

Homework/Extension

Step 11: Correspondence Problems

National Curriculum Objectives:

Mathematics Year 4: (4C8) [Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as \$n\$ objects are connected to \$m\$ objects](#)

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

Developing Identify and correct the mistake in a calculation to show the total number of different combinations. Pictorial support provided.

Expected Identify and correct the mistake in a calculation to show the total number of different combinations. Some scaffolding provided.

Greater Depth Identify and correct the mistake in a calculation to show the total number of different combinations.

Questions 2, 5 and 8 (Varied Fluency)

Developing Find the odd one out in the different total number of combinations. Pictorial support provided.

Expected Find the odd one out in the different total number of combinations. Some pictorial support provided.

Greater Depth Complete a missing representation to fit given criteria regarding the total number of different combinations.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

Developing Explain whether a statement is correct or incorrect using knowledge of multiplication facts. Pictorial support provided.

Expected Explain whether a statement is correct or incorrect, using knowledge of multiplication facts.

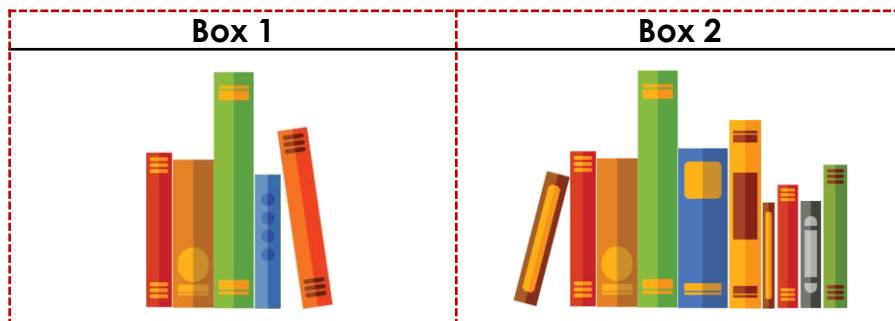
Greater Depth Use different methods of multiplication to correctly complete two statements.

More [Year 4 Multiplication and Division](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Correspondence Problems

1. Miss Chambers has two boxes of books in her classroom. She takes a book from Box 1 and a book from Box 2. Miss Chambers thinks she can make 45 combinations.



$$5 \times 9 = 45 \text{ combinations}$$

Correct the mistake(s) above to show how many combinations she can take in total.



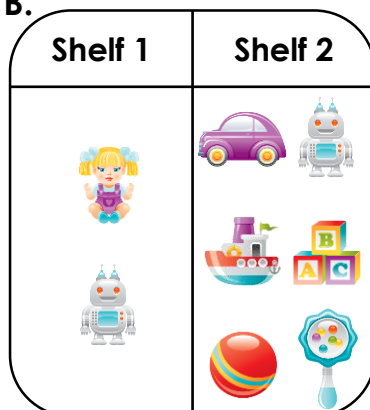
VF
HW/Ext

2. There are three shops each with two shelves of different toys. Find the odd one out in the total number of different combinations of toys at each shop.

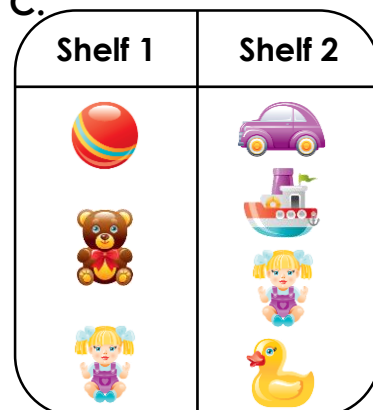
A.



B.



C.



VF
HW/Ext

3. Daisy has 8 cupcakes and 3 biscuits altogether. She is allowed to pick one of each but she is unsure of which to pick. She says,



I think there are more than 20 different combinations that I could pick.

Is Daisy correct? Explain your answer.



RPS
HW/Ext

Correspondence Problems

4. Mr Hill has five different-coloured stickers that he uses in class. Each colour comes in a different design. Mr Hill thinks he can make 11 combinations.

Sticker colour	Sticker design
orange	smiley face
yellow	books
silver	animals
purple	star
green	flag
	cake

$$5 + 6 = 11 \text{ combinations}$$

Correct the mistake(s) above to show how many combinations he can use in total.



VF
HW/Ext

5. There are three shops each with three shelves of different food. Find the odd one out in the total number of different combinations of food at each stall.

A.



B.



C.



VF
HW/Ext

6. Rupert has 15 Prodeemon cards which come in 3 varieties – normal, shiny and legendary. He has to pick one from each category for a Prodeemon battle.



Rupert

All of my cards are different. I have 6 normal cards, 4 shiny cards and 5 legendary cards. I can take one of more than 100 combinations into battle.

Is Rupert correct? Explain your answer.



RPS
HW/Ext

Correspondence Problems

7. Mrs Rogers has four different-coloured stamps that she uses in class. Each colour comes in a different design. Mrs Rogers thinks she can make 48 combinations.

Stamp colour	Stamp design
red	1 shooting star
blue	4 smiley faces
purple	2 owls
gold	1 large apple
	3 books on a shelf
	1 thumbs up

$$4 \times 12 = 48 \text{ combinations}$$

Correct the mistake(s) above to show how many combinations she can use in total.



VF
HW/Ext

8. Create your own representation for garden B so that it has more different combinations than garden A, but fewer combinations than garden C in total.

In three separate gardens, there are:

A.

4 types of tree

3 varieties of bush

6 different flowers

B.

C.

7 types of tree

1 varieties of bush

11 different flowers



VF
HW/Ext

9. Mary and Sid are decorating T-shirts for guests to wear at their sister's shape-themed party. They want to find out how many different combinations there are in total.

T-shirt size	Extra small	small	medium	large			
T-shirt style	crew neck	polo neck	V-neck	cap neck	turtle neck		
Shapes	yellow circle	pink square	gold arrow	red heart	grey oval	blue moon	silver star



Mary

In total,

7 shapes



Sid

Complete the statements above differently so that both are correct and explain why.



RPS
HW/Ext

Homework/Extension

Correspondence Problems

Developing

1. The error is $5 \times 9 = 45$. There are 5 books in Box 1 and 10 books in Box 2. $5 \times 10 = 50$ combinations.
2. A is the odd one out because $5 \times 3 = 15$. B and C show 12 combinations.
3. Daisy is correct. $3 \times 8 = 24$ combinations which is more than 20.

Expected

4. There are 5 different colours and 6 different designs of stickers. $5 \times 6 = 30$ combinations. The calculation is presented as an addition and not a multiplication.
5. C is the odd one out because $8 \times 3 \times 1 = 24$. A and B create 32 combinations.
6. Rupert is correct because $6 \times 5 \times 4 = 120$ combinations which is more than 100.

Greater Depth

7. 4 different stamp colours \times 6 different stamp designs = 24 combinations. The number of images used in each design does not affect the number of combinations.
8. Various answers, for example: Garden B could have 5 types of tree, 5 varieties of flowers and 3 types of bush.
9. Various answers, for example: Mary – In total, there are 140 different combinations because $4 \times 5 \times 7 = 140$; Sid – 7 shapes \times 4 sizes = 28. 28×5 styles of T-shirts = 140 different combinations in total.