Reasoning and Problem Solving
Multiplication and Division Consolidation – Year 2

National Curriculum Objectives

Mathematics Year 2: Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
Mathematics Year 2: Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs
Mathematics Year 2: Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
Mathematics Year 2: Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

About This Resource

This resource is aimed at Year 2 Expected and has been designed to give children the opportunity to consolidate the skills they have learned in Autumn Block 4 – Multiplication and Division.

The questions are based on a selection of the same 'small steps' that are addressed in the block, but are presented in a different way so children can work through the pack independently and demonstrate their understanding and skills.

Small Steps

Recognise equal groups
Make equal groups
Add equal groups
Multiplication sentences from pictures
2 times-table
5 times-table
10 times-table

More Year 2 Multiplication and Division resources.

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

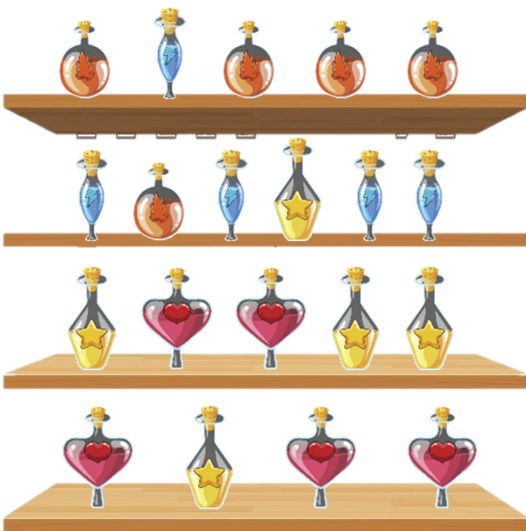# classroomsecrets.co.uk

Welcome to Puddington's Potion Academy. A team of famous wizards are trying to figure out the lost ingredient in a top secret magic potion. No wizard since Puddington himself has ever successfully created this potion in the history of the Academy.

"Legend has it that whoever gets this spell right shall get the sweetest riches!" exclaims Giovanni the Great. "Not to mention the bragging rights – get ready to go down in history! Before we get started, we have to make sense of this cupboard – I can't find a thing I'm looking for!"

1. Have the bottles been correctly sorted into equal groups? Explain why or why not. If not, how can you make them equal?

2. Create a label for each shelf with a multiplication sentence to describe how it has been sorted.

2a.

2b.

2c.

2d.

As Giovanni set off trying to recreate the potion, the other wizards had their own ideas. "I can't believe we're all out of spider leg juice! I'm sure that's the lost ingredient." Xander the Extraordinary mumbles to himself. "I'll just quickly whip up some more! Eight legs to a spider, eight spiders to a bottle – I need eight spiders in total, then that reward is all mine!"

3. Add the equal groups of spiders to see which group should be bottled.

Perfect! Xander waves his wand twice and mutters the magic words…

4. "Crikey! How on earth have I managed to make sixty bottles of spider leg juice? I should put these bottles on the shelves before Giovanni notices and shouts again." If ten bottles fit on one shelf, how many shelves will store 60 extra bottles?

"Enough of these games - those riches are all mine, fools!" cackles Mauricio the Magnificent. "I've figured out the real, secret ingredient – stand back!"

5. If Mauricio has the following number of bats, how many bat wings will he have for his potion?

Bats	Bat wings
3	
8	
10	
12	

"Alakazim, alakazam – oh crumbs!" With a huge puff of smoke, a tiny flame sizzles out in his hands. "Maybe bat wings aren't the way to go after all… hmph!"

The smoke clears and a small voice pipes up from the back of the room, "You wizards are all so greedy!"

"What – who is that?" squints Giovanni. "Ivan? Tiny Ivan? This is a bit out of your league, kid!" chuckles Xander.
"I will not be sharing my hard-earned riches with a student!" bellows Mauricio. "Get out of here!"

6. "You have bad attitudes for such important wizards. I know what to do – I'll make enough for all of us!" Change his recipe so the potion serves 5.

Ingredient	Amount for 1	To serve 5
rainbow berries	6	
ladybird eye lashes	4	
mermaid tears	9	
unicorn tail hairs	7	

Ivan waves his wand and says the magic words:

With a sparkly blast, the room is filled with the richest sweets the wizards have ever seen!

"What remarkable treasure!" exclaims Xander the Extraordinary. "The sweetest riches indeed!" laughs Giovanni the Great. "Bah! I'm going home!" grumbles Mauricio the Magnificent. A deep voice booms from the doorway: "Well done, Ivan." says Professor Puddington. "A generous spirit is truly a magical thing. From now on, you shall be known to all as Ivan the Incredible!"

1. **No, because the second shelf has six bottles and the bottom shelf has four.**
   To make them equal, you could take one bottle from the second shelf and move it to the bottom shelf.
2. **a – 3 x 2 = 6; b – 3 x 4 = 12; c – 2 x 4 = 8 and d – 3 x 3 = 9**
3. **3 + 3 = 6; 4 + 4 = 8 so the second group should be bottled.**
4. **10 x 6 = 60 so ten shelves are required to store 60 bottles.**

5.

Bats	Bat Wings
3	**6**
8	**16**
10	**20**
12	**24**

6.

Ingredient	Amount for 1	To serve 5
rainbow berries	6	**30**
ladybird eye lashes	4	**20**
mermaid tears	9	**45**
unicorn tail hairs	7	**35**

Magic words will vary!