Weight – Kilogrammes (kg) and grammes (g)

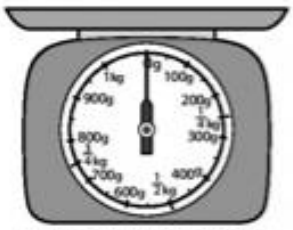
Your child will be dealing with weight – kilogrammes (kg) and grammes (g) – over the coming days. Your child needs to know some of the language associated with weight, such as: kilogramme, gramme, more than, less than, about, balance, estimate, weight, measure, weighing scales, digital, ½, ¼, ¾, heaviest, lightest, total, heavier, lighter, addition, subtraction, add, subtract, weighs, cent, euro, etc.

The kilogramme

Find some 1kg packages in the kitchen, e.g. sugar, rice, fruit, potatoes, flour, butter, pasta, etc. Show them to your child. Discuss the size of the different packages and explain that while each of them weighs 1kg, the size may differ greatly depending on the material. 1kg of cotton wool would take up a lot more space than 1kg of pebbles/stones.

Extension: Encourage your child to use his/her hands as a weighing scale. Invite him/her to estimate whether an apple is lighter or heavier than 1kg. Your child must pick up a 1kg weight (e.g. bag of sugar/flour/pasta shells, etc). In turn, s/he must pick up the apple and compare the two weights. This activity could be carried out using countless familiar objects from around the home (e.g. pineapple, bowl, plant, teapot, pot, cushion, loaf of bread, etc.)

Using a traditional weighing scales



traditional weighing scales

For this activity, you will need a regular kitchen weighing scales and a selection of objects to weigh, e.g. apple, orange, pear, banana, lunchbox, pencil, marker, book, cup, tin of peas, etc. Encourage your child to weigh out a specific weight of each object e.g. weigh out 300g of cereal, 150g of apples, 200g of oranges, etc. Now, focus your child's attention on a specific object, e.g. an apple. Ask your child to estimate how many grammes it might weigh. Next, ask your child to weigh the apple on the scales. Repeat this activity with a selection of objects.

Extension 1: Ask your child to determine if his/her estimate was accurate.

Extension 2: Ask your child to determine the difference in grammes between the estimate and the actual weight.

Using a digital weighing scales

digital weighing scales

If you have a digital scales, it will be a great tool to help your child to develop a good understanding of the gramme. Encourage your child to find something in the house that weighs 1g. Through trial and error, your child should eventually realise how light 1g actually is. Continue the activity by changing the focus of the search, e.g. find something that weighs 5g, 10g, 50g, 100g, 250g, 500g, 800g, etc.

Follow a recipe

You and your child could have great fun baking (e.g. bread, muffins, cupcakes, scones). Following a simple recipe, encourage your child to weigh out the different ingredients. Make sure that you are on hand when your child is dealing with a hot oven. Explain to your child that s/he must handle any hot or sharp utensils with great care.

Make a kilogramme weight

For this activity, you will need a traditional weighing scales or a digital scales, some pasta shells/sand/marbles or whatever you have to hand and a strong bag. Place the bag on the scales and ask your child to place the pasta shells into the bag. S/He must look carefully at the scales as s/he does this and stop when the scales show 1kg. Tie the bag. S/He now has a 1kg weight that can be used to find items around the house that are around 1kg, more than (>) 1kg or less than (<) 1kg.

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Area

Surface area

Over the next few days/weeks, your child will be learning about surface area. S/He needs to know the language associated with surface area, such as: area, surface, squares, shapes, estimate, measure, maths book, table, stamps, playing cards, tiler, carpet tiles, room, kennel, patio, shed, lawn, flower bed.

Measuring a birthday card

Give your child some stamps of similar size. Ask your child to estimate and then measure how many stamps are needed to cover the surface area of a birthday card.

Note: There may not be an exact amount of stamps needed. Encourage your child to round up if part of a stamp is required in the measurement.

Measuring a book

Give your child some cubes/football cards. Ask your child to estimate how many cubes/football cards will be needed to cover the surface of his/her English reader. Your child should record his/her estimate on a sheet of paper. Next, ask your child to measure how many cubes/football cards are needed to cover the surface of his/her English reader. Encourage your child to round up if part of a cube/football card is required in the measurement.

Measuring a table

Give your child a deck of playing cards and some greeting cards. Ask your child to measure the surface area of a table using greeting cards. Next, ask your child to estimate how many playing cards will be needed to cover the surface of the table. Your child should record his/her estimate on a sheet of paper. Next, ask your child to measure how many playing cards are needed to cover the surface of the table.

Extension: Invite your child to discuss how many playing cards/greeting cards were needed to cover the table. Ask him/her to give reasons as to why. Ask your child which type of card was best to cover the table and why. (**Possible responses:** The Christmas cards were best, because I had more of them./The birthday cards were best, because they were bigger, so I needed to use fewer of them./The playing cards were much better, because they were all the same size, so I got a more accurate measurement.)

Measuring the floor

Give your child some A4 sheets of paper. Ask him/her to measure the surface area of a small rug using the A4 sheets of paper.

Extension 1: Ask your child to measure the surface area of his/her bed using the A4 sheets of paper.

Extension 2: Ask your child to measure the surface area of the kitchen/bedroom/bathroom floor using the A4 sheets of paper.

Measuring an A4 sheet of paper

Give your child about 50 interlocking cubes and an A4 sheet of paper. Ask your child to estimate and then measure how many cubes are needed to cover the surface area of the A4 sheet of paper. Next, give him/her some stamps of similar sizes and ask him/her to carry out the same exercise.

Variation: Ask your child to measure the surface area of the A4 sheet of paper using playing cards.

Extension: Invite your child to discuss how many more/fewer cubes, stamps and playing cards were needed to cover the A4 sheet of paper. Ask him/her to give reasons as to why.

Measuring with small squares

Ask your child to mark an A4 sheet of paper with small squares of equal area (30cm x 30cm would be about right). Your child does not need to know about square centimetres at this stage. S/He only needs to deal in small squares to help him/her grasp the concept of surface area. Ask your child to cut out the small squares. This will also help his/her hand/eye coordination. Advise your child to be careful when using a pair of scissors. Ask your child to estimate/measure the surface area of a playing card using the small squares. This will be good practice for the activities on pages 161–164 of *Busy at Maths 3*.

Puzzles

Ask your child to count the number of small squares found in sudoku, word and crossword puzzles, or on a chess/draughts board. You may like to introduce your child to some simple sudoku puzzles.

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Measuring capacity

Your child will be learning about capacity (the measure of the amount of liquid that a container can hold) over the coming days. Your child needs to know the language of capacity, such as: capacity, litres, containers, more than, about, less than, liquid, estimate, measure, ½, ¼, ¾, total, millilitres, least, most, unit, addition, add, subtract, subtraction, take away, left, rename, bottles.

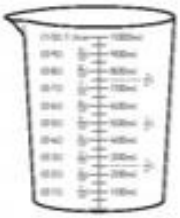
The litre

Find as many 1-litre containers as you can around the home, e.g. milk carton, juice carton, bottle of water, ice cream tub, lunch box, Thermos flask, moisturiser bottle, mouthwash bottle, washing-up liquid, fabric softener, shower gel, cooking oil, etc. Display a selection of these containers. Discuss the shapes. While the shapes may vary greatly, the capacity (the amount of liquid held) is always the same – 1 litre!

Extension: Encourage your child to test the above containers by filling one of them with a material such as water, sand, pasta shells, etc. S/He must then pour the material from this container into another empty 1-litre container. The material should fill the container exactly (allowing for the small empty section that is left at the top of most commercial containers).

> 1 litre, about 1 litre, < 1 litre

For this activity, your child will need a 1-litre measuring jug (one that is graduated in millilitres and used for measuring liquids in the kitchen), water and a selection of empty containers of different shapes and sizes.



1-litre measuring jug

Invite your child to estimate which containers hold more than, less than or about 1 litre. Next, ask him/her to measure the capacity of each container by filling it with water. Your child should pour the water from the container into the 1-litre jug. If there is space left in the jug, the container holds less than 1 litre. If there is water left over (allowing for the empty section that is left at the top of most commercial containers) it is more than 1 litre.

Using a measuring jug

For this activity, your child will need a measuring jug, water, containers of different shapes and sizes. Ask your child to measure out different amounts of water, e.g. pour 100ml/200ml/500ml/850ml, etc. into the jug. Ask your child to write down an estimate for each measure on a sheet of paper. Then ask him/her to check if the measurements are correct.

Extension: After measuring out a specific amount of water (e.g. 500ml), invite your child to pour the water into a selection of containers of different shapes and sizes. This will demonstrate to him/her that 500ml can look very different in a large, wide container as opposed to a tall, narrow container.

Make a delicious drink!

juice

Note: Any healthy juices will do for this activity. You may prefer to do this activity early in the morning, so that your child can have the drink as part of his/her breakfast.

Give your child an A4 sheet of paper and a selection of liquids, e.g. orange juice, apple juice, sparkling water, pineapple juice, lemon, lime, etc. Your child must aim to create a recipe for the most delicious drink possible! S/He can experiment by measuring out different amounts of the liquids of his/her choice and combining them in a glass or plastic bottle, e.g. 50ml of orange juice, 25ml of sparkling water, 75ml of pineapple juice. Ask your child to write down the exact measurement of each ingredient that makes up the drink. S/He may experiment with up to four different recipes. Ask your child to taste each drink and decide on a favourite!

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Coins and notes

Your child will be dealing with all coins and notes up to and including the €20 note over the coming days. Your child needs to know the mathematical language associated with money, such as: money, euro, €1, €2, coins, €5, €10 and €20 notes, equal, the same amount as, blank, least number, amounts, different ways, bought, cost, more, cent, How much change?, I had, spent, left, between, items, add subtract, subtraction, minus, take away, customers, shop, moneyboxes, needs to save.

Target money numbers

Give your child a selection of real/toy/paper 1c, 2c, 5c, 10c, 20c, 50c, €1 and €2 coins as well as €5, €10 and €20 notes. Pick a target number and write it on a sticky note or piece of paper, e.g. €13·48. Ask your child to make this target amount, using the least number of coins and notes possible. Encourage your child to make the target number by starting with the biggest possible coins/notes.

Examples:

€13·47 = €10 + €2 + €1 + 20c + 20c + 5c + 2c
€16·35 = €10 + €5 + €1 + 20c + 10c + 5c
€17·37 = €10 + €5 + €2 + 20c + 10c + 5c + 2c
€18·62 = €10 + €5 + €2 + €1 + 50c + 10c + 2c
€11·76 = €10 + €1 + 50c + 20c + 5c + 1c
€19·72 = €10 + €5 + €2 + €2 + 50c + 20c + 2c
€19·75 = €10 + €5 + €2 + €2 + 50c + 20c + 5c
€1·99 = €1 + 50c + 20c + 20c + 5c + 2c + 2c

Price tags

Ask your child to make price tags for items around the home with prices up to €19·99. Put the price tags with the items. Give your child some real coins from 1c to €2 and some real/play/Monopoly notes up to €20. Ask some or all of the type of questions listed below. There will be more than one answer for some of the questions, which should lead to discussion.

- *Which item is the dearest/most expensive?*
- *Which item is the cheapest/least expensive?*
- *Which items are the same price?*
- *How much dearer is the toaster than the kettle?*
- *How much cheaper is the chair than the table?*
- *Which two items together cost the same as the microwave oven?*
- *Which two items together cost the same as the mixing bowl?*
- *Which three items together cost the same as the TV?*

Have your child act as the shopkeeper and you as the shopper. Have him/her add the totals of the purchases and give the correct change. Then, reverse the roles with your child as the shopkeeper.

Making €20

Give your child a selection of real/toy/paper 1c, 2c, 5c, 10c, 20c, 50c, €1 and €2 coins as well as €5 and €10 notes. Explain to your child that you want him/her to use different coins and notes to make €20 in a variety of ways. When your child has made €20, ask him/her to record the coins and notes that s/he used. **Examples:**

€20 = €10 + €5 + €5
€20 = €10 + €5 + €1 + €1 + €1 + €1 + €1
€20 = €10 + €2 + €2 + €2 + €2 + €2
€20 = €10 + €2 + €2 + €2 + €1 + €2 + €1
€20 = €5 + €5 + €5 + €5
€20 = €5 + €5 + €5 + €1 + €1 + €1 + €1 + €1
€20 = €5 + €5 + €2 + €2 + €2 + €2 + €2

Let's go shopping!

When you bring your child shopping with you, encourage him/her to read the prices of various items. Try to get your child to identify the € symbol and the decimal point. S/He should now begin to understand the decimal point at this stage. Explain that the dot (decimal point) separates the euro from the cent. Show your child two different price tags in the shop, e.g. €12·72 and €14·36 (do not go beyond €19·99 at this stage if you can avoid it). Ask your child to decide which item is dearer/cheaper. Use language such as:

- *Which of these two items is dearer/cheaper?*
- *Which costs more/less: the six pack of juice or the 5kg of potatoes?*
- *How much dearer/cheaper is the shampoo than the mince?*
- *The steak costs €8·54. If I buy the steak, what change will I get from €10/€20?*
- *If I buy the 5kg of potatoes, what change will I get from €10/€20?*

When paying for your shopping, ask your child to help you to count out the money to pay or ask him/her to count the change for you.

The house shop

Set up a small shop, using items from your kitchen, e.g. a tin of beans, a carton of milk, etc. Assign a price to each item (up to €19·99) as done in the earlier exercise with the price tags. Have fun 'buying and selling' items with your child. Use real coins/notes if possible.

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