

Measure It Right

Estimate and use grams, kilograms, and liters.

GRADE 3 • NY-3.MD.2.a

NY-3.MD.2.a "Measure and estimate liquid volumes and masses of objects using grams (g), kilograms (kg), and liters (l)."

NAME _____

DATE _____

CHOOSE THE RIGHT UNIT

Use grams to measure light objects, kilograms to measure heavier objects, and liters to measure how much liquid a container holds. One kilogram equals 1,000 grams. Estimate by thinking about objects and containers you know.

WORKED EXAMPLE

Estimate the mass of a small melon.
Choose 500 g, 5 kg, or 5 l.

1. A melon has mass, so do not choose liters.
2. A small melon is not as heavy as 5 kg.
3. 500 g is a sensible estimate for a small melon.

Answer: 500 g

PRACTICE 6 problems

- 1** Which is the best estimate for the mass of a paperback book? Choose 300 g, 3 kg, or 3 l.

ANSWER _____

- 2** Which unit best measures the mass of a watermelon: g, kg, or l?

ANSWER _____

- 3** A digital kitchen scale measures a pumpkin. Its display reads 725 g. Is this mass closer to 1 kg or 1 g?

ANSWER _____

- 4** Which is the best estimate for the amount of water needed to fill a bathtub? Choose 2 l, 20 l, or 200 l.

ANSWER _____

- 5** A balance measures a rock at 80 g and a shell at 130 g. Which object has the greater mass? How many grams greater is it?

ANSWER _____

- 6** A measuring jug shows 9 l of water. A bucket holds 6 l of water. How many liters of water are there altogether?

ANSWER _____

APPLY IT Show your work

- 1** Nia is watering the school garden. Use the Garden Water Record. How many liters of water did Nia use altogether?

GARDEN WATER RECORD

Container	Amount measured
Watering can	7 l
Refill jug	8 l

ANSWER _____

- 2** At an animal shelter, use the Animal Scale Record. How many kilograms greater is the puppy's mass than the kitten's mass?

ANIMAL SCALE RECORD

Animal	Mass measured
Puppy	6 kg
Kitten	3 kg

ANSWER _____

CHALLENGE One step up

A class is filling a 24 l cooler for field day. Each container holds 8 l. Jordan says that 2 full containers will be enough. Is Jordan correct? Explain how you know.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Which is the best estimate for the mass of a paperback book? Choose 300 g, 3 kg, or 3 l.	300 g
2	Which unit best measures the mass of a watermelon: g, kg, or l?	kg
3	A digital kitchen scale measures a pumpkin. Its display reads 725 g. Is this mass closer to 1 kg or 1 g?	1 kg
4	Which is the best estimate for the amount of water needed to fill a bathtub? Choose 2 l, 20 l, or 200 l.	200 l
5	A balance measures a rock at 80 g and a shell at 130 g. Which object has the greater mass? How many grams greater is it?	The shell, 50 g greater.
6	A measuring jug shows 9 l of water. A bucket holds 6 l of water. How many liters of water are there altogether?	15 l

PART 2 • APPLY IT

- 15 l** Add the two measured amounts: $7\text{ l} + 8\text{ l} = 15\text{ l}$.
- 3 kg** Subtract the kitten's mass from the puppy's mass: $6\text{ kg} - 3\text{ kg} = 3\text{ kg}$.

CHALLENGE

No. Two containers hold 16 l, so 3 full containers are needed to hold 24 l.

Accept correctly written unit names in place of unit symbols. For the challenge, accept any explanation that shows 2 containers hold 16 l and that 3 containers are needed.