

Name _____

Metric Units of Mass and Liquid Volume



COMMON CORE STANDARDS—4.MD.1
4.MD.2 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Complete.

1. 5 liters = 5,000 milliliters

Think: 1 liter = 1,000 milliliters,
so 5 liters = $5 \times 1,000$ milliliters, or 5,000 milliliters

2. 3 kilograms = _____ grams

3. 8 liters = _____ milliliters

4. 7 kilograms = _____ grams

5. 9 liters = _____ milliliters

6. 2 liters = _____ milliliters

7. 6 kilograms = _____ grams

Compare using $<$, $>$, or $=$.

8. 8 kilograms 850 grams

9. 3 liters 3,500 milliliters

10. 1 kilogram 1,000 grams

11. 5 liters 520 milliliters

Problem Solving

12. Kenny buys four 1-liter bottles of water. How many milliliters of water does Kenny buy?

13. Mrs. Jones bought three 2-kilogram packages of flour. How many grams of flour did she buy?

14. Colleen bought 8 kilograms of apples and 2.5 kilograms of pears. How many more grams of apples than pears did she buy?

15. Dave uses 500 milliliters of juice for a punch recipe. He mixes it with 2 liters of ginger ale. How many milliliters of punch does he make?

Lesson Check (4.MD.1, 4.MD.2)

1. During his hike, Milt drank 1 liter of water and 1 liter of sports drink. How many milliliters of liquid did he drink?

2. Larinda cooked a 4-kilogram roast. The roast left over after the meal weighed 3 kilograms. How many grams of roast were eaten during that meal?

Spiral Review (4.MD.1, 4.MD.6, 4.G.1)

3. Use a protractor to find the angle measure.

4. Draw a pair of parallel lines.



5. Carly bought 3 pounds of birdseed. How many ounces of birdseed did she buy?

6. A door is 8 decimeters wide. How wide is the door in centimeters?

Name _____

Units of Time

COMMON CORE STANDARD—4.MD.1
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Complete.

1. 6 minutes = 360 seconds

Think: 1 minute = 60 seconds,
so 6 minutes = 6×60 seconds, or 360 seconds

2. 5 weeks = _____ days

3. 3 years = _____ weeks

4. 9 hours = _____ minutes

5. 9 minutes = _____ seconds

6. 5 years = _____ months

7. 7 days = _____ hours

Compare using $<$, $>$, or $=$.

8. 2 years 14 months

9. 3 hours 300 minutes

10. 2 days 48 hours

11. 6 years 300 weeks

12. 4 hours 400 minutes

13. 5 minutes 300 seconds

Problem Solving

14. Jody practiced a piano piece for 500 seconds. Bill practiced a piano piece for 8 minutes. Who practiced longer? **Explain.**

15. Yvette's younger brother just turned 3 years old. Fred's brother is now 30 months old. Whose brother is older? **Explain.**

Lesson Check (4.MD.1)

1. Glen rode his bike for 2 hours. For how many minutes did Glen ride his bike?
2. Tina says that vacation starts in exactly 4 weeks. In how many days does vacation start?

Spiral Review (4.NF.3b, 4.NF.5, 4.MD.1, 4.MD.2)

3. Kayla bought $\frac{9}{4}$ pounds of apples. What is that weight as a mixed number?
4. Judy, Jeff, and Jim each earned \$5.40 raking leaves. How much did they earn together?

5. Melinda rode her bike $\frac{54}{100}$ mile to the library. Then she rode $\frac{4}{10}$ mile to the store. How far did Melinda ride her bike in all? Write your answer as a decimal.
6. One day, the students drank 60 quarts of milk at lunch. How many pints of milk did the students drink?

Name _____

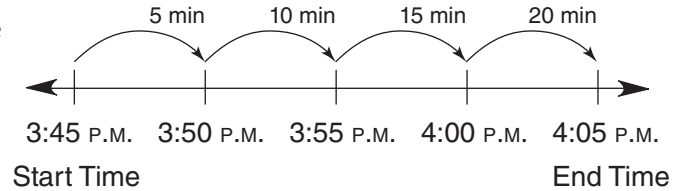
Problem Solving • Elapsed Time



COMMON CORE STANDARD—4.MD.2
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Read each problem and solve.

1. Molly started her piano lesson at 3:45 P.M. The lesson lasted 20 minutes. What time did the piano lesson end?



Think: What do I need to find?
How can I draw a diagram to help?

4:05 P.M.

2. Brendan spent 24 minutes playing a computer game. He stopped playing at 3:55 P.M and went outside to ride his bike. What time did he start playing the computer game?

3. Aimee’s karate class lasts 1 hour and 15 minutes and is over at 5:00 P.M. What time does Aimee’s karate class start?

4. Mr. Giarmo left for work at 7:15 A.M. Twenty-five minutes later, he arrived at his work. What time did Mr. Giarmo arrive at his work?

5. Ms. Brown’s flight left at 9:20 A.M. Her plane landed 1 hour and 23 minutes later. What time did her plane land?

Lesson Check (4.MD.2)

1. Bobbie went snowboarding with friends at 10:10 A.M. They snowboarded for 1 hour and 43 minutes, and then stopped to eat lunch. What time did they stop for lunch?
2. The Cain family drove for 1 hour and 15 minutes and arrived at their camping spot at 3:44 P.M. What time did the Cain family start driving?

Spiral Review (4.NF.4b, 4.NF.5, 4.MD.1, 4.MD.2)

3. A praying mantis can grow up to 15 centimeters long. How long is this in millimeters?
4. Thom's minestrone soup recipe makes 3 liters of soup. How many milliliters of soup is this?

5. Stewart walks $\frac{2}{3}$ mile each day. List three multiples of $\frac{2}{3}$.
6. Angelica colored in 0.60 of the squares on her grid. Write 0.60 as tenths in fraction form.

Name _____

Mixed Measures**COMMON CORE STANDARD—4.MD.2**
*Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.***Complete.**

1. 8 pounds 4 ounces = 132 ounces

Think: 8 pounds = 8×16 ounces, or 128 ounces.

128 ounces + 4 ounces = 132 ounces

2. 5 weeks 3 days = _____ days

3. 4 minutes 45 seconds = _____ seconds

4. 4 hours 30 minutes = _____ minutes

5. 3 tons 600 pounds = _____ pounds

6. 6 pints 1 cup = _____ cups

7. 7 pounds 12 ounces = _____ ounces

Add or subtract.

8.
$$\begin{array}{r} 9 \text{ gal } 1 \text{ qt} \\ + 6 \text{ gal } 1 \text{ qt} \\ \hline \end{array}$$

9.
$$\begin{array}{r} 12 \text{ lb } 5 \text{ oz} \\ - 7 \text{ lb } 10 \text{ oz} \\ \hline \end{array}$$

10.
$$\begin{array}{r} 8 \text{ hr } 3 \text{ min} \\ + 4 \text{ hr } 12 \text{ min} \\ \hline \end{array}$$

Problem Solving

11. Michael's basketball team practiced for 2 hours 40 minutes yesterday and 3 hours 15 minutes today. How much longer did the team practice today than yesterday?
-
-
- _____

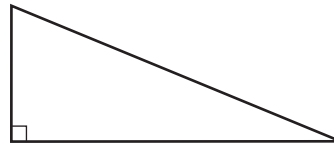
12. Rhonda had a piece of ribbon that was 5 feet 3 inches long. She removed a 5-inch piece to use in her art project. What is the length of the piece of ribbon now?
-
-
- _____

Lesson Check (4.MD.2)

1. Marsha bought 1 pound 11 ounces of roast beef and 2 pounds 5 ounces of corned beef. How much more corned beef did she buy than roast beef?
2. Theodore says there are 2 weeks 5 days left in the year. How many days are left in the year?

Spiral Review (4.NF.7, 4.MD.1, 4.MD.2, 4.G.2)

3. On one grid, 0.5 of the squares are shaded. On another grid, 0.05 of the squares are shaded. Compare the shaded parts of the grids using $<$, $=$, or $>$.
4. Classify the triangle shown below.



5. Sahil's brother is 3 years old. How many weeks old is his brother?
6. Sierra's swimming lessons last 1 hour 20 minutes. She finished her lesson at 10:50 A.M. At what time did her lesson start?

Name _____

Patterns in Measurement Units



COMMON CORE STANDARD—4.MD.1
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Each table shows a pattern for two customary units of time or volume. Label the columns of the table.

1.

<u> </u>	<u> </u>
1	4
2	8
3	12
4	16
5	20

2.

<u> </u>	<u> </u>
1	12
2	24
3	36
4	48
5	60

3.

<u> </u>	<u> </u>
1	2
2	4
3	6
4	8
5	10

4.

<u> </u>	<u> </u>
1	7
2	14
3	21
4	28
5	35

Problem Solving 

Use the table for 5 and 6.

5. Marguerite made the table to compare two metric measures of length. Name a pair of units Marguerite could be comparing.

6. Name another pair of metric units of length that have the same relationship.

?	?
1	10
2	20
3	30
4	40
5	50

Lesson Check (4.MD.1)

1. Joanne made a table to relate two units of measure. The number pairs in her table are 1 and 16, 2 and 32, 3 and 48, 4 and 64. What are the best labels for Joanne's table?
2. Cade made a table to relate two units of time. The number pairs in his table are 1 and 24, 2 and 48, 3 and 72, 4 and 96. What are the best labels for Cade's table?

Spiral Review (4.NF.6, 4.MD.1, 4.MD.2, 4.MD.5a)

3. Anita has 2 quarters, 1 nickel, and 4 pennies. Write Anita's total amount as a fraction of a dollar.
4. The minute hand of a clock moves from 12 to 6. What describes the turn the minute hand makes?
5. Roderick has a dog that has a mass of 9 kilograms. What is the mass of the dog in grams?
6. Kari mixed 3 gallons 2 quarts of lemon-lime drink with 2 gallons 3 quarts of pink lemonade to make punch. How much more lemon-lime drink did Kari use than pink lemonade?