Eureka Math™ Homework Helper

2015–2016

Grade 3
Module 2
Lessons 1–17

Eureka Math, A Story of Units®

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G3-M2-Lesson 1

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

Eric	19 seconds
Woo	20 seconds
Sharon	24 seconds
Steven	18 seconds
Joyce	22 seconds

a. Who is the fastest runner?

Steven is the fastest runner.

I know Steven is the fastest runner because the chart shows me that he ran 100 meters in the least number of seconds, 18 seconds.

b. Who is the slowest runner?

Sharon is the slowest runner.

I know Sharon is the slowest runner because the chart shows me that she ran 100 meters in the most number of seconds, 24 seconds.

c. How many seconds faster did Eric run than Sharon?

$24 - 19 = 5$

Eric ran 5 seconds faster than Sharon.

I can subtract Eric's time from Sharon's time to find how much faster Eric ran than Sharon. I can use the compensation strategy to think of subtracting $24 - 19$ as $25 - 20$ to get 5. It is much easier for me to subtract $25 - 20$ than $24 - 19$.

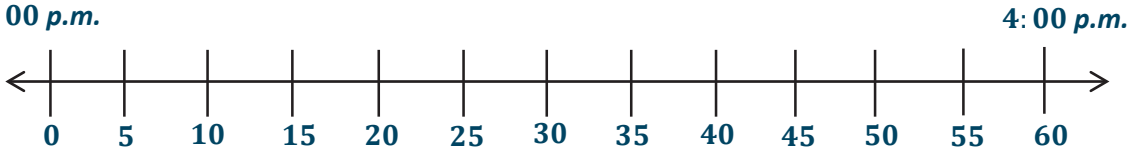
G3-M2-Lesson 2

Follow the directions to label the number line below.

a. Susan practices piano between 3:00 p.m. and 4:00 p.m. Label the first and last tick marks as 3:00 p.m. and 4:00 p.m.

I can label this first tick mark as 3:00 p.m. and the last tick mark as 4:00 p.m. to show the hour interval Susan practices piano.

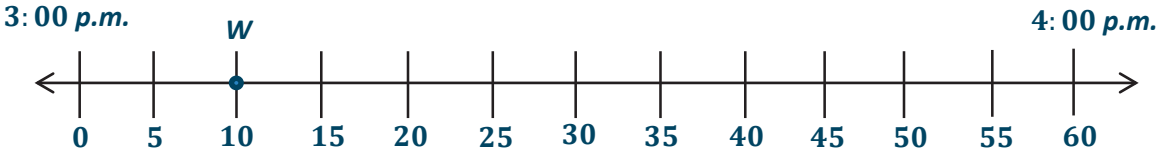
b. Each interval represents 5 minutes. Count by fives starting at 0, or 3:00 p.m. Label each 5-minute interval below the number line up to 4:00 p.m.



I know there are 60 minutes between 3:00 p.m. and 4:00 p.m. I can label 0 minutes below where I wrote 3:00 p.m. and label 60 minutes below where I wrote 4:00 p.m.

I can skip-count by fives to label each 5-minute interval from left to right, starting with 0 and ending with 60.

c. Susan warms up her fingers by playing the scales until 3:10 p.m. Plot a point on the number line to represent this time. Above the point, write *W*.



I can find 3:10 p.m. by putting my finger on 3:00 p.m. and moving it to the right as I skip-count intervals until I reach 3:10 p.m. Then I can draw a dot to plot the location of this point on the number line. I can label this point W to represent Susan's warm-up time.

G3-M2-Lesson 3

The clock shows what time Caleb starts playing outside on Monday afternoon.

a. What time does he start playing outside?

Caleb starts playing outside at 2:32 p.m.

I can find the minutes on this analog clock by counting by fives and ones, beginning on the 12, as zero minutes.

Start

b. He plays outside for 19 minutes. What time does he finish playing?

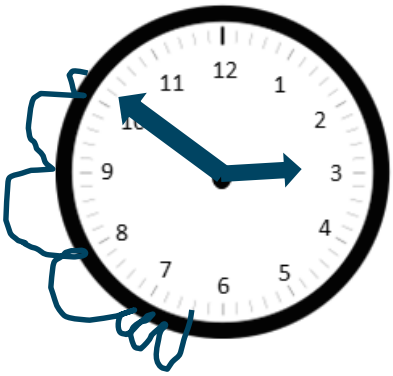
Caleb finishes playing outside at 2:51 p.m.

I can use different strategies to find the time Caleb finishes playing. The most efficient strategy is to add 20 minutes to 2:32 to get 2:52, and then subtract 1 minute to get 2:51.

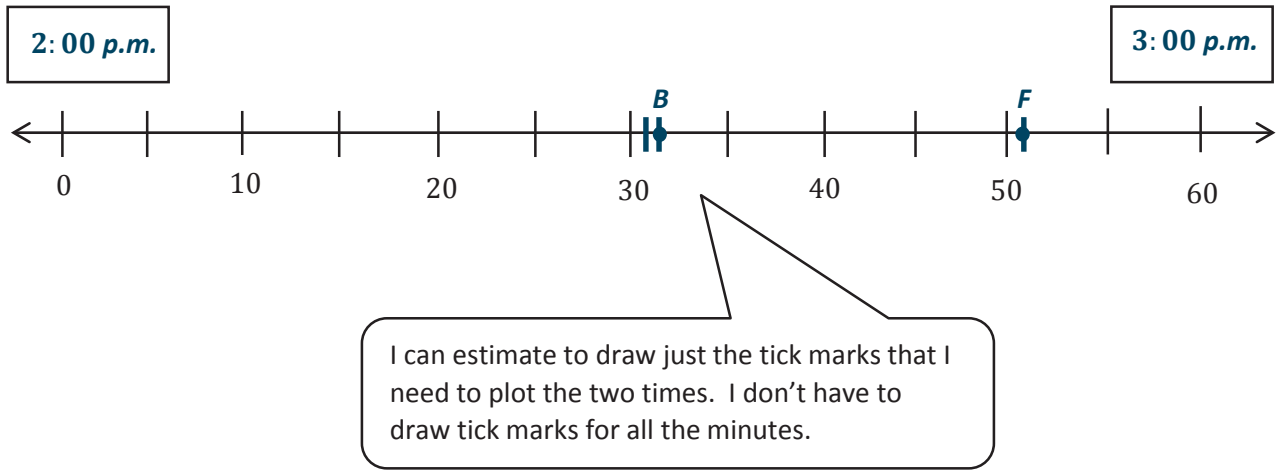
c. Draw hands on the clock to the right to show what time Caleb finishes playing.

Finish

I can check my answer from part (b) by counting by fives and ones on the clock, and then draw the hands on the clock. My minute hand is exactly at 51 minutes, but my hour hand is close to the 3 since it is almost 3:00.



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

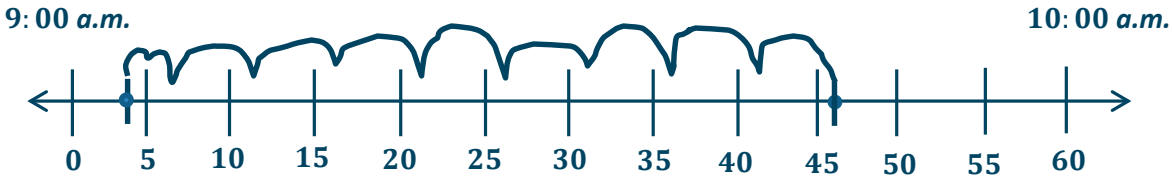


G3-M2-Lesson 4

Use a number line to answer the problems below.

1. Celina cleans her room for 42 minutes. She starts at 9:04 a.m. What time does Celina finish cleaning her room?

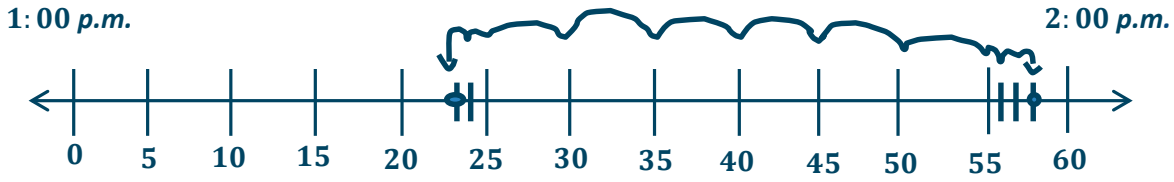
I can draw a number line to help me figure out when Celina finishes cleaning her room. On the number line, I can label the first tick mark 0 and the last tick mark 60. Then I can label the hours and the 5-minute intervals.



Celina finishes cleaning her room at 9:46 a.m.

I can plot 9:04 a.m. on the number line. Then I can count 2 minutes to 9:06 and 40 minutes by fives until 9:46. 42 minutes after 9:04 a.m. is 9:46 a.m.

2. The school orchestra puts on a concert for the school. The concert lasts 35 minutes. It ends at 1:58 p.m. What time did the concert start?



The concert started at 1:23 p.m.

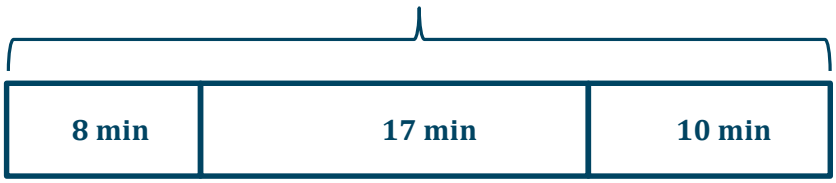
I can plot 1:58 p.m. on the number line. Then I can count backwards from 1:58 by ones to 1:55, by fives to 1:25, and by ones to 1:23. 1:23 p.m. is 35 minutes before 1:58 p.m.

G3-M2-Lesson 5

Luke exercises. He stretches for 8 minutes, runs for 17 minutes, and walks for 10 minutes.

a. How many total minutes does he spend exercising?

I can draw a tape diagram to show all the known information. I see all the parts are given, but the whole is unknown. So, I can label the whole with a question mark.



I can estimate to draw the parts of my tape diagram to match the lengths of the minutes. 8 minutes is the shortest time, so I can draw it as the shortest unit. 17 minutes is the longest time, so I can draw it as the longest unit.

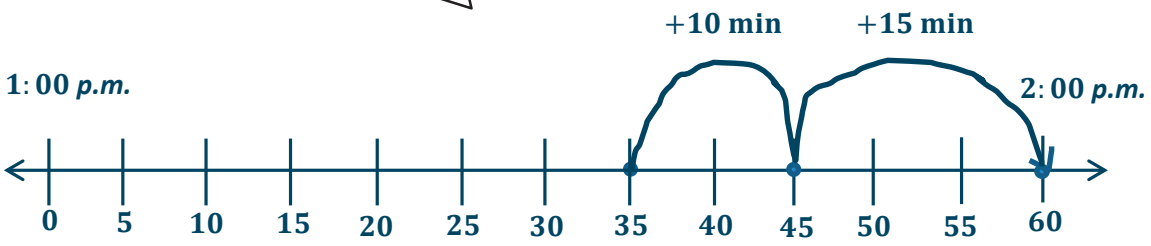
$8 + 17 + 10 = 35$

Luke spends a total of 35 minutes exercising.

I can write an addition equation to find the total number of minutes Luke spends exercising. I also need to remember to write a statement that answers the question.

b. Luke wants to watch a movie that starts at 1:55 p.m. It takes him 10 minutes to take a shower and 15 minutes to drive to the theater. If Luke starts exercising at 1:00 p.m., can he make it on time for the movie? Explain your reasoning.

I can draw a number line to show my reasoning. I can plot the starting time as 1:35 because I know it takes Luke 35 minutes to exercise from part (a). Then I can add 10 minutes for his shower and an additional 15 minutes for the drive to the theater.



No, Luke can't make it on time for the movie. From the number line, I can see that he will be five minutes late.

I can see on the number line that Luke will be at the theater at 2:00 p.m. The movie starts at 1:55 p.m., so he'll be 5 minutes too late.

G3-M2-Lesson 6

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

1 kilogram	100 grams	10 grams	1 gram

a. Bethany puts a marker that weighs 10 grams on a pan balance. How many 1-gram weights does she need to balance the scale?

Bethany needs ten 1-gram weights to balance the scale.

I know that it takes ten 1-gram weights to equal 10 grams.

b. Next, Bethany puts a 100-gram bag of beans on a pan balance. How many 10-gram weights does she need to balance the scale?

Bethany needs ten 10-gram weights to balance the scale.

I know that it takes ten 10-gram weights to equal 100 grams.

c. Bethany then puts a book that weighs 1 kilogram on a pan balance. How many 100-gram weights does she need to balance the scale?

Bethany needs ten 100-gram weights to balance the scale.

I know that it takes ten 100-gram weights to equal 1 kilogram, or 1,000 grams.

d. What pattern do you notice in parts (a)–(c)?

I notice that to make a weight in the chart it takes ten of the lighter weight to the right in the chart. For example, to make 100 grams, it takes ten 10-gram weights, and to make 1 kilogram, or 1,000 grams, it takes ten 100-gram weights. It's just like the place value chart!

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

153 *grams*

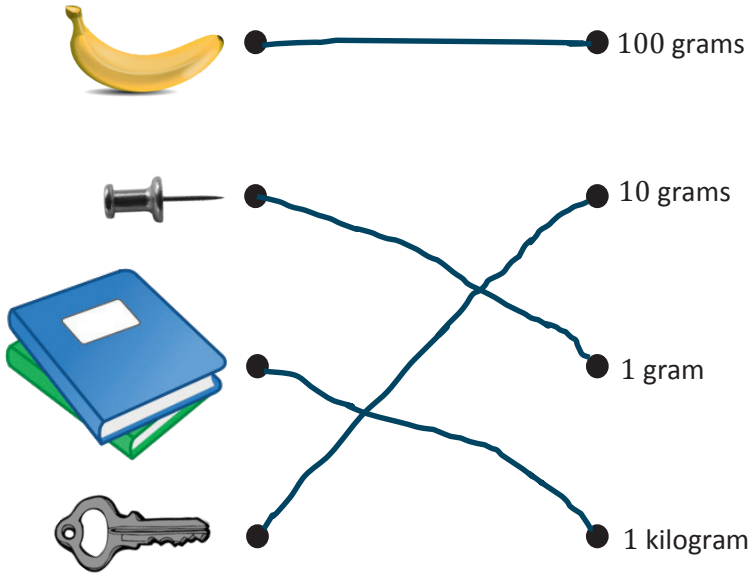
I can write 153 grams because I know that the letter g is used to abbreviate grams.

3 *kilograms*

I can write 3 kilograms because I know that the letters kg are used to abbreviate kilograms.

G3-M2-Lesson 7

1. Match each object with its approximate weight.

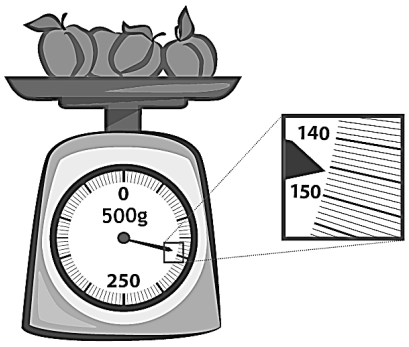


I know that the tack is the lightest object, so it must weigh about 1 gram. I also know that the books are the heaviest, so they must weigh about 1 kilogram. I know that the key is lighter than the banana, so the key must weigh about 10 grams and the banana must weigh about 100 grams.

2. Jessica weighs her dog on a digital scale. She writes 8, but she forgets to record the unit. Which unit of measurement is correct, grams or kilograms? How do you know?

The weight of Jessica's dog needs to be recorded as 8 kilograms. Kilograms is the correct unit because 8 grams is about the same weight as 8 paperclips. It wouldn't make sense for her dog to weigh about the same as 8 paperclips.

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



146 grams

I know the unit is grams because there is a letter g on the scale. I can use the image to the right of the scale to determine that each tick mark between 140 grams and 150 grams represents 1 gram. The fruit weighs 146 grams.

G3-M2-Lesson 8

The weights below show the weight of the apples in each bucket.

Bucket A
9 kg

Bucket B
7 kg

Bucket C
14 kg

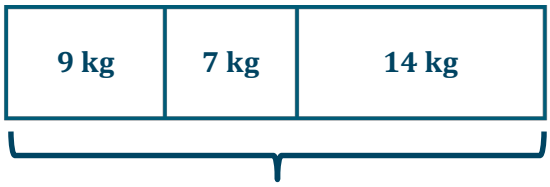
Bucket C weighs 14 kg, and Bucket B weighs 7 kg. I know that $14 - 7 = 7$, so Bucket C weighs 7 kg more.

a. The apples in Bucket **C** are the heaviest.

b. The apples in Bucket **B** are the lightest.

c. The apples in Bucket C are **7** kilograms heavier than the apples in Bucket B.

d. What is the total weight of the apples in all three buckets?

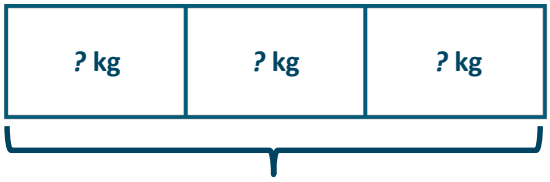


$9 + 7 + 14 = 30$

The total weight of the apples is 30 kilograms.

I can use a tape diagram to show the weight of each bucket of apples. Then, I can add each apple's weight to find the total weight of the apples.

e. Rebecca and her 2 sisters equally share all of the apples in Bucket A. How many kilograms of apples do they each get?

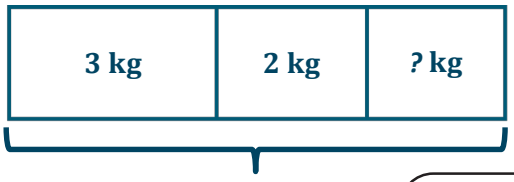


$9 \div 3 = 3$

Each sister gets 3 kilograms of apples.

I know that I'm dividing 9 kilograms into 3 equal groups because 3 people are sharing the apples in Bucket A. When I know the total and the number of equal groups, I divide to find the size of each group!

f. Mason gives 3 kilograms of apples from Bucket B to his friend. He uses 2 kilograms of apples from Bucket B to make apple pies. How many kilograms of apples are left in Bucket B?

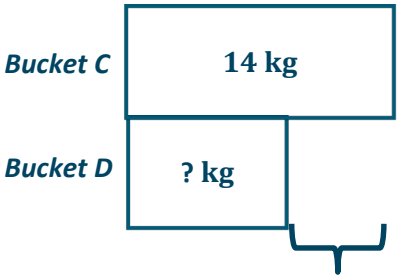


$7 - 5 = 2$

There are 2 kilograms of apples left in Bucket B.

I know that 3 kg of apples were given away and 2 kg of apples were used for apple pies. That means that 5 kg of apples were taken out of Bucket B. It had 7 kg in it to start with, and $7 - 5 = 2$. There are 2 kg of apples left.

g. Angela picks another bucket of apples, Bucket D. The apples in Bucket C are 6 kilograms heavier than the apples in Bucket D. How many kilograms of apples are in Bucket D?



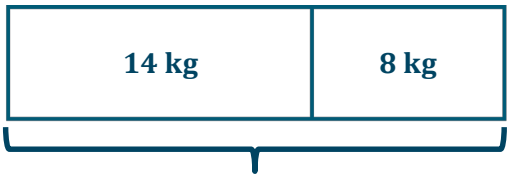
I can draw a double tape diagram to model the problem. I know that the apples in Bucket D weigh 6 kg less than the apples in Bucket C.

I can subtract to find the weight of the apples in Bucket D.

$14 - 6 = 8$

There are 8 kilograms of apples in Bucket D.

h. What is the total weight of the apples in Buckets C and D?



$14 + 8 = 22$

The total weight of the apples in Buckets C and D is 22 kilograms.

To find the total weight of the apples in Buckets C and D, I need to add. I know that $14 + 8 = 22$, so the total weight of the apples in Buckets C and D is 22 kilograms.

G3-M2-Lesson 9

1. Ben makes 4 batches of cookies for the bake sale. He uses 5 milliliters of vanilla for each batch. How many milliliters of vanilla does he use in all?

I can draw a tape diagram that has 4 units to represent the 4 batches of cookies. I can label each unit as 5 mL to represent the amount of vanilla used in each batch.

$4 \times 5 = 20$

I can multiply 4×5 to find the total amount of vanilla.

Ben uses 20 milliliters of vanilla.

2. Mrs. Gillette pours 3 glasses of juice for her children. Each glass holds 321 milliliters of juice. How much juice does Mrs. Gillette pour in all?

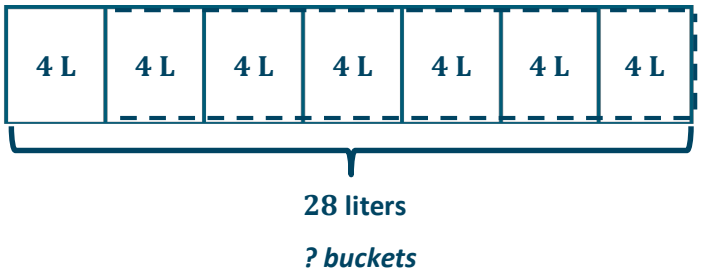
I can draw a tape diagram to model the problem. I can draw 3 units of 321 mL. I need to solve for the total amount of juice.

$321 + 321 + 321 = 963$

Mrs. Gillette pours 963 milliliters of juice.

I could solve using the expression, 3×321, but I don't know how to do that kind of multiplication yet. I can solve with repeated addition.

3. Gabby uses a 4-liter bucket to give her pony water. How many buckets of water will Gabby need in order to give her pony 28 liters of water?



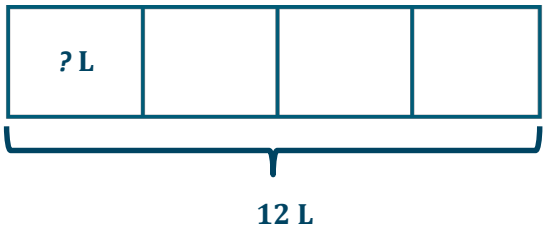
I can draw a tape diagram. I know the total is 28 liters and the size of each unit is 4 liters. I need to solve for the number of units (buckets).

$28 \div 4 = 7$

Gabby needs 7 buckets of water.

Since I know the total and the size of each unit, I can divide to solve.

4. Elijah makes 12 liters of punch for his birthday party. He pours the punch equally into 4 bowls. How many liters of punch are in each bowl?



I can draw a tape diagram. I know the total is 12 liters and there are 4 bowls or units. I need to solve for the number of liters in each bowl.

$12 \div 4 = 3$

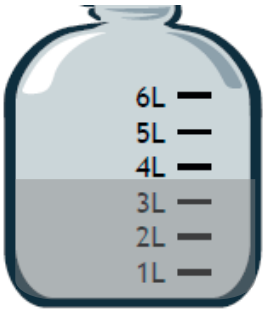
Since I know the total and the number of units, I can divide to solve.

Elijah pours 3 liters of punch into each bowl.

I can divide to solve Problems 3 and 4, but the unknowns in each problem are different. In Problem 3, I solved for the number of groups/units. In Problem 4, I solved for the size of each group/unit.

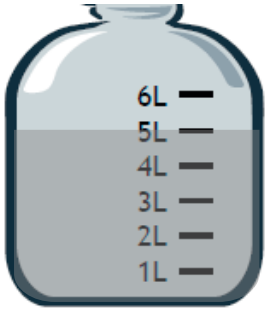
G3-M2-Lesson 10

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



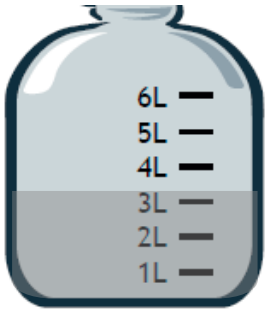
The liquid in this container is between 3 liters and 4 liters. Since it is more than halfway to the next liter, 4 liters, I can estimate that there are about 4 liters of liquid.

4 liters



The liquid in this container is at exactly 5 liters.

5 liters



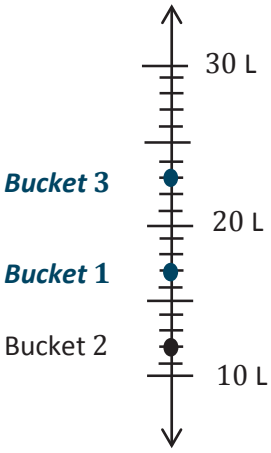
The liquid in this container is between 3 liters and 4 liters. Since it is less than halfway to the next liter, 4 liters, I can estimate that there are about 3 liters of liquid.

3 liters

2. Manny is comparing the capacity of buckets that he uses to water his vegetable garden. Use the chart to answer the questions.

Bucket	Capacity in Liters
Bucket 1	17
Bucket 2	12
Bucket 3	23

a. Label the number line to show the capacity of each bucket. Bucket 2 has been done for you.



I can use the tick marks to help me locate the correct place on the number line for each bucket. I can label Bucket 1 at 17 liters and Bucket 3 at 23 liters.

b. Which bucket has the greatest capacity?

Bucket 3 has the greatest capacity.

c. Which bucket has the smallest capacity?

Bucket 2 has the smallest capacity.

I can use the vertical number line to help me answer both of these questions. I can see that the point I plotted for Bucket 3 is higher up the number line than the others, so it has a larger capacity than the others. I also see that the point I plotted for Bucket 2 is lowest on the number line, so it has the smallest capacity.

d. Which bucket has a capacity of about 10 liters?

Bucket 2 has a capacity of about 10 liters.

I notice that Bucket 2 is closest to 10 liters, so it has a capacity of about 10 liters.

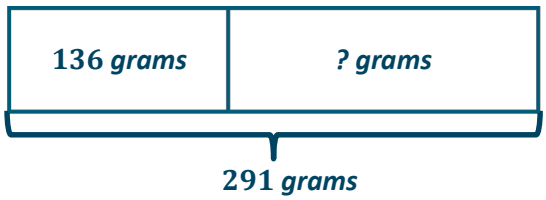
e. Use the number line to find how many more liters Bucket 3 holds than Bucket 2.

Bucket 3 holds 11 more liters than Bucket 2.

To solve this problem, I can count up on the number line from Bucket 2 to Bucket 3. I'll start at 12 liters because that is the capacity of Bucket 2. I count up 8 tick marks to 20 liters, and then I count 3 more tick marks to 23, which is the capacity of Bucket 3. I know that $8 + 3 = 11$, so Bucket 3 holds 11 more liters than Bucket 2.

G3-M2-Lesson 11

1. Together the weight of a banana and an apple is 291 grams. The banana weighs 136 grams. How much does the apple weigh?



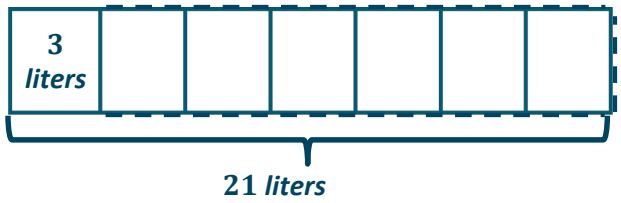
I can draw a tape diagram to model the problem. The total is 291 grams, and one part—the weight of the banana—is 136 grams. I can subtract to find the other part, the weight of the apple.

$$\begin{array}{r} {}^{8}\,{}^{11} \\ 2\,\not{9}\,\not{1}\text{ g} \\ -\ 136\text{ g} \\ \hline 155\text{ g} \end{array}$$

I can use the standard algorithm to subtract. I can unbundle 1 ten to make 10 ones. Now there are 2 hundreds, 8 tens, and 11 ones.

The apple weighs 155 grams.

2. Sandy uses a total of 21 liters of water to water her flowerbeds. She uses 3 liters of water for each flowerbed. How many flowerbeds does Sandy water?



I can draw a tape diagram to model the problem. The total is 21 liters, and each unit represents the amount of water Sandy uses for each flowerbed, 3 liters. I can see that the unknown is the number of units (groups).

$21 \div 3 = 7$

I can divide to find the total number of units, which represents the number of flowerbeds.

Sandy waters 7 flowerbeds.

Now that I know the answer, I can draw the rest of the units in my tape diagram, to show a total of 7 units.

G3-M2-Lesson 12

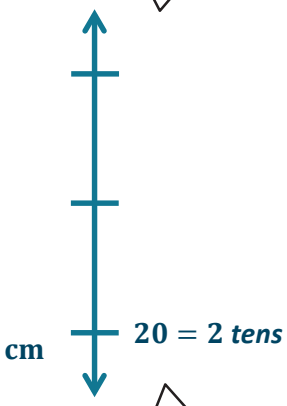
1. Complete the chart.

I measured the width of a picture frame. It was 24 centimeters wide.

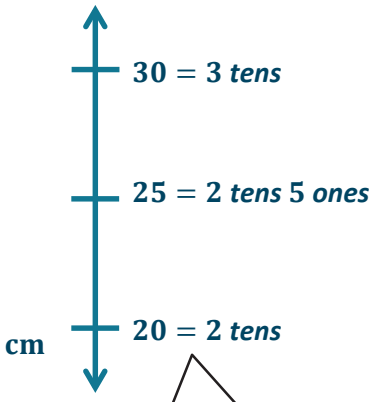
Object	Measurement (in cm)	The object measures between (which two tens)…	Length rounded to the nearest 10 cm
Width of picture frame	24 cm	20 and 30 cm	20 cm

I can use a vertical number line to help me round 24 cm to the nearest 10 cm.

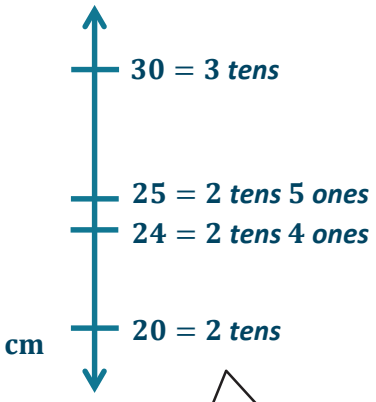
The endpoints on my vertical number line help me know which two tens the width of the picture frame is in between.



There are 2 tens in 24, so I can label this endpoint as 2 tens or 20.

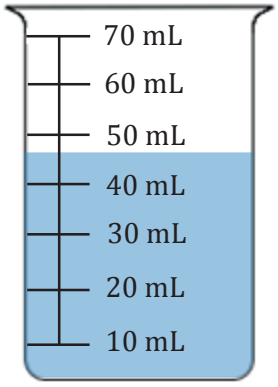


One more ten than 2 tens is 3 tens, so I can label the other endpoint as 3 tens or 30. Halfway between 2 tens and 3 tens is 2 tens 5 ones. I can label the halfway point as 2 tens 5 ones or 25.



I can plot 24 or 2 tens 4 ones on the vertical number line. I can easily see that 24 is less than halfway between 2 tens and 3 tens. That means that 24 cm rounded to the nearest 10 cm is 20 cm.

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



I can use the beaker to help me round the amount of liquid to the nearest 10 mL. I can see that the liquid is between 40 (4 tens) and 50 (5 tens). I can also see that the liquid is more than halfway between 4 tens and 5 tens. That means that the amount of liquid rounds up to the next ten milliliters, 50 mL.

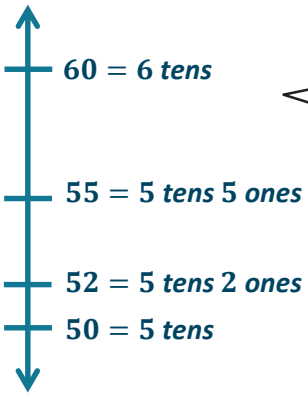
There are about **50** milliliters of liquid in the beaker.

The word *about* tells me that this is not the exact amount of liquid in the beaker.

G3-M2-Lesson 13

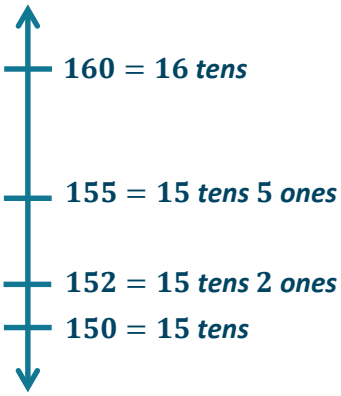
1. Round to the nearest ten. Draw a number line to model your thinking.

a. $52 \approx$ **50**



I can draw a vertical number line with endpoints of 50 and 60 and a halfway point of 55. When I plot 52 on the vertical number line, I can see that it is less than halfway between 50 and 60. So 52 rounded to the nearest ten is 50.

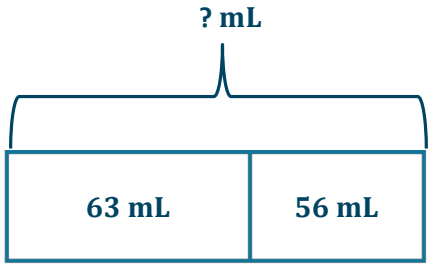
b. $152 \approx$ **150**



I can draw a vertical number line with endpoints of 150 and 160 and a halfway point of 155. When I plot 152 on the vertical number line, I can see that it is less than halfway between 150 and 160. So 152 rounded to the nearest ten is 150.

Look, my vertical number lines for parts (a) and (b) are almost the same! The only difference is that all the numbers in part (b) are 100 more than the numbers in part (a).

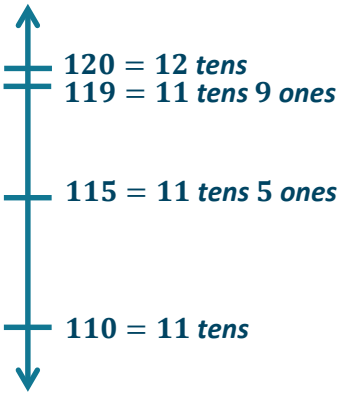
2. Amelia pours 63 mL of water into a beaker. Madison pours 56 mL of water into Amelia's beaker. Round the total amount of water in the beaker to the nearest 10 milliliters. Model your thinking using a number line.



I can draw and label a tape diagram to represent the water in the beaker.

63 mL + 56 mL = 119 mL

I can find the total amount of water in the beaker by adding 63 mL and 56 mL.



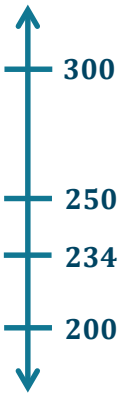
I can use a vertical number line to round 119 mL to the nearest 10 milliliters. I can see that 119 mL is more than halfway between 110 mL and 120 mL. So 119 mL rounded to the nearest 10 mL is 120 mL.

There are about 120 mL of water in the beaker.

G3-M2-Lesson 14

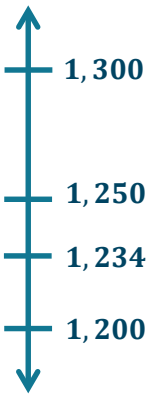
1. Round to the nearest hundred. Draw a number line to model your thinking.

a. $234 \approx$ **200**



I can draw a vertical number line with endpoints of 200 and 300 and a halfway point of 250. When I plot 234 on the vertical number line, I can see that it is less than halfway between 200 and 300. So 234 rounded to the nearest hundred is 200.

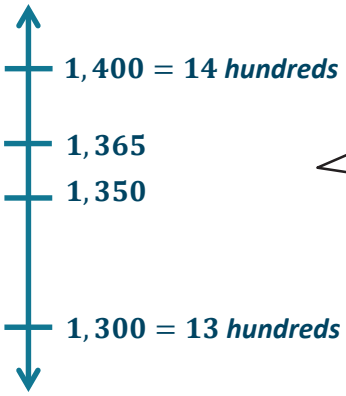
b. $1{,}234 \approx$ **1,200**



I can draw a vertical number line with endpoints of 1,200 and 1,300 and a halfway point of 1,250. When I plot 1,234 on the vertical number line, I can see that it is less than halfway between 1,200 and 1,300. So 1,234 rounded to the nearest hundred is 1,200.

Look, my vertical number lines for parts (a) and (b) are almost the same! The only difference is that all the numbers in part (b) are 1,000 more than the numbers in part (a).

2. There are 1,365 students at Park Street School. Kate and Sam round the number of students to the nearest hundred. Kate says it is one thousand, four hundred. Sam says it is 14 hundreds. Who is correct? Explain your thinking.



I can use a vertical number line to round 1,365 to the nearest hundred. I see that 1,365 is more than halfway between 1,300 and 1,400. So 1,365 rounded to the nearest hundred is 1,400.

Kate and Sam are both right. 1,365 rounded to the nearest hundred is 1,400. 1,400 in unit form is 14 hundreds.

G3-M2-Lesson 15

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

a. $69 \text{ cm} + 7 \text{ cm} = \mathbf{76 \text{ cm}}$

70 **1** **6**

I can use mental math to solve this problem. I broke apart the 7 as 1 and 6. Then I solved the equation as $70 \text{ cm} + 6 \text{ cm} = 76 \text{ cm}$.

For this problem, the standard algorithm is a more strategic tool to use.

b. $59 \text{ kg} + 76 \text{ kg}$

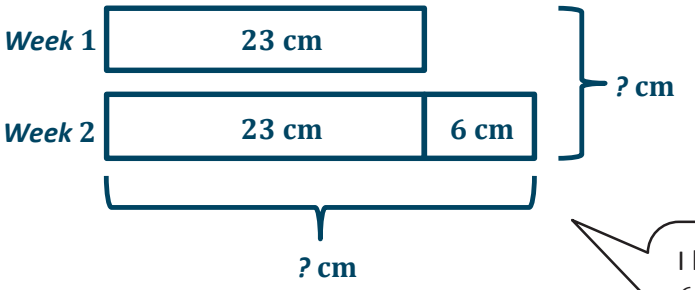
$$\begin{array}{r} \mathbf{59 \text{ kg}} \\ \mathbf{+\ 76 \text{ kg}} \\ \hline \mathbf{5} \end{array}$$
$$\mathbf{1}$$

$$\begin{array}{r} \mathbf{59 \text{ kg}} \\ \mathbf{+\ 76 \text{ kg}} \\ \hline \mathbf{135 \text{ kg}} \end{array}$$
$$\mathbf{1}$$

9 ones plus 6 ones is 15 ones. I can rename 15 ones as 1 ten and 5 ones. I can record this by writing the 1 so that it crosses the line under the tens in the tens place, and the 5 below the line in the ones column. This way I write 15, rather than 5 and 1 as separate numbers.

5 tens plus 7 tens plus 1 ten equals 13 tens. So, $59 \text{ kg} + 76 \text{ kg} = 135 \text{ kg}$.

2. Mrs. Alvarez's plant grew 23 centimeters in one week. The next week it grew 6 centimeters more than the previous week. What is the total number of centimeters the plant grew in 2 weeks?



I can draw a double tape diagram for this problem because I am comparing Week 1 and Week 2.

I know that in Week 2 the plant grew 6 centimeters more than the previous week. So, I can add on 6 cm to 23 cm to get 29 cm in Week 2.

29 cm does not answer the question since this tells me how much the plant grew only in Week 2. I need to find the total number of centimeters the plant grew in 2 weeks.

$23 \text{ cm} + 6 \text{ cm} = 29 \text{ cm}$

$23 \text{ cm} + 29 \text{ cm} = 52 \text{ cm}$

22 1 30

In order to find the total number of centimeters the plant grew in 2 weeks, I can add 23 cm + 29 cm. I can use mental math to solve this problem since 29 is close to 30.

Now I can write a statement that answers the question. This helps me check my work to see if my answer is reasonable.

The plant grew 52 centimeters in 2 weeks.

G3-M2-Lesson 16

1. Find the sums.

a. $38 \text{ m} + 27 \text{ m} = \mathbf{65 \text{ m}}$

$\mathbf{2}$ $\mathbf{25}$

I can use mental math to solve this problem. I can break apart 27 as 2 and 25. Then I can solve $40 \text{ m} + 25 \text{ m}$, which is 65 m.

b. $358 \text{ kg} + 167 \text{ kg}$

I can use the standard algorithm to solve this problem. I can line the numbers up vertically and add.

$$\begin{array}{r} 385 \text{ kg} \\ +\ 167 \text{ kg} \\ \hline 2 \end{array}$$

5 ones plus 7 ones is 12 ones. I can rename 12 ones as 1 ten 2 ones.

$$\begin{array}{r} 385 \text{ kg} \\ +\ 167 \text{ kg} \\ \hline 52 \end{array}$$

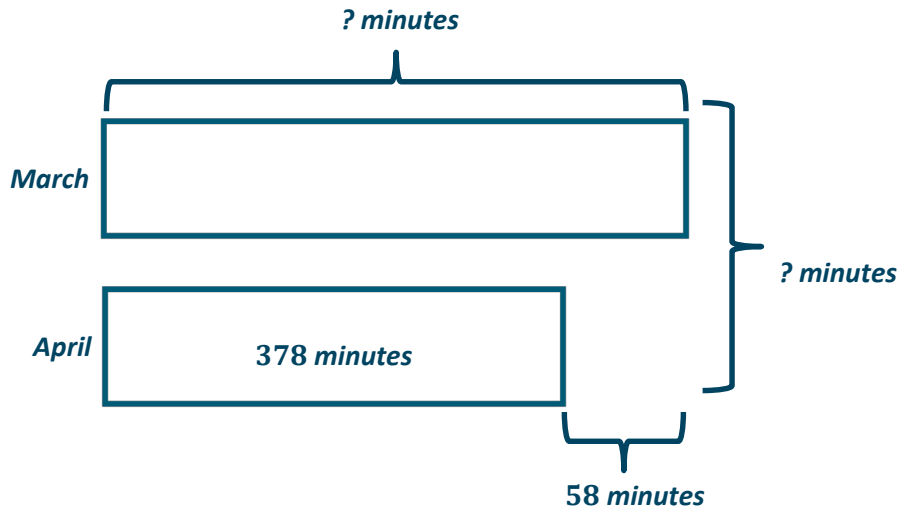
8 tens plus 6 tens is 14 tens. Plus 1 more ten is 15 tens. I can rename 15 tens as 1 hundred 5 tens.

$$\begin{array}{r} 385 \text{ kg} \\ +\ 167 \text{ kg} \\ \hline 552 \text{ kg} \end{array}$$

3 hundreds plus 1 hundred is 4 hundreds. Plus 1 more hundred is 5 hundreds. The sum is 552 kg.

2. Matthew reads for 58 more minutes in March than in April. He reads for 378 minutes in April. Use a tape diagram to find the total minutes Matthew reads in March and April.

I can draw a double tape diagram because I am comparing the number of minutes Matthew read in March and April.



$$\begin{array}{r} 378 \text{ minutes} \\ +\ 58 \text{ minutes} \\ \hline 436 \text{ minutes} \end{array}$$
(11)

I can use the standard algorithm to add 378 minutes and 58 minutes. 436 minutes is the amount of time Matthew reads in March.

$$\begin{array}{r} 436 \text{ minutes} \\ +\ 378 \text{ minutes} \\ \hline 814 \text{ minutes} \end{array}$$
(11)

I can use the standard algorithm to add the time Matthew reads in March, 436 minutes, and the time he reads in April, 378 minutes, to find the total time he spends reading for both months.

Matthew read for 814 minutes in March and April.

G3-M2-Lesson 17

Lucy buys an apple that weighs 152 grams. She buys a banana that weighs 109 grams.

a. Estimate the total weight of the apple and banana by rounding.

$152 \approx 200$

$109 \approx 100$

I can round each number to the nearest hundred.

$200\ grams + 100\ grams = 300\ grams$

I can add the rounded numbers to estimate the total weight of the apple and the banana. The total weight is about 300 grams.

b. Estimate the total weight of the apple and banana by rounding in a different way.

$152 \approx 150$

$109 \approx 110$

I can round each number to the nearest ten.

$150\ grams + 110\ grams = 260\ grams$

I can add the rounded numbers to estimate the total weight of the apple and the banana. The total weight is about 260 grams.

c. Calculate the actual total weight of the apple and the banana. Which method of rounding was more precise? Why?

$$\begin{array}{r} 152\ grams \\ +\ 109\ grams \\ \hline 261\ grams \end{array}$$

Rounding to the nearest ten grams was more precise because when I rounded to the nearest ten grams*, the estimate was 260 grams, and the actual answer is 261 grams. The estimate and the actual answer are only 1* gram *apart! When I rounded to the nearest hundred grams, the estimate was 300 grams, which isn't that close to the actual answer.*

I can use the standard algorithm to find the actual total weight of the apple and the banana.