Grade 3 Unit 4 Module 4
Practice Pages for Math at Home

NAME | DATE

Mass, Volume & Length Review

1 Anabel's turtle has a mass of 413 grams. Her frog has a mass of 288 grams. Does the mass of both pets put together equal a kilogram? If not, how much less than a kilogram is the mass of both pets added together? Show your work using numbers, sketches, or words.

2 Raphael had a bottle of water with 1,000 milliliters of water in it. He drank 376 milliliters of water. Then, he went for a run. After his run, Raphael drank 574 more milliliters of water.

a How much water did Raphael drink in all? Show your work using numbers, sketches, or words. Be sure to label the answer with the correct unit.

b How much water was left in Raphael's water bottle? Show your work using numbers, sketches, or words. Be sure to label the answer with the correct unit.

3 What unit do you use? Circle the unit you would use for each type of measurement.

Mass	liters	grams	centimeters
Volume	milliliters	inches	grams
Length	kilograms	milliliters	centimeters

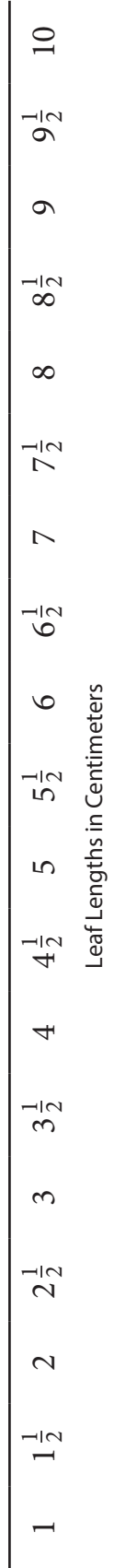**137**

NAME | **DATE**

Beanstalk Line Plot

Mrs. Englund's third graders were measuring their beanstalks again! This time they measured the leaves in centimeters and wondered how many of each leaf measurement they had. They decided to use a line plot to display their data.

Leaf Measurements in Centimeters

| 3 | 4 | $3\frac{1}{2}$ | $3\frac{1}{2}$ | 5 | 5 | 7 | $5\frac{1}{2}$ | 9 | 8 | 6 | $3\frac{1}{2}$ | 6 | 4 | $4\frac{1}{2}$ |
| 8 | $5\frac{1}{2}$ | $8\frac{1}{2}$ | $6\frac{1}{2}$ | 9 | 8 | 9 | 6 | $3\frac{1}{2}$ | $5\frac{1}{2}$ | 7 | 7 | $7\frac{1}{2}$ | 4 | 8 |

Record the data on the line plot below.

Beanstalk Measurements in Centimeters

Number of Leaves (X = 1 leaf)

| 1 | $1\frac{1}{2}$ | 2 | $2\frac{1}{2}$ | 3 | $3\frac{1}{2}$ | 4 | $4\frac{1}{2}$ | 5 | $5\frac{1}{2}$ | 6 | $6\frac{1}{2}$ | 7 | $7\frac{1}{2}$ | 8 | $8\frac{1}{2}$ | 9 | $9\frac{1}{2}$ | 10 |

Leaf Lengths in Centimeters

Beanstalk Measurements

Mrs. Englund's third graders measured how far Jim climbed up their beanstalks, using the nearest whole centimeters. The line plot below shows the heights Jim climbed.

Beanstalk Leaf Measurements in Centimeters

Number of Students (X = 1)

```
                              X
            X                 X   X
      X     X           X     X   X
      X     X     X     X     X   X             X
X     X     X     X     X     X   X     X   X   X   X
30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55
```

Heights Jim climbed in Centimeters

Use the information from the line plot to answer the questions below.

1 How high did most of the students have Jim climb the beanstalk? _____

2 How many students had Jim climb 42 cm or higher? _____

3 How many students had Jim climb 41 cm or lower? _____

4 What else did you notice?

NAME _____ | DATE _____

Measurement & Fractions

1 A marble has 5 times the mass of a paperclip. Peter puts 3 marbles on one side of a pan balance scale.

How many paperclips should Peter put on the other side to balance with the marbles? Show your work.

Peter should put _____ paperclips on the other side of the balance.

2 Tanner's dog dish has 4 times as much water as Lily's cat bowl. Lily's cat bowl has 200 milliliters of water in it.

How much water is in Tanner's dog dish? Show your work and label your answer with the correct units.

Tanner's dog dish has _____ of water.

3 Mark and label the number line below with the following whole numbers and fractions: $0, 1, \frac{3}{4}, \frac{1}{8}, \frac{1}{2}, \frac{1}{4}, \frac{7}{8}$.

4 Winter wants to make 8 containers of orange paint for a school project. She is planning to fill each container with 4 liters of red paint and 7 liters of yellow paint to get the right shade of orange.

How much paint does Winter need in all? Show your work and label your answer with the correct units.

Winter needs _____ of paint in all.

🏠 Snack Time: **Mass, Volume & Length** page 1 of 2

1 Use numbers, words, or sketches to show your thinking for problems a, b, and c. Don't forget to include the unit of measurement in your answers.

a Carl ate an apple that had a mass of 184 grams. Then, he ate 196 grams of peanuts. What was the total mass of Carl's snack?

b Allegra drank 203 milliliters of water. Then, she drank 157 milliliters of lemonade. How many milliliters of liquid did Allegra drink in all?

c Mr. Alcott's class was eating licorice twists for a special treat. They ate 117 feet of licorice twists. Mrs. Austen's class was also eating licorice twists. They ate 79 feet of licorice twists. How many more feet of licorice twists did Mr. Alcott's class eat?

2 What unit do you use? Circle the unit you would use for each type of measurement.

Length	liters	kilograms	centimeters
Mass	grams	inches	milliliters
Volume	milligrams	milliliters	meters

(continued on next page)

Snack Time: Mass, Volume & Length page 2 of 2

Use numbers, words, or sketches to show your thinking for all these problems. Don't forget to include the unit of measurement in your answers.

3 Mike has a can of potato chips. There are 16 chips in one serving, and one serving has a mass of 28 grams.

a What is the mass of 3 servings?

b One serving of the potato chips has 150 calories. How many calories are in 3 servings?

c One serving of the potato chips has 160 milligrams of sodium. How many milligrams of sodium are in 3 servings?

4 One can of potato chips has 5 servings. Each serving has 15 grams of carbohydrates.

a How many grams of carbohydrates are in a whole can of potato chips?

b CHALLENGE How many cans of potato chips are needed for 14 people to each have 3 servings?

NAME _____ | DATE _____

🏠 Time & Fraction Review page 1 of 2

1 Fill in the circle next to the time shown on each clock.

a ○ 1:45
    ○ 1:47
    ○ 2:47
    ○ 9:09

b ○ 3:40
    ○ 8:04
    ○ 8:19
    ○ 8:20

2 Write the time shown on each clock.

a _____ : _____

b _____ : _____

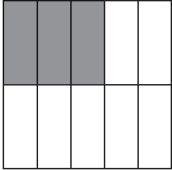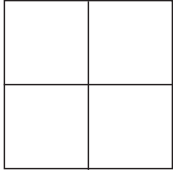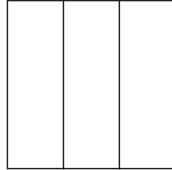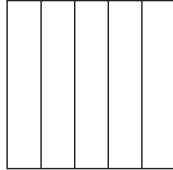**3** Circle the digital clock that shows the same time as this analog clock.

4 Taylor's mom said he and his brother could go to a movie while she went shopping. She dropped them off at the theater at 1:45 and said she would be back at 4:00 to get them. They had three choices of movies. Which movie could they see and be done by the time their mom came to get them? Show all your work. Hint: Remember that there are 60 minutes in an hour.

Movie	Start Time	Length (Including Previews)
Beetle goes to Town	1:55	130 minutes
Arctic Adventure	2:00	125 minutes
Rainy Day Dog	2:15	100 minutes

79

NAME | **DATE**
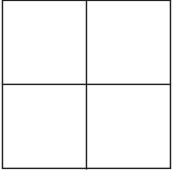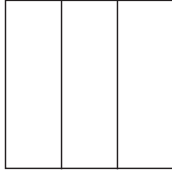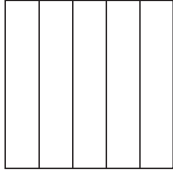
Time & Fraction Review page 2 of 2

5 On each square, fill in a fraction of the square that is less than $\frac{1}{2}$. Then use the symbols >, =, or < to compare your fraction to $\frac{1}{2}$.

ex	**a**	**b**	**c**
$\frac{3}{10} < \frac{1}{2}$			
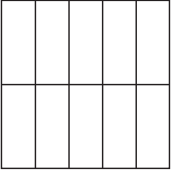
6 On each square, fill in a fraction of the square that is greater than $\frac{1}{2}$. Then use the symbols >, =, or < to compare your fraction to $\frac{1}{2}$.
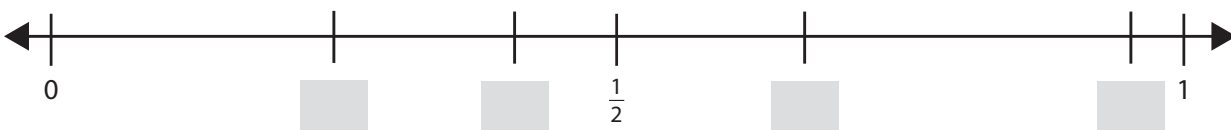
a	**b**	**c**	**d**

7 Write each of the following fractions where they belong on the number line below.

$$\frac{9}{10} \qquad \frac{1}{4} \qquad \frac{2}{5} \qquad \frac{2}{3}$$

0          $\frac{1}{2}$ 1

Answer Keys

NAME | DATE

🗓 Mass, Volume & Length Review

1 Anabel's turtle has a mass of 413 grams. Her frog has a mass of 288 grams. Does the mass of both pets put together equal a kilogram? If not, how much less than a kilogram is the mass of both pets added together? Show your work using numbers, sketches, or words.

No; 299 grams less than a kilogram.
Work will vary.

2 Raphael had a bottle of water with 1,000 milliliters of water in it. He drank 376 milliliters of water. Then, he went for a run. After his run, Raphael drank 574 more milliliters of water.

a How much water did Raphael drink in all? Show your work using numbers, sketches, or words. Be sure to label the answer with the correct unit.

950 milliliters; work will vary.

b How much water was left in Raphael's water bottle? Show your work using numbers, sketches, or words. Be sure to label the answer with the correct unit.

50 milliliters; work will vary.

3 What unit do you use? Circle the unit you would use for each type of measurement.

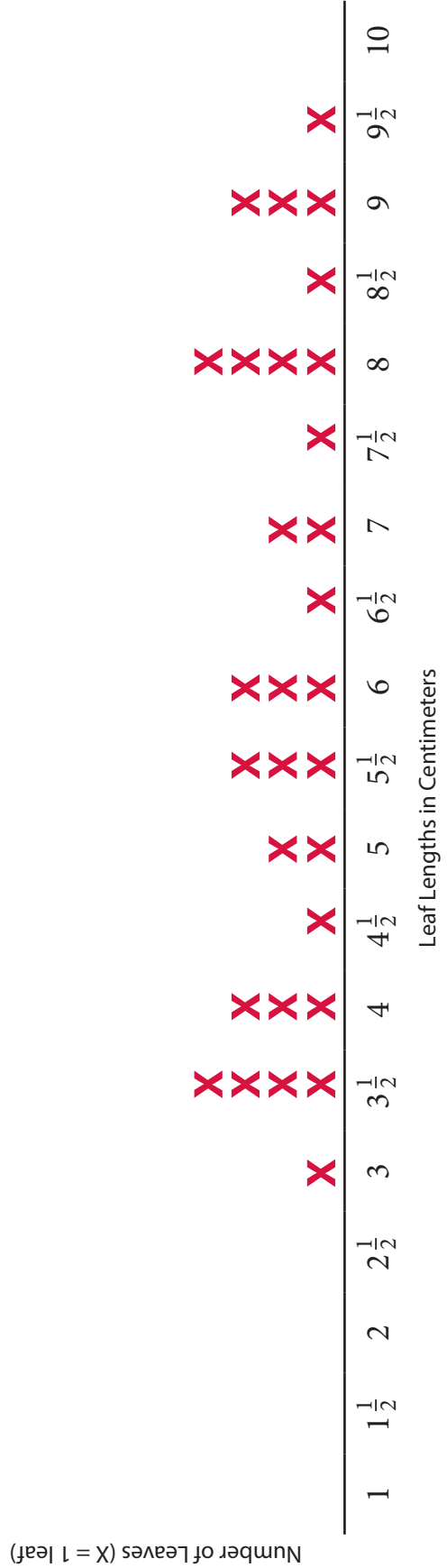| Mass	liters	grams	centimeters
Volume	milliliters	inches	grams
Length	kilograms	milliliters	centimeters

NAME | DATE

Beanstalk Line Plot

Mrs. Englund's third graders were measuring their beanstalks again! This time they measured the leaves in centimeters and wondered how many of each leaf measurement they had. They decided to use a line plot to display their data.

Leaf Measurements in Centimeters

3	4	$3\frac{1}{2}$	$3\frac{1}{2}$	5	5	7	$5\frac{1}{2}$	9	8	6	$3\frac{1}{2}$	6	4	$4\frac{1}{2}$
8	$5\frac{1}{2}$	$8\frac{1}{2}$	$6\frac{1}{2}$	9	8	9	6	$3\frac{1}{2}$	$5\frac{1}{2}$	$9\frac{1}{2}$	7	$7\frac{1}{2}$	4	8

Record the data on the line plot below.

Beanstalk Measurements in Centimeters

Leaf Lengths in Centimeters

Number of Leaves (X = 1 leaf)

NAME _____ | DATE _____

Beanstalk Measurements

Mrs. Englund's third graders measured how far Jim climbed up their beanstalks, using the nearest whole centimeters. The line plot below shows the heights Jim climbed.

Beanstalk Leaf Measurements in Centimeters

```
                                                    X
                                    X   X           X
                                    X   X   X       X
                            X   X   X   X   X       X   X   X   X
            X   X           X   X   X   X   X   X   X   X   X   X
    X   X   X   X   X   X   X   X   X   X   X   X   X   X   X   X
    30  31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54  55
```

Number of Students (X = 1)

Heights Jim climbed in Centimeters

Use the information from the line plot to answer the questions below.

1 How high did most of the students have Jim climb the beanstalk? **41 cm**

2 How many students had Jim climb 42 cm or higher? **12 students**

3 How many students had Jim climb 41 cm or lower? **18 students**

4 What else did you notice?

Responses will vary.

NAME _____ | **DATE** _____

Measurement & Fractions

1 A marble has 5 times the mass of a paperclip. Peter puts 3 marbles on one side of a pan balance scale.

How many paperclips should Peter put on the other side to balance with the marbles? Show your work.

Work will vary.

Peter should put ___**15**___ paperclips on the other side of the balance.

2 Tanner's dog dish has 4 times as much water as Lily's cat bowl. Lily's cat bowl has 200 milliliters of water in it.

How much water is in Tanner's dog dish? Show your work and label your answer with the correct units.

Work will vary.

Tanner's dog dish has _____**800 ml**_____ of water.

3 Mark and label the number line below with the following whole numbers and fractions: 0, 1, $\frac{3}{4}$, $\frac{1}{8}$, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{7}{8}$.

0   ⅛   ¼   ½   ¾   ⅞   1

4 Winter wants to make 8 containers of orange paint for a school project. She is planning to fill each container with 4 liters of red paint and 7 liters of yellow paint to get the right shade of orange.

How much paint does Winter need in all? Show your work and label your answer with the correct units.

Work will vary.

Winter needs _____**88 liters**_____ of paint in all.

NAME | DATE

🏠 Snack Time: **Mass, Volume & Length** page 1 of 2

1 Use numbers, words, or sketches to show your thinking for problems a, b, and c. Don't forget to include the unit of measurement in your answers.

a Carl ate an apple that had a mass of 184 grams. Then, he ate 196 grams of peanuts. What was the total mass of Carl's snack?

380 grams; work will vary.

b Allegra drank 203 milliliters of water. Then, she drank 157 milliliters of lemonade. How many milliliters of liquid did Allegra drink in all?

360 ml; work will vary.

c Mr. Alcott's class was eating licorice twists for a special treat. They ate 117 feet of licorice twists. Mrs. Austen's class was also eating licorice twists. They ate 79 feet of licorice twists. How many more feet of licorice twists did Mr. Alcott's class eat?

38 more feet; work will vary.

2 What unit do you use? Circle the unit you would use for each type of measurement.

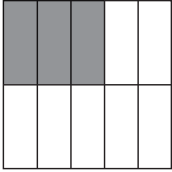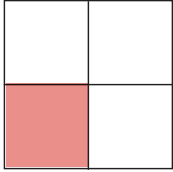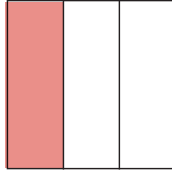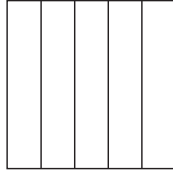| Length	liters	kilograms	(centimeters)
Mass	(grams)	inches	milliliters
Volume	milligrams	(milliliters)	meters

(continued on next page)

NAME | DATE

Snack Time: Mass, Volume & Length page 2 of 2

Use numbers, words, or sketches to show your thinking for all these problems. Don't forget to include the unit of measurement in your answers.

3 Mike has a can of potato chips. There are 16 chips in one serving, and one serving has a mass of 28 grams.

a What is the mass of 3 servings?

84 g; work will vary.

b One serving of the potato chips has 150 calories. How many calories are in 3 servings?

450 calories; work will vary.

c One serving of the potato chips has 160 milligrams of sodium. How many milligrams of sodium are in 3 servings?

480 mg; work will vary.

4 One can of potato chips has 5 servings. Each serving has 15 grams of carbohydrates.

a How many grams of carbohydrates are in a whole can of potato chips?

75 g; work will vary.

b **CHALLENGE** How many cans of potato chips are needed for 14 people to each have 3 servings?

9 cans; work will vary.

NAME _____ | **DATE** _____

🏠 Time & Fraction Review page 1 of 2

1 Fill in the circle next to the time shown on each clock.

a ○ 1:45
○ 1:47
○ 2:47
● 9:09

b ○ 3:40
○ 8:04
○ 8:19
● 8:20

2 Write the time shown on each clock.

a _____**4**_____ : _____**28**_____

b _____**11**_____ : _____**50**_____

3 Circle the digital clock that shows the same time as this analog clock.

4 Taylor's mom said he and his brother could go to a movie while she went shopping. She dropped them off at the theater at 1:45 and said she would be back at 4:00 to get them. They had three choices of movies. Which movie could they see and be done by the time their mom came to get them? Show all your work. Hint: Remember that there are 60 minutes in an hour.

Work will vary.

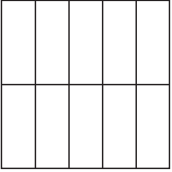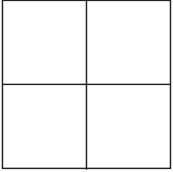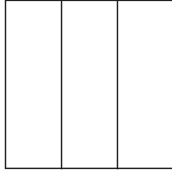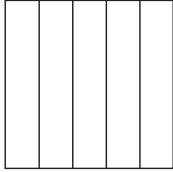| Movie	Start Time	Length (Including Previews)
Beetle goes to Town	1:55	130 minutes
Arctic Adventure	2:00	125 minutes
Rainy Day Dog	2:15	100 minutes

(continued on next page)

NAME | DATE

Time & Fraction Review page 2 of 2

5 On each square, fill in a fraction of the square that is less than $\frac{1}{2}$. Then use the symbols >, =, or < to compare your fraction to $\frac{1}{2}$.

ex	**a**	**b**	**c**
$\frac{3}{10} < \frac{1}{2}$	¼ < ½ or ½ > ¼	⅓ < ½ or ½ > ⅓	⅕ < ½ or ½ > ⅕ or ⅖ < ½ or ½ > ⅖

Work will vary.

6 On each square, fill in a fraction of the square that is greater than $\frac{1}{2}$. Then use the symbols >, =, or < to compare your fraction to $\frac{1}{2}$.

a	**b**	**c**	**d**
Any fraction > or = ⁶⁄₁₀ (⅗) is correct	**Any fraction > or = ¾ is correct**	**Any fraction > or = ⅔ is correct**	**Any fraction > or = ⅗ is correct**

Work will vary.

7 Write each of the following fractions where they belong on the number line below.

$$\frac{9}{10} \qquad \frac{1}{4} \qquad \frac{2}{5} \qquad \frac{2}{3}$$

0   ¼   ⅖ $\frac{1}{2}$ ⅔   ⁹⁄₁₀   1