Date _____

6.2 Capacity

Focus: metric measure, Imperial measure, measurement references

Warm Up

1. Solve *without* a calculator.

a) 1500 ÷ 1 = _____

b) 1500 ÷ 100 = _____

c) 1500 ÷ 1000 = _____

2. Solve *without* a calculator.

a) 355 ÷ 1 = _____

b) 591 ÷ 100 = _____

c) 473 ÷ 1000 = _____

3. Describe the pattern for dividing the same number by 10, 100, and then 1000. _____

_____

4. Solve *without* a calculator.

a) 1.9 × 1000 = _____

b) 0.355 × 1000 = _____

c) 1500 ÷ 1000 = _____

5. List these Imperial units from smallest to largest:
foot, inch, mile, yard

_____, _____,

_____, _____

6. **a)** There are _____ mL in 1 litre.

b) There are _____ mL in $\frac{1}{2}$ litre.

7. Circle the better buy.

250 mL for $1.99

or

2 L for $9.99

What Do You Already Know?

1. **a)** By what unit is gasoline sold in Canada? _____

b) By what unit is gasoline sold in the United States? _____

c) Which unit for selling gasoline is bigger? _____

d) What is the capacity of a small plastic bottle of water? _____

e) How much does a tablespoon hold? _____

Chapter 6

Date _____

Metric Capacities

- The **capacity** of a container is the greatest amount that it can hold.
- You can estimate a capacity using a personal reference, just like you can estimate a length.

Go to pages 187–188 to write a definition for **capacity** in your own words.

2. Collect measurement references for the following metric capacities.

millilitre = mL
litre = L

Common Capacities	Reference
10 mL	
500 mL	
1 L	
2 L	

3. The chart in #2 provides some personal references. Use these references to estimate the following capacities. The last 4 rows are for containers of your choice.

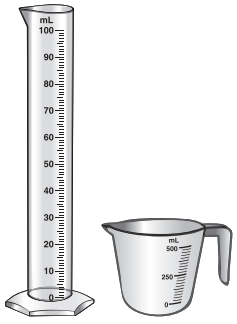
20 L

Container	Approximate Metric Capacity
A typical coffee cup	
A small red plastic gasoline container	
A baby food jar	
A kitchen sink	

Date _____

4. Circle the most appropriate capacity.

Container	Most Appropriate Capacity			
a) A car's gas tank	500 mL	5 L	50 L	500 L
b) A small bottle of shampoo	30 mL	300 mL	3 L	30 L
c) A large drink from a fast food restaurant	0.5 mL	50 mL	1 L	2.5 L
d) A blue plastic bottle in a water dispenser	200 mL	2000 mL	20 L	2000 L



5. Look at the units on several graduated cylinders and metric measuring cups.

a) What units are used on the graduated cylinders? _____

b) What units are used on the measuring cups? _____

c) Are there any units on these items that you do not recognize? If so, list them.

_____

_____

6. Use a metric measuring cup or a graduated cylinder to measure out the following capacities. What personal reference could you use for each amount?

1 cc stands for 1 cubic centimetre. This is equivalent to 1 mL.

Capacity	Personal Reference
a) 10 mL	
b) 40 mL	
c) 75 mL	
d) 90 mL	
e) 150 mL	

Chapter 6

Date _____

US Imperial Capacities

- There are two type of Imperial capacities: US and British.
- Both use the same names for units: ounce, pint, quart, and gallon.
- Some of the units represent different sizes. For example, the US fluid ounce is slightly larger than the British fluid ounce.
- In this book, all references to Imperial capacities will refer to US Imperial units because the United States shares a border with Canada and is a major trading partner.

7. One US pint is equal to 16 fluid ounces. Convert each US measurement to the unit given.

a) 1 US quart
= 2 pints
= _____ fluid ounces

b) 1 US gallon
= 4 quarts
= _____ pints
= _____ fluid ounces

8. a) Use measuring cups with Imperial measure to measure out the following capacities. What personal reference could you use for each amount?

The abbreviation for pint is "pt". The short form for fluid ounce is "fl oz".

Common Imperial Capacities	Approximate Metric Equivalent	Personal Reference
1 fluid ounce	30 mL	
8 fl oz	250 mL	
1 quart	1 litre	
1 gallon	4 litres	

The abbreviation for quart is "qt". The short form for gallon is "gal".

b) Approximate metric equivalents are included in the chart. How might these help you remember Imperial capacities?

_____

_____

Chapter 6

9. The chart in #8 provides some personal references. Use these references to estimate the following Imperial capacities. The last 2 rows are for containers of your choice.

Container	Approximate Imperial Capacity
A typical coffee cup	
A small red plastic gasoline container	
A baby food jar	
A kitchen sink	
_____	
_____	

10. Circle the most appropriate capacity.

Container		Most Appropriate Capacity			
a)	A car's gas tank	1 qt	1 gal	5 gal	15 gal
b)	A small bottle of shampoo	1 fl oz	8 fl oz	16 fl oz	2 qt
c)	A large drink from a fast food restaurant	6 fl oz	16 fl oz	16 qt	16 gal
d)	A blue plastic bottle in a water dispenser	1 qt	5 qt	1 gal	5 gal

11. a) A coffee shop sells coffee in four sizes of cups. Use the information in the chart to determine the cost per fluid ounce for each size of cup. Round your answers to the nearest cent per fluid ounce.

Size	Capacity	Cost Before Tax	Unit Cost (¢/fl oz)
Medium	10 fl oz	$1.28	
Large	14 fl oz	$1.45	
Extra large	20 fl oz	$1.59	

b) Based on your answer for part a), which cup of coffee is the better buy? _____

c) Why would you choose a size other than the one that is the better buy? Explain your answer.

☑ Check Your Understanding

1. While watching an American television station, Jordan hears an ad for a grocery store. The store sells a gallon of milk for $2.99. Without considering currency exchange, what is the milk's approximate price per litre?

2. a) List 4 containers in your classroom.

Container	Estimate of Metric Capacity	Estimate of Imperial Capacity

b) Use your personal references to estimate the metric capacity of each container.

c) Use your personal references to estimate the Imperial capacity of each container.

3. a) Select one of your items from #2. Measure the actual metric and Imperial capacity of the container.

b) Are you better at estimating metric or Imperial capacity? _____