Metric Measures

Metric Measures

| 1a. Millie is measuring the distance that her friends have walked around the playground. | 1b. Joseph is measuring the length of his classmates' pencil cases and recording his results. |
|--|---|
| Hafsa 1 Luke 880 | Jack 30 Lucy 400 |
| She has forgotten to write the unit of measurement. | He has forgotten to write the unit of measurement. |
| Which unit of measure could she be using for each distance? Convince me. | Which unit of measure could he be using for each length? Convince me. |
| 2a. The children are estimating how much water is needed to fill a paddling pool. | 2b. The children are estimating how heavy a book is. |
| I think it will be around 30ml. | I think it will be around 20g. |
| I think it will be around 30L. | I think it will be around 2kg. |
| Who do you agree with and why? | Who do you agree with and why? |
| 3a. A pencil is approximately 20cm in length. Estimate the lengths for the following: | 3b. A tennis ball weighs approximately 60g. Estimate the weights for the following: |
| a table leg | a football |
| a pencil case | a golf ball |
| a water bottle | a bouncy ball |
| a rubber | a cricket ball |
| PS | PS |

Metric Measures

Metric Measures

4a. Terrie is measuring the length of her classmates' arms and recording her results.

> 0.3 Jenny 400 Gerry Jonah 38

She has forgotten to write the unit of measurement.

Which unit of measure could she be using for each length? Convince me.



5a. The children are estimating how much water is needed to fill a bath.



I think it will be around 115.5ml.

Susie

I think it will be around 115.5L.

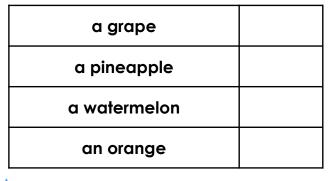


Jojo

Who do you agree with and why?



6a. An apple weighs approximately 85g. Estimate the weights for the following:



4b. Max is measuring the volume of his classmates' water bottles and recording his results.

> 500 Igra 8.0 Will Jake 1

He has forgotten to write the unit of measurement.

Which unit of measure could he be using for each volume? Convince me.

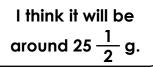


5b. The children are estimating how heavy their school desk is.



I think it will be around 25kg.

Jaiden





Who do you agree with and why?



6b. A cat is approximately 50cm in length. Estimate the lengths for the following:

| a cow | |
|---------|--|
| a mouse | |
| a pig | |
| a sheep | |



Metric Measures

Metric Measures

| 7a. Robyn is measuring how far her classmates can jump. | 7b. Erin is measuring the weight of her classmates' lunch boxes. |
|---|--|
| Ellie 2.1 | Connor 0.5 |
| Martha cm | Bradley kg |
| Jake m | Alex g |
| What unit of measure is missing? | What unit of measure is missing? |
| Estimate the missing measurements, and convince me that these are accurate estimates. | Estimate the missing measurements, and convince me that these are accurate estimates. |
| 8a. The children are estimating the area of a wall. | 8b. The children are estimating the length of the playground. |
| I think it will be around 80m². | I think it will be around a tenth of a kilometre. |
| I think it will take around 80m³. Pippa Who do you agree with and why? | I think it will be around 100m. Yusuf Who do you agree with and why? |
| R | R |
| 9a. A door is approximately 2m in height. Estimate the heights for the following: | 9b. A bottle of pop has a capacity of approximately 1.5L. Estimate the capacities for the following: |
| 2 pens | a glass of water |
| a chair | a cup of tea |
| a teacher | a kettle |
| 2 water bottles | a small carton of juice |
| PS | PS |

Reasoning and Problem Solving Metric Measures

Reasoning and Problem Solving Metric Measures

Developing

1a. Various answers, for example: 1km, 880m. Each is around the same distance and both are plausible distances for children to walk.

2a. Various answers, for example:
I agree with Jaxon because litres is a
greater measure of volume than millilitres.
In context, 30ml wouldn't fill a cup, so
much more water would be needed to fill
a paddling pool.

3a. Various answers, for example: a table leg – 1m, a pencil case – 30cm, a water bottle – 50cm, a rubber – 5cm.

Expected

4a. Various answers, for example: 0.3m, 400mm, 38cm. Each is around the same length when converted to the same unit, and children in one class would have similar length arms.

5a. Various answers, for example:
I agree with Jojo because a bath requires a large amount of water to fill it, and litres is a greater measure than millilitres. In context 150ml is about half of a small glass of water.

6a. Various answers, for example: a grape – 5g, a pineapple – 1kg, a watermelon – 8kg, an orange – 100g.

Greater Depth

7a. Various answers, for example:
2.5m. The missing measurements could be: Martha – 200cm, Jake – 2.2m. These are accurate estimates because each is around the same height, which would be plausible for children in the same class.
8a. Various answers, for example:
I agree with Safeeyah because she has used the correct unit of measurement for area; Pippa's use of m³ refers to volume, not area.

9a. Various answers, for example:2 pens – 40cm, a chair – 0.5m, a teacher –1.5m, 2 water bottles – 60cm.

Developing

1b. Various answers, for example: 30cm, 400mm. Each is around the same length and both are plausible lengths for pencil cases.

2b. Various answers, for example:
I agree with Isobel because kilograms is a greater measure of weight than grams. In context, 20g is about the weight of a AA battery, so would be too light for the weight of a book.

3b. Various answers, for example: a football – 400g, a golf ball – 50g, a bouncy ball – 10g, a cricket ball – 160g.

Expected

4b. Various answers, for example: 500ml, 0.8 litres, 1 litre. Each is around the same volume when converted to the same unit of volume, and children will have similar sized water bottles.

5b. Various answers, for example: I agree with Jaiden because the weight of a table would be measured in kilograms rather than grams. In context, 25g weighs less than a slice of bread.

6b. Various answers, for example: a cow – 2.5m, a mouse – 10cm, a pig – 1.8m, a sheep – 1.5m.

<u>Greater Depth</u>

7b. Various answers, for example: 0.5kg. The missing measurements could be: Bradley – 0.8kg, Alex – 750g. These are accurate estimates because each is around the same weight, which would be plausible for children in the same class. 8b. Various answers, for example:

I agree with both Felix and Yusuf because 0.1km and 100m are equal distances to one another.

9b. Various answers, for example: a glass of water – 500ml, a cup of tea – 450ml, a kettle – 1L, a carton of juice – 250ml.

