Worksheet - Measuring length, mass and capacity

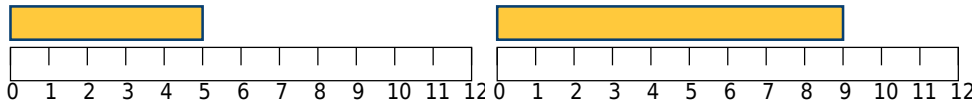
Year: Year 2 · 20

Show your working.

Question 1

Question 1 – Measure with a ruler *(Section A · Practice)*

Use the ruler to read the length of each strip.



a. The first strip
b. The second strip
c. How much longer is the second strip than the first?

Question 2

Question 2 – Metres and centimetres *(Section A · Practice)*

Use 100 cm = 1 m to fill in the missing numbers.

a. 2 m = __ cm
b. 300 cm = __ m
c. 5 m = __ cm
d. 400 cm = __ m
e. 1 m + 50 cm = __ cm

Question 3

Question 3 – Grams and kilograms *(Section A · Practice)*

Use 1000 g = 1 kg to fill in the missing numbers.

a. 2 kg = __ g
b. 3000 g = __ kg
c. 500 g + 500 g = __ kg
d. 1 kg − 400 g = __ g
e. 5 kg = __ g

Question 4

Question 4 – Litres and millilitres *(Section A · Practice)*

Use 1000 ml = 1 l to answer each question.

a. How many millilitres are in 3 litres?
b. How many litres are in 4000 ml?
c. Two jugs hold 250 ml each. How many ml is that in all?
d. A bottle holds 1 litre. 600 ml is poured out. How much is left?

Question 5

Question 5 – Choose the unit *(Section A · Practice)*

Choose the best unit for each measurement. Write cm, m, g, kg, ml or l.

a. The length of a pencil
b. The height of a house
c. The mass of a pencil
d. The mass of a dog
e. The capacity of a teaspoon
f. The capacity of a swimming pool

Question 6

Question 6 – Compare measures *(Section A · Practice)*

Write >, < or = in each box.

a. 35 cm __ 53 cm
b. 2 kg __ 2000 g
c. 500 ml __ 1 l
d. 90 g __ 1 kg
e. 150 cm __ 1 m

Question 7

Question 7 – Making a den in the garden *(Section B · Real-life practice)*

Mia and Leo are making a den in the garden. They have a rope that is 3 metres long. They cut off a piece that is 120 centimetres long to tie the blanket. They need a pole that is 2 metres tall, and the pole they find is 185 centimetres tall.

a. How many centimetres long is the whole rope?
b. How many centimetres of rope are left after cutting?
c. How many centimetres short is the pole?
d. Mia says "The pole is longer than the rope piece we cut." Is she right?

Question 8

Question 8 – The market stall *(Section B · Real-life practice)*

Mr Singh sells fruit and vegetables at the market. He has a sack of potatoes with a mass of 10 kg and a box of tomatoes with a mass of 4 kg. A customer buys 3 kg of potatoes and 2 kg of tomatoes.

a. What is the total mass of the potatoes and the tomatoes at the start?
b. How many kilograms of potatoes are left?
c. How many kilograms of tomatoes are left?
d. How many kilograms does the customer buy altogether, and how many grams is that?

Question 9

Question 9 – Baking a cake *(Section B · Real-life practice)*

Dad is baking a cake. The recipe needs 250 g of flour, 200 g of sugar and 150 g of butter. He also needs 300 ml of milk and 100 ml of oil. The cake is baked in the oven at 180 degrees Celsius for 30 minutes.

Ingredient	Amount
Flour	250 g
Sugar	200 g
Butter	150 g
Milk	300 ml
Oil	100 ml

a. How many grams do the flour, sugar and butter weigh altogether?
b. How many millilitres of liquid does Dad need (milk and oil)?
c. Dad has a 1 kg bag of flour. How many grams of flour are left after he uses 250 g?
d. Dad has a 1 litre bottle of milk. How many millilitres of milk are left after he uses 300 ml?

Question 10

Question 10 – Sports day long jump *(Section B · Real-life practice)*

At sports day four children take part in the long jump. Their jumps are measured with a long tape measure. Amir jumps 145 cm, Beth jumps 132 cm, Carl jumps 160 cm and Dina jumps 128 cm. The winner jumps the furthest.

Name	Jump (cm)
Amir	145
Beth	132
Carl	160
Dina	128

a. Who wins the long jump?
b. Who comes last?
c. How much further does the winner jump than the child who comes last?
d. Put the four jumps in order, starting with the shortest.

Question 11

Question 11 – Filling the paddling pool *(Section B · Real-life practice)*

The children fill a small paddling pool using buckets. Each bucket holds 5 litres. They fill the pool with 8 buckets of water. Then a jug is used to add 2 litres of warm water. When two children jump in, 3 litres splash out.

a. How many litres of water are in the pool after 8 buckets?
b. How many litres are in the pool after adding the warm water?
c. How many litres are in the pool after the splash?
d. The pool holds 50 litres when full. How many more litres are needed to fill it?

Question 12

Question 12 – Weather watch *(Section B · Real-life practice)*

Year 2 are keeping a weather diary with a thermometer outside the classroom window. On Monday the temperature at 9 o'clock is 4 degrees Celsius. By lunchtime it is 9 degrees higher. At home time it is 5 degrees lower than at lunchtime.

a. What is the temperature at lunchtime?
b. What is the temperature at home time?
c. On Tuesday it is 6 °C at nine o'clock. Was Tuesday warmer or colder than Monday at that time? By how many degrees?
d. At what temperature does water freeze?

Question 13

Question 13 – The school library shelf *(Section B · Real-life practice)*

The librarian is putting books on a shelf that is 2 metres long. She puts out a row of picture books that takes up 85 cm. Then she puts a row of story books that takes up 70 cm. The fact books take up the rest of the shelf.

a. How many centimetres long is the shelf?
b. How much of the shelf do the picture books and story books take up together?
c. How many centimetres of shelf are left for the fact books?
d. The fact books are 60 cm long altogether. Will they fit? Explain.

Question 14

Question 14 – Juice at the party *(Section B · Real-life practice)*

Priya is helping at a birthday party. She has a big carton of orange juice that holds 2 litres. The paper cups each hold 250 ml. She fills 6 cups and then a guest asks for a drink of water, so she fills a jug with 500 ml of water.

a. How many millilitres are in the 2 litre carton?
b. How many millilitres of juice are poured into the 6 cups?
c. How many millilitres of juice are left in the carton?
d. How many cups of water, each holding 250 ml, can Priya fill from the 500 ml jug?

Question 15

Question 15 – Planning the school picnic *(Section C · Problem solving)*

Year 2 are going on a picnic. The teacher buys 6 bottles of juice. Each bottle holds 500 ml of juice. She also buys 3 bags of apples. Each bag has a mass of 2 kg. The children bring blankets that are each 150 cm long and 100 cm wide.

Item	Amount for each	Number
Juice bottles	500 ml	6
Bags of apples	2 kg	3
Blankets	150 cm long	4

a. How many millilitres of juice does the teacher buy altogether? Write this in litres.
b. What is the total mass of the apples?
c. Four blankets are laid end to end in a line. How many centimetres long is the line? How many metres?
d. There are 30 children and each child drinks 100 ml of juice. Is there enough juice? Explain.
e. How much juice is left or how much more is needed?

Question 16

Question 16 – Building a bookcase *(Section C · Problem solving)*

Grandad builds a bookcase out of planks. The bookcase has 4 shelves. Each shelf is 90 cm long. Each plank costs the same and is 3 m long. The side pieces are each 160 cm tall.

a. How many centimetres of plank are used for the 4 shelves?
b. How long is one plank in centimetres?
c. Grandad cuts shelves from one 3 m plank. How many whole shelves can he cut from that plank, and how many centimetres are left over?
d. The two sides are 160 cm tall each. How many centimetres of plank are used for both sides?
e. Grandad says that two planks (6 m) are enough for the shelves and the sides. Is he right? Explain.

Question 17

Question 17 – The pet shop scales *(Section C · Problem solving)*

The pet shop weighs animals and food on scales. A rabbit has a mass of 2 kg. A guinea pig has a mass of 1 kg. A bag of rabbit food has a mass of 3 kg. The shop sells small bags of food with a mass of 500 g each.

a. What is the total mass of the rabbit and the guinea pig?
b. How many small bags of 500 g can the shop fill from one big 3 kg bag?
c. How many grams are in the 3 kg bag?
d. A customer buys 2 small bags. What is the mass of food that she buys, in grams and in kilograms?
e. How much food is left in the big bag, in kilograms, after she buys the 2 small bags?

Question 18

Question 18 – A hot day at the zoo *(Section C · Problem solving)*

The zoo keeper fills three water troughs for the animals on a hot day. The elephant trough holds 80 litres, the giraffe trough holds 45 litres and the monkey trough holds 15 litres. The temperature rises from 18 °C in the morning to 31 °C at noon.

Trough	Capacity (litres)
Elephants	80
Giraffes	45
Monkeys	15

a. How many litres do the three troughs hold altogether?
b. The keeper uses a bucket that holds 10 litres. How many buckets are needed to fill the elephant trough?
c. How many degrees does the temperature rise between morning and noon?
d. The keeper says, "The giraffe trough holds more than the other two put together." Is he right? Explain.

Question 19

Question 19 – Planting sunflowers *(Section C · Problem solving)*

Amina plants a sunflower seed. Each week she measures the height of the plant with a metre stick. In week 1 it is 12 cm tall. In week 2 it is 31 cm tall. In week 3 it is 58 cm tall. In week 4 it is 90 cm tall.

Week	Height (cm)
1	12
2	31

Week	Height (cm)
3	58
4	90

a. How much does the plant grow between week 1 and week 2?
b. Between which two weeks does it grow the most?
c. How many centimetres is the plant short of 1 metre in week 4?
d. Amina thinks it will be taller than 1 m in week 5. Use the pattern of growth to explain if she is likely to be right.

Question 20

Question 20 – Challenge: measure puzzles *(Section D · Challenge)*

Otto has set you some measuring puzzles. Explain your reasoning.

a. A box of 4 equal books has a mass of 2 kg. What is the mass of one book in grams?
b. A jug holds 1 litre. Ali fills 4 cups that each hold 200 ml. How much water is left in the jug?
c. Zara says, "5 m is longer than 450 cm." Is she right? Explain.
d. Put these in order from smallest to biggest: 1 m, 90 cm, 1 m 5 cm, 95 cm.