

Reasoning and Problem Solving

Step 5: Multiplication from Pictures

National Curriculum Objectives:

Mathematics Year 2: (2C6) [Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers](#)

Mathematics Year 2: (2C9b) [Show that multiplication of two numbers can be done in any order \(commutative\) and division of one number by another cannot](#)

Mathematics Year 2: (2C8) [Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Use knowledge of multiplication to work out the total from pictures and identify the odd one out, using two equal groups of 5 or less. 3 options provided.

Expected Use knowledge of multiplication to work out the total from pictures and identify the odd one out, using two equal groups of 10 or less and three equal groups of 5 or less. 4 options provided.

Greater Depth Use knowledge of multiplication to work out the total from pictures and identify the odd one out, using three equal groups of 12. 4 options provided.

Questions 2, 5 and 8 (Reasoning)

Developing Prove whether or not an amount has been multiplied correctly (using two equal groups of less than 5).

Expected Prove whether or not an amount has been multiplied correctly (using two equal groups of 10 or less and three equal groups of 5 or less).

Greater Depth Prove whether or not an amount has been multiplied correctly (using three equal groups of 12 or less).

Questions 3, 6 and 9 (Problem Solving)

Developing Use knowledge of multiplying to write a calculation to match a story (using two equal groups of less than 5).

Expected Use knowledge of multiplying to write a calculation to match a story (using two equal groups of 10 or less and three equal groups of 5 or less).

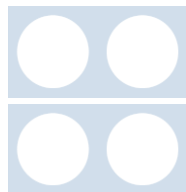
Greater Depth Use knowledge of multiplying to write two calculations to match both stories, using the commutative law. (using three equal groups of 12 or less).

More [Year 2 Multiplication and Division](#) resources.

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

Multiplication from Pictures

1a. Circle the image that is the odd one out. Explain why.



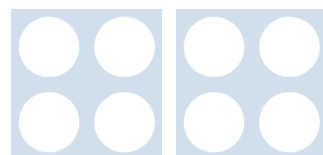
$$\boxed{2} \times \boxed{2} = \boxed{4}$$



R

Multiplication from Pictures

1b. Circle the image that is the odd one out. Explain why.



$$\boxed{2} + \boxed{4} = \boxed{6}$$



R

2a. Bill buys 2 boxes of chocolates. Each box contains 5 chocolates.



There are enough chocolates for 12 of us to have one each.

Is he correct? Explain how you know.



R

2b. Amelia needs 10 stickers for her book. A packet contains 2 stickers.



If I buy 3 packets, I will have enough stickers.

Is she correct? Explain how you know.



R

3a. Write and solve the calculation to match the story.

I buy two packets of plastic cups. There are 4 cups in each packet.

How many cups are there altogether?

$$\boxed{} \times \boxed{} = \boxed{}$$



PS

3b. Write and solve the calculation to match the story.

I buy five packets of stamps. There are 2 stamps in each packet.

How many stamps are there altogether?

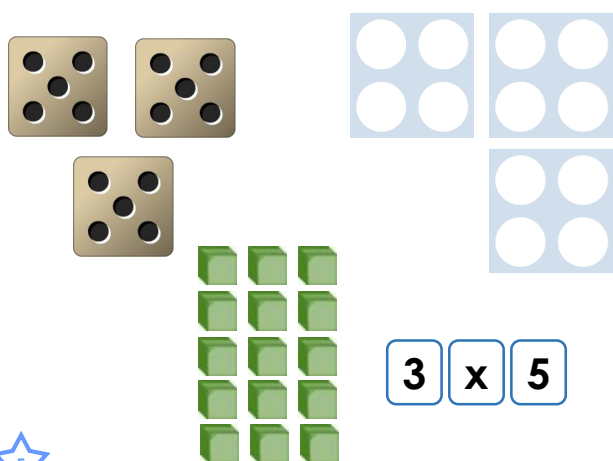
$$\boxed{} \times \boxed{} = \boxed{}$$



PS

Multiplication from Pictures

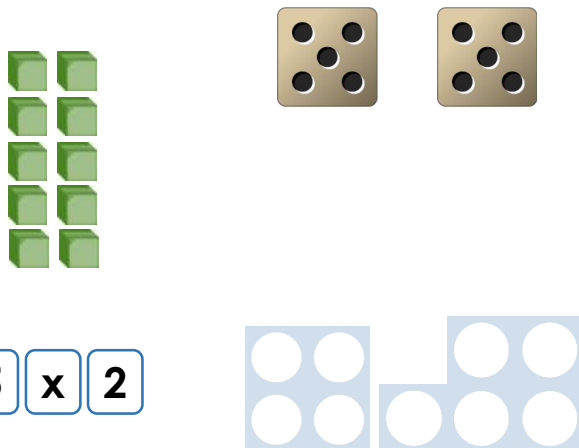
4a. Circle the image that is the odd one out. Explain why.



R

Multiplication from Pictures

4b. Circle the image that is the odd one out. Explain why.



R

5a. A rollercoaster ride has 7 carriages. There are 2 seats in each carriage.



All 15 people in our group can go on the ride at the same time.

Is Muna correct? Explain how you know.



R

5b. Melissa buys 2 packets of croissants. There are 8 croissants in each packet.



I can give one croissant to each of my 16 friends.

Is she correct? Explain how you know.



R

6a. Write and solve the calculation to match the story.

There are 3 benches in the hall. A bench can fit 4 children.

How many children can fit on the benches?

$$\square \times \square = \square$$



PS

6b. Write and solve the calculation to match the story.

There are 5 tables in the classroom. Each table has 3 textbooks.

How many textbooks are there altogether?

$$\square \times \square = \square$$

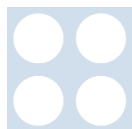


PS

Multiplication from Pictures

Multiplication from Pictures

7a. Circle the image that is the odd one out. Explain why.



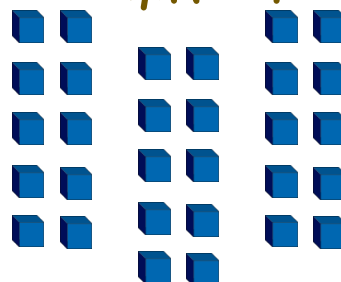
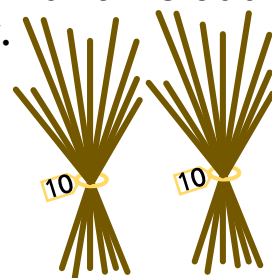
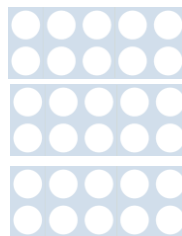
$$2 \times 12$$



R

7b. Circle the image that is the odd one out. Explain why.

$$3 \times 10$$



R

8a. Miss Jones takes her class on a trip. Each bus has 30 seats and each class has 12 pairs of children.



If we take one bus, there will be 6 seats left for adults.

Is she correct? Explain how you know.



R

8b. Mr Morris buys some pens for his class. Each pack has 30 pens and each class has 14 pairs of children.



If I buy one pack, there will be 4 pens left over.

Is he correct? Explain how you know.



R

9a. Write and solve the calculation to match both of the stories.

William has 3 tubes of sweets.
There are 11 sweets in each tube.

$$\square \times \square = \square$$

Suzy has 11 tubes of sweets.
There are 3 sweets in each tube.

$$\square \times \square = \square$$



PS

9b. Write and solve the calculation to match both of the stories.

Emily has 12 friends.
She gives them 3 biscuits each.

$$\square \times \square = \square$$

Sam has 3 friends.
He gives them 12 biscuits each.

$$\square \times \square = \square$$



PS

Reasoning and Problem Solving Multiplication from Pictures

Developing

- 1a. Base 10; all others total 6.
- 2a. No; $5 \times 2 = 10$
- 3a. $2 \times 4 = 8$ or $4 \times 2 = 8$

Expected

- 4a. Numicon; all others total 15.
- 5a. No; $7 \times 2 = 14$
- 6a. $3 \times 4 = 12$ or $4 \times 3 = 12$

Greater Depth

- 7a. Numicon; all others total 24.
- 8a. Yes; $12 \times 2 = 24$ pupils, and $30 - 24 = 6$ seats remaining for adults.
- 9a. $3 \times 11 = 33$ and $11 \times 3 = 33$

Reasoning and Problem Solving Multiplication from Pictures

Developing

- 1b. Digit cards; all others total 8.
- 2b. No; $3 \times 2 = 6$
- 3b. $2 \times 5 = 10$ or $5 \times 2 = 10$

Expected

- 4b. Numicon; all others total 10.
- 5b. Yes; $8 \times 2 = 16$
- 6b. $5 \times 3 = 15$ or $3 \times 5 = 15$

Greater Depth

- 7b. Bunch of reeds; all others total 30.
- 8b. No; $14 \times 2 = 28$, and $30 - 28 = 2$ pencils remaining.
- 9b. $3 \times 12 = 36$ or $12 \times 3 = 36$