Discussion Problems
Step 4: Add and Subtract Mass

National Curriculum Objectives:

Mathematics Year 3: (3M1b) Compare mass (kg/g)
Mathematics Year 3: (3M2b) Measure mass (kg/g)

About this resource:

This resource has been designed for pupils who understand the concepts within this step. It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More Year 3 Mass and Capacity resources.

Did you like this resource? Don't forget to review it on our website.

Add and Subtract Mass

1. Vowels equal 1kg each. The consonants in each row are of equal value but each row increases by the same amount. Complete the table to work out the mass of each consonant.

B + C + D	300g
	600g
J + K + L	
	1kg 200g
T + V + W	

Use the code to work out the total mass of the words below.

HAPPY		YELLOW		SUNSHINE

What is the mass of the name of your favourite television programme?

DP

2. Frank and Kelly are playing Sweet Shop Sweep. They start the game with 1kg of sweets each. What is the total mass of Frank and Kelly's final stash?

Dice Throws	
Frank	Kelly
2	2
4	3
1	3
5	2
3	6
4	3

START → | Your brother steals 100g. | | Your friend has drifted off to sleep. Have an extra turn!

155 sweets drop out of your hands. Butterfingers!

→ **Well done!** ☺ You have arrived in the sweet shop. As a celebration, now you can double your stash!

You go to the dentist. Lose half of your sweets.

It's your birthday! You receive 425g of sweets.

Sweet Shop Sweep!

Boost forward two spaces! | | You raid the sweet jar. Add 325g. | You win the quiz – you smartie cookie! Earn 210 sweets. | Time Out – miss a go!

DP

Add and Subtract Mass

1. Vowels equal 1kg each. The consonants in each row are of equal value but each row increases by the same amount. Complete the table to work out the mass of each consonant.

B + C + D	300g
F + G + H	600g
J + K + L	900g
M + N + P	1kg 200g
Q + R + S	1kg 500g
T + V + W	1kg 800g
X + Y + Z	2kg 100g

Use the code to work out the total mass of the words below.

HAPPY	YELLOW	SUNSHINE

HAPPY = 200g + 1kg + 400g + 400g + 700g = 2kg 700g
YELLOW = 700g + 1kg + 300g + 300g + 1kg + 600g = 3kg 900g
SUNSHINE = 500g + 1kg + 400g + 500g + 200g + 1kg + 400g + 1kg = 5,000g or 5kg
What is the mass of the name of your favourite television programme? Various possible answers; for example: ARTHUR = 1kg + 500g + 600g + 200g + 1kg + 500g = 3kg 800g.

DP

2. Frank and Kelly are playing Sweet Shop Sweep. They start the game with 1kg of sweets each. What is the total mass of Frank and Kelly's final stash? 3kg 660g or 3,660g

Frank's mass = 1,750g
Kelly's mass = 1,910g

Dice Throws	
Frank	Kelly
2	2
4	3
1	3
5	2
3	6
4	3

START →	Your brother steals 100g.		Your friend has drifted off to sleep. Have an extra turn!
→	Well done! ☺ You have arrived in the sweet shop. As a celebration, now you can double your stash!		You go to the dentist. Lose half of your sweets.
155 sweets drop out of your hands. Butterfingers!			
It's your birthday! You receive 425g of sweets.	Sweet Shop Sweep!		You raid the sweet jar. Add 325g.
Boost forward two spaces!		You raid the sweet jar. Add 325g.	You win the quiz – you smartie cookie! Earn 210 sweets.	Time Out – miss a go!

DP

Discussion Problems – Add and Subtract Mass ANSWERS