LESSON MAKER PRO

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 _____

3 Estimate, then measure. Teacher: provide a small classroom object and a digital scale that reads grams. Before putting the object on the scale, record its name and your mass estimate in g. With adult help, check that the empty scale reads zero. Place the object on it, read the stable display, and record the measured mass in g. Compare your estimate with the measurement: was it greater, smaller, or equal, and by how many grams? Have your teacher check the display and your record.

WORK SPACE

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

ANSWER KEY

Measure It Right

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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

1. **15 l** Add the two measured amounts: 7 l + 8 l = 15 l.
2. **3 kg** Subtract the kitten's mass from the puppy's mass: 6 kg - 3 kg = 3 kg.
3. **Answers vary: record the actual object, estimate in g, observed scale reading in g, and a correct comparison/difference.** Observe actual scale use and verify the recorded value/unit against the stable display. Example: estimate 100 g and measured mass 120 g means the estimate was 20 g smaller. Accept other truthful measurements and reasonable estimates; a supplied practice value alone does not complete this measurement.

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. For Apply 3, check the initial estimate, actual zeroed-scale measurement, recorded grams and comparison. Use a suitable scale and adult help; no fixed mass is required.