

# Imperial Units: Mass and Capacity



## Lesson 11

## Lesson Eleven Concepts

- Investigate, discuss and describe applications from the everyday life and the workplace that would involve the measurement of mass and capacity.
- Record measurements, using commonly accepted abbreviations for the chosen units.
- Investigate, identify and use personal referents to aid in the estimation of mass and capacity.
- Estimate and use measurements of mass and capacity in everyday situations.

## Measure of Mass and Capacity in the Imperial System

How much does it weigh? (**mass**)

How much does it hold? (**capacity**)

In the imperial system there are **two main units of measurement** that are used for **mass**.

1. pounds (lb)
2. ounces (oz)

Here are some examples of what each measurement might look like.

**Pound (lb)**



About 1 lb

**ounce (oz)**

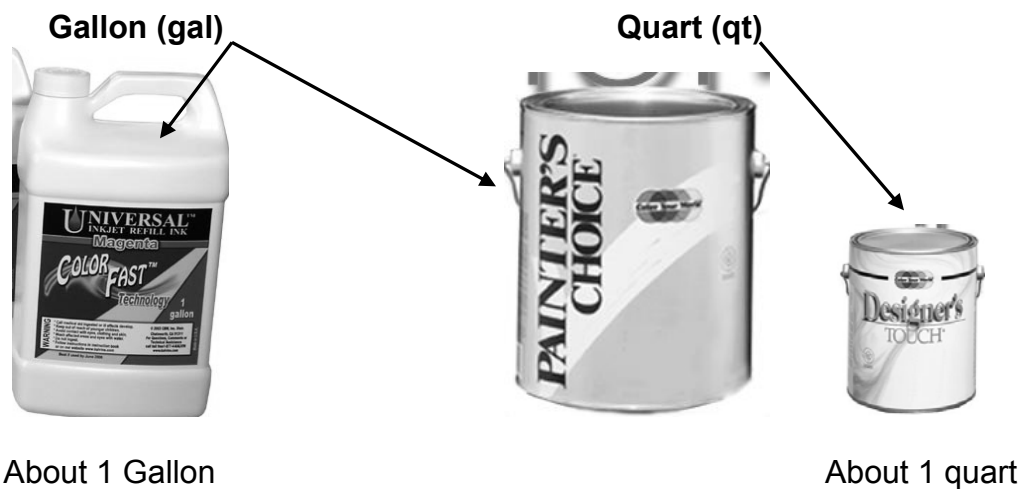


About 1 oz

In the imperial system there are **two main units of measurement** that are used for **capacity**.

1. gallon (gal)
2. quart (qt)

Here are some examples of what each measurement might look like.



### Key imperial system conversions for mass and capacity

There are 16 ounces in one pound (**mass**)

There are 4 quarts in one gallon (**capacity**)

#### Example

- a. Choose the best measure for the mass of a baseball.

1 oz

5 ozs

30 ozs

Answer: A baseball's mass is approximately 5 ozs.

- b. Choose the best measure for the capacity of a glass of milk.

$\frac{1}{2}$  quart

4 quarts

19 quarts

Answer: The capacity of a glass of milk is approximately  $\frac{1}{2}$  quart.



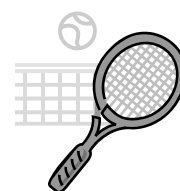
## Support Questions

1. Choose the best measure.
 

a. Mass of newborn child	1 lbs	7 lbs	20 lbs
b. Mass of a bag of potato chips	1 oz	8 oz	20 oz
c. Mass of a mid-sized car	50 lbs	1 500 lbs	10 000 lbs
d. Mass of a cat	1 lbs 6 oz	8 lbs 2 oz	45 lbs 13 oz
e. Mass of an adult male	18 lbs	170 lbs	500 lbs
  
2. Choose the best measure.
 

a. Small glass of juice	1/2 qt	½ gal
b. Jug of milk	4 qts	4 gals
c. Can of soup	2 qts	8 gals
d. Bottle of mouthwash	2.2 qts	2.2 gal
e. A full bathtub of water	35 qts	35 gal
  
3. Choose the best measure for each.
 

a. Can of apple juice	2 qts	20 qts	80 qts
b. Plate	2 oz	2 lbs	20 lbs
c. tennis ball	2 oz	2 lbs	20 lbs
d. Swimming pool	50 qts	50 gals	5 000 gals
  
4. Estimate each measurement using appropriate units.
  - a. Capacity of a cup of hot chocolate in quarts.
  - b. Mass of a stove in pounds
  - c. Capacity of tea kettle in gallons
  - d. Mass of a Barbie doll in ounces.



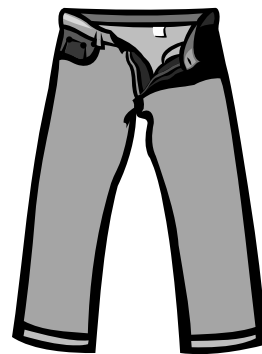
**Key Question #11**

1. Choose the best measure for capacity.

- |                               |                  |                   |
|-------------------------------|------------------|-------------------|
| a. Bottle of baby shampoo     | 1 qt             | 1 gal             |
| b. Kitchen sink full of water | 2 qts            | 2 gals            |
| c. Large container of juice   | $\frac{1}{2}$ qt | $\frac{1}{2}$ gal |

2. Choose the best measure for the mass of each object.

- |                      |                  |                  |
|----------------------|------------------|------------------|
| a. Pair of jeans     | 2 oz             | 2 lbs            |
| b. Bar of soap       | 3 oz             | 3 lbs            |
| c. teaspoon of sugar | $\frac{1}{2}$ oz | $\frac{1}{2}$ lb |



3. Choose the best measure for each.

- |                             |                  |       |        |
|-----------------------------|------------------|-------|--------|
| a. Bottle of pop            | $\frac{1}{2}$ qt | 4 qts | 12 qts |
| b. Flintstone multi-vitamin | $\frac{1}{4}$ oz | 1 oz  | 15 oz  |
| c. Apple                    | 1 oz             | 1 lb  | 5 lbs  |

4. Estimate each measurement.

- Mass of CD player in ounces
- Mass of a horse in pounds
- Capacity of cereal bowl in quarts



5. Even though Canada has adopted the metric system can you think of two examples where Canadians still use the imperial system as a form of measurement?