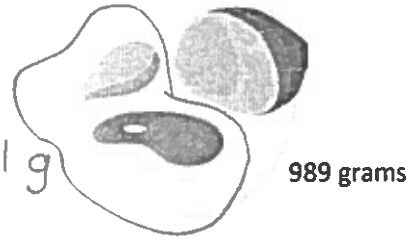
3. The Erie Canal runs 584 kilometers from Albany to Buffalo. Salvador travels on the canal from Albany. He must travel 396 kilometers more before he reaches Buffalo. How many kilometers has he traveled so far?

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?

1. Go to the place and underline the digit.
2. Go to your neighbor and ask, "Are you 5 or greater?"
3. Yes, bump it up.
No, leave it alone.

4. Everything after the underlined digit becomes a zero.

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.

$$\begin{array}{r}
 \underline{648} \\
 650
 \end{array}
 \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{Tens}
 \qquad
 \begin{array}{r}
 \underline{989} \\
 600
 \end{array}
 \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{Hundreds}$$

b. How much does the ham actually weigh?

$$\begin{array}{r}
 989 \\
 -341 \\
 \hline
 648 \text{ grams}
 \end{array}$$

The ham actually weighs 648 grams.

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.

VL

3. The Blue Team runs a relay. The chart shows the time, in minutes, that each team member spends running.
- How many minutes does it take the Blue Team to run the relay?

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

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

To estimate:
 round to the nearest hundred
 - circle digit in the hundreds place
 - look to digit in the tens place

If digit is 5 or above
 round up to nearest hundred
 If digit is 4 or below
 leave digit alone Estimate

4. The lengths of three banners are shown to the right.
- Estimate, and then find the actual total length of Banner A and Banner C.

Banner A	<u>4</u> 37 cm	400
Banner B	<u>4</u> 57 cm	500
Banner C	<u>3</u> 32 cm	300

Estimate
 Banner A : 400
 Banner B : 300
700

Banner A + C ≈ 700cm

Actual: 437
 + 332
769

Banner A + C = 769cm

- 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.