Food for Thought:
Nutrition Quest

Sugar Detective Answer Book



Name:

Welcome to the Sugar Detective Mathematical Challenge!

You'll find extra space for working out at the back of the booklet

4 grams of sugar equals 1 teaspoon. If you have 8 grams of sugar, how many teaspoons is that?

8 ÷ 4 = 2 teaspoons





Let's practise!

Sugar calculations

		Teaspoons
How many teaspoons are in **12 grams** of sugar? 12 ÷ 4	=	**3**
How many teaspoons are in **20 grams** of sugar? 20 ÷ 4	=	**5**
How many teaspoons are in **36 grams** of sugar? 36 ÷ 4	=	**9**

Workspace for your divison

Now let's look at some food labels

Food labels show the amounts of sugar 'per 100mL' and 'per serve' but drinks come in many different sizes. We use the 'per 100mL' column so that we can make a fair comparison of sugar content in different drinks.

Round One: Lemonade



Servings per package: 2
Serving Size: 200 mL

Average quantity	Per serving	Per 100mL
Energy	344kJ	172kJ
Protein	0g	0g
Fat, total - saturated	0g	0g
Carbohydrate - sugars	20g	10g
Sodium	28mg	14mg

Questions:

How many grams of sugar are in 100mL of the lemonade?
Hint: check the information in the orange boxes.

Answer: 10g

Next, you need to check the bottle size.



How many mL are in 1 bottle of lemonade?
Hint: the answer is on the bottle of

Answer: 400ml

Now divide the bottle size by 100. This will tell you how many lots of 100 mL are in the bottle.

Bottle size in mL **400** ÷100 = **4** **Lots of 100mL in the bottle**

How many grams of sugar are in the whole bottle?
You need to multiply the sugar per 100 mL by how many lots of 100 mL are in the bottle.

10g	X	4	=	40g
Grams of sugar per 100mL		**Lots of 100mL in the bottle**		**Total grams of sugar in the bottle**

Final Step:

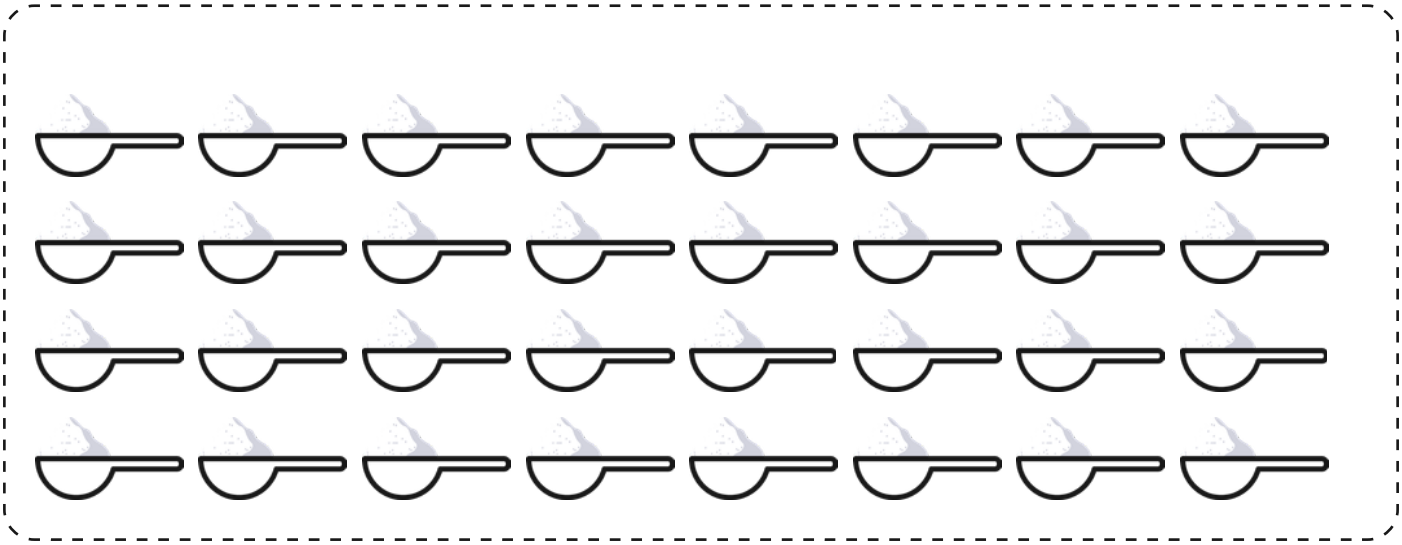
In this final step, you will convert the grams of sugar to teaspoons of sugar. Do you remember the teaspoon measurement from earlier?

4 grams of sugar = 1 teaspoon of sugar

To find the teaspoons, you need to divide (÷) the total grams of sugar by 4. For example: 60 grams of sugar ÷ 4 = 15 teaspoons of sugar

40g	**Total grams of sugar in the bottle**	÷4 =	10	**Teaspoons of sugar in the whole bottle**

Colour in how many teaspoons of sugar are in the whole bottle for this drink.



Round Two: Fizzy Orange Drink



Servings per package: 2 Serving Size: 300 mL		
Average quantity	Per serving	Per 100mL
Energy	394kJ	197kJ
Protein	0g	0g
Fat, total - saturated	0g	0g
Carbohydrate - sugars	33g	11g
Sodium	60mg	20mg

Questions:

How many grams of sugar are in 100mL of the Fizzy Orange Drink?

Answer: 11g

Next, you need to check the bottle size.



How many mL are in 1 bottle of Fizzy Orange Drink?
Hint: the answer is on the bottle.

Answer: 600ml

Now divide the bottle size by 100. This will tell you how many lots of 100 mL are in the bottle.

Bottle size in mL **600ml** ÷100 = **6** **Lots of 100mL in the bottle**

How many grams of sugar are in the whole bottle?
You need to multiply the sugar per 100 mL by how many lots of 100 mL are in the bottle.

11g	X	6	=	66g
Grams of sugar per 100mL		**Lots of 100mL in the bottle**		**Total grams of sugar in the bottle**

Final Step:

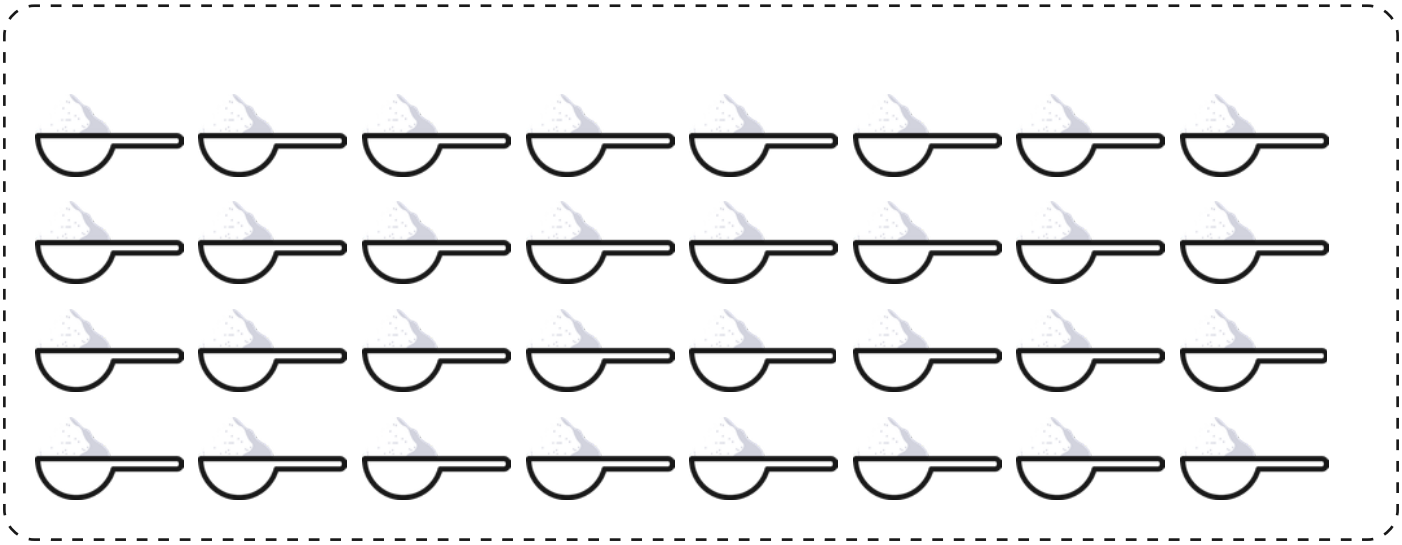
In this final step, you will convert the grams of sugar to teaspoons of sugar. Do you remember the teaspoon measurement from earlier?

4 grams of sugar = 1 teaspoon of sugar

To find the teaspoons, you need to divide (÷) the total grams of sugar by 4. For example: 60 grams of sugar ÷ 4 = 15 teaspoons of sugar

66g	**Total grams of sugar in the bottle**	÷4 =	16.5	**Teaspoons of sugar in the whole bottle**

Colour in how many teaspoons of sugar are in the whole bottle for this drink.



Round Three: Energy Drink



Servings per package: 2 Serving Size: 250 mL		
Average quantity	Per serving	Per 100mL
Energy	492kJ	197kJ
Protein	0g	0g
Fat, total - saturated	0g	0g
Carbohydrate - sugars	40g	16g
Sodium	250mg	100mg

Questions:

How many grams of sugar are in 100mL of the Energy Drink?

Answer: 16g

Next, you need to check the bottle size.



How many mL are in 1 bottle of Energy Drink?
Hint: the answer is on the bottle.

Answer: 500ml

Now divide the bottle size by 100. This will tell you how many lots of 100 mL are in the bottle.

Bottle size in mL **500ml** ÷100 = **5** **Lots of 100mL in the bottle**

How many grams of sugar are in the whole bottle?
You need to multiply the sugar per 100 mL by how many lots of 100 mL are in the bottle.

16g	X	5	=	80g
Grams of sugar per 100mL		**Lots of 100mL in the bottle**		**Total grams of sugar in the bottle**

Final Step:

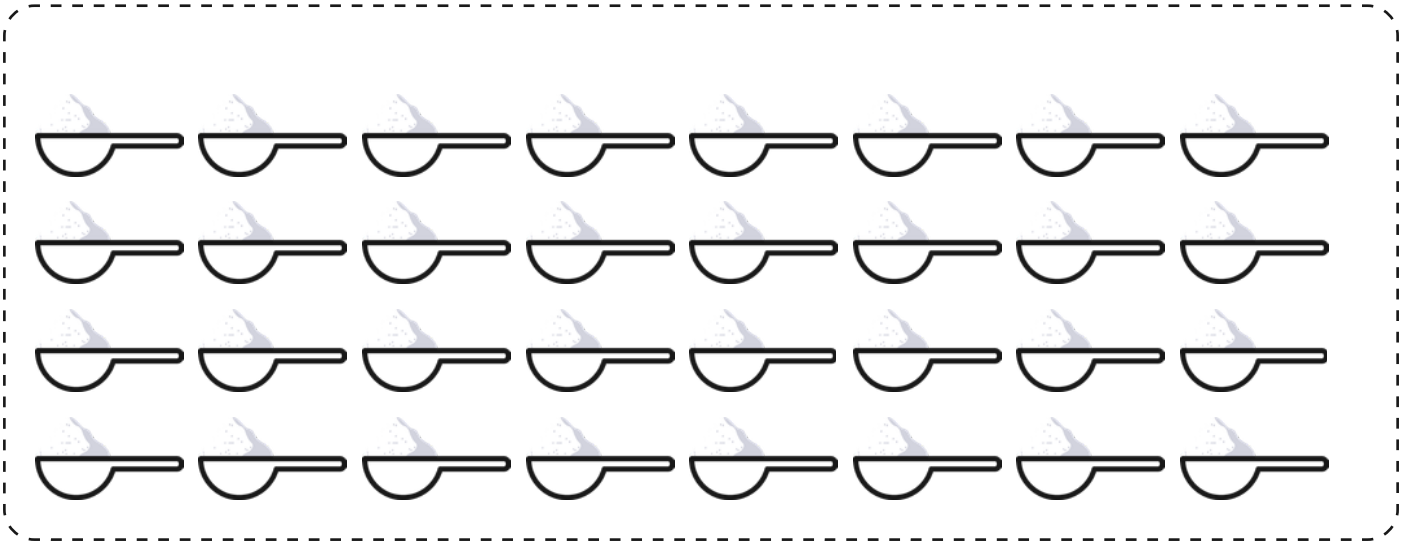
In this final step, you will convert the grams of sugar to teaspoons of sugar. Do you remember the teaspoon measurement from earlier?

4 grams of sugar = 1 teaspoon of sugar

To find the teaspoons, you need to divide (÷) the total grams of sugar by 4. For example: 60 grams of sugar ÷ 4 = 15 teaspoons of sugar

80g	**Total grams of sugar in the bottle**	÷4 =	20	**Teaspoons of sugar in the whole bottle**

Colour in how many teaspoons of sugar are in the whole bottle for this drink.



Round Four: Cola Drink



Servings per package: 2 Serving Size: 300 mL		
Average quantity	Per serving	Per 100mL
Energy	540kJ	180kJ
Protein	0g	0g
Fat, total - saturated	0g	0g
Carbohydrate - sugars	36g	12g
Sodium	30mg	10mg

Questions:

How many grams of sugar are in 100mL of the Cola Drink?

Answer: 12g

Next, you need to check the bottle size.



How many mL are in 1 bottle of Cola Drink?
Hint: the answer is on the bottle.

Answer: 600ml

Now divide the bottle size by 100. This will tell you how many lots of 100 mL are in the bottle.

Bottle size in mL **600ml** ÷100 = **6** **Lots of 100mL in the bottle**

How many grams of sugar are in the whole bottle?
You need to multiply the sugar per 100 mL by how many lots of 100 mL are in the bottle.

12g	X	6	=	72g
Grams of sugar per 100mL		**Lots of 100mL in the bottle**		**Total grams of sugar in the bottle**

Final Step:

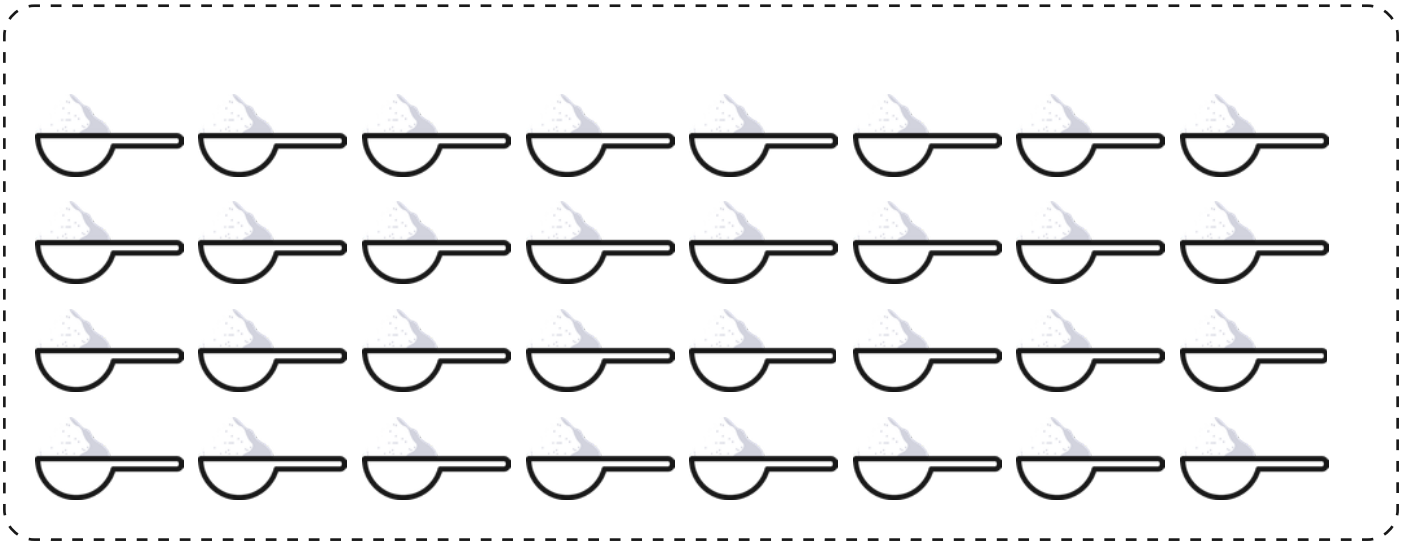
In this final step, you will convert the grams of sugar to teaspoons of sugar. Do you remember the teaspoon measurement from earlier?

4 grams of sugar = 1 teaspoon of sugar

To find the teaspoons, you need to divide (÷) the total grams of sugar by 4. For example: 60 grams of sugar ÷ 4 = 15 teaspoons of sugar

72g	**Total grams of sugar in the bottle**	÷4 =	18g	**Teaspoons of sugar in the whole bottle**

Colour in how many teaspoons of sugar are in the whole bottle for this drink.



Round Five: Sports Drink



Servings per package: 2 Serving Size: 375 mL		
Average quantity	Per serving	Per 100mL
Energy	345kJ	92kJ
Protein	0g	0g
Fat, total - saturated	0g	0g
Carbohydrate - sugars	30g	8g
Sodium	158mg	42mg

Questions:

How many grams of sugar are in 100mL of the Sports Drink?

Answer: 8g

Next, you need to check the bottle size.



How many mL are in 1 bottle of Sports Drink?
Hint: the answer is on the bottle.

Answer: 750ml

Now divide the bottle size by 100. This will tell you how many lots of 100 mL are in the bottle.

Bottle size in mL **750ml** ÷100 = **7.5** **Lots of 100mL in the bottle**

How many grams of sugar are in the whole bottle?
You need to multiply the sugar per 100 mL by how many lots of 100 mL are in the bottle.

8g	X	7.5	=	60g
Grams of sugar per 100mL		**Lots of 100mL in the bottle**		**Total grams of sugar in the bottle**

Final Step:

In this final step, you will convert the grams of sugar to teaspoons of sugar. Do you remember the teaspoon measurement from earlier?

4 grams of sugar = 1 teaspoon of sugar

To find the teaspoons, you need to divide (÷) the total grams of sugar by 4. For example: 60 grams of sugar ÷ 4 = 15 teaspoons of sugar

60g	**Total grams of sugar in the bottle**	÷4 =	15	**Teaspoons of sugar in the whole bottle**

Colour in how many teaspoons of sugar are in the whole bottle for this drink.

