3rd Grade Math

Module 2: Place Value and Problem Solving with Units of Measure

Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts found in Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Module 2 of Eureka Math (Engage New York) covers Place Value and Problem-Solving with Units of Measure. This newsletter will discuss Module 2, Topic B.

Topic B. Measuring Weight and Liquid Volume in Metric Units

Vocabulary Words

- Gram (g)
- Kilogram (kg)
- Weight
- Scale
- Halfway
- ≈ Approxmiate
- Liter (L)
- Milliliter (mL)
- Estimate
- Capacity
- Liquid Volume
- Beakers

Helpful Hints!!!

In previous units we studied about a place value chart. The tens place is the same as 10 ones, the hundreds place is the same as 10 tens, the thousands place is the same as 10 hundreds.

Thousands	Hundreds	Tens	Ones

Weight can relate to a place value because 10 g is equal to ten 1 grams, 100 g is equal to ten 10 grams, and 1 kg is equal to 1,000 grams which is ten 100 grams.

1 kg = 1000 g	100 g	10 g	1 g

Capacity can relate to a place value because 10 mL is equal to ten 1 mL , 100 mL is equal to ten 10 mL, and 1 L is equal to 1,000 mL which is ten 100 mL.

1 L = 1000 mL	100 mL	10 mL	1 mL

Focus Area– Topic B

Measuring Weight and Liquid Volume in Metric Units

Decomposing liters and kilograms using number bonds.

$$250 \text{ g} + \underline{\ ?\ } \text{ g} = 1{,}000 \text{ g} = 1\text{kg}$$
$$1{,}000 \text{ g} - 250 \text{ g} = 750 \text{ g}$$

$$300 \text{ mL} + \underline{\ ?\ } \text{ mL} = 1{,}000 \text{ mL} = 1\text{L}$$
$$1{,}000 \text{ mL} - 300 \text{ mL} = 700 \text{ mL}$$
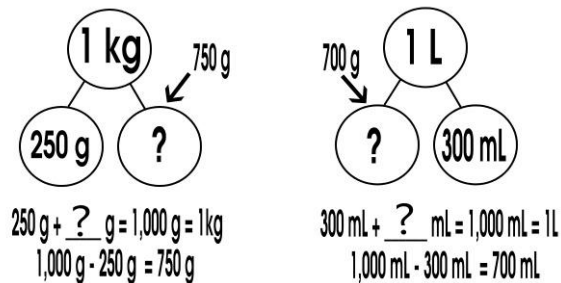
Students should understand that 1 kg is equal to 1,000 g. If part of 1 kg (1,000 g) is 250 g then the other part (?) should equal to 1 kg (1,000 g).
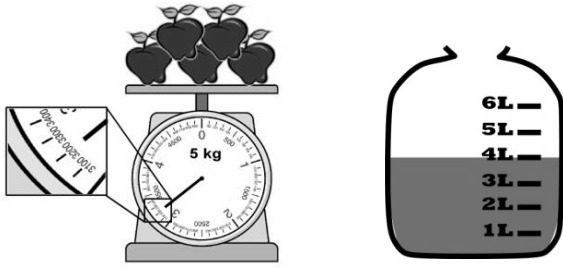
$$1{,}000 \text{ g} – 250 \text{ g} = 750 \text{ g}.$$

They should also understand that 1 L is equal to 1,000 mL. If part of 1 L (1,000 mL) is 300 mL then the other part (?) should equal to 1 L (1,000 mL).

$$1{,}000 \text{ mL} – 300 \text{ mL} = 700 \text{ mL}.$$

Measuring with Scales and Beakers

Students will learn how to read a scale. The apples weigh 3,200 g. The beaker holds 4 L of liquid.

Estimate Weight & Liquid Capacity

Students will learn how to estimate how much an item weighs. A small dog weighs about 4 kg. A bottle of soda is about a liter.
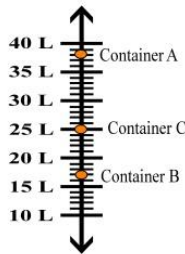
Use a number line to record capacity

What is the difference between the capacity of Container A and Containter C?

Look at the number line and record the amount of each container.

Container A	38 L
Container B	17 L
Container C	25 L

Subtract the amount in Container A from the amount in Container C to find the difference.

38 L - 25 L = 13 L

The difference is 13 L.

One-Step Addition Word Problem

Jessie has 2 dogs. He feeds one dog 25 g of food and the other 35 g of food. How much dog food does Jessie feed his dog?

25 g + 35 g =

5) 30

30 + 30 = 60 g

Jessie feeds his dogs 60 g of dog food.

A recipe requires 400 mL of milk. Lilly decides to triple the recipe for lunch. How many milliliters of milk does she need for lunch?

| 400 mL | 400 mL | 400 mL |

?

400 mL + 400 mL + 400 mL = 1200 mL

Lilly uses 1200 mL of milk.

One-Step Subtraction Word Problem

Kathy wants to ride the roller coaster. The minimum weight to ride is 33 kilograms. She weighs 13 kilograms less than the required weight. How many kilograms does Kathy weigh?

$$33 - 13 = \underline{}$$
$$33 - 10 - 3 = 20 \text{ kg}$$

Take away with results unknown

Cindy gets a motor scooter that weighs 13 kilogram for her birthday. Before she opened it the box it weighed 17 kilograms. How much does the box weigh without the motor scooter in it?

$$17 - 13 = \underline{}$$
$$17 - 10 - 3 = 4 \text{ kg}$$

Take from with change unknown

Charlie weighs 72 kilograms. After exercising every day for 2 months he loses weight. He now weighs 68 kilograms. How much weight did Charlie loose?

$$72 - \underline{?} = 68$$
$$72 - 68 = 4 \text{ kg}$$

Equal Groups Result Unknown

Jen drinks 2 liters of water a day, how many liters of water does Jen drink in a week?

7 days x 2 liters
7 x 2 = 14 L

Jen drinks 14 L of water in a week.

Results Known Groups Unknown

Sam purchases 50 kilograms of fertilizer for her flowerbeds. She needs 5 kilograms of fertilizer for each flowerbed. How many flowerbeds can she fertilize? Draw a tape diagram to solve.

1 flowerbed = 5 kg

5 kg

? flowerbeds
50 kilograms

50 kg ÷ 5 kg = 10

Sam fertilizes 10 flowerbeds.

Skip-counting by fives to 50 could be another way to solve this problem.