

Reasoning and Problem Solving

Step 1: Make Equal Groups – Sharing

Teaching Note:

We recommend using concrete manipulatives to support children's understanding of sharing into groups.

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: (2C7) [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: (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 (Problem Solving)

Developing Calculate how many items could be in 2 equal groups.

Expected Calculate how many items could be in up to 4 equal groups.

Greater Depth Calculate how many items could be in 5 or more equal groups.

Questions 2, 5 and 8 (Problem Solving)

Developing Solve a two-step word problem when sharing between 2 groups (using knowledge of 2 times table).

Expected Solve a two-step word problem when sharing between up to than 4 groups (using knowledge of 2 and 5 times tables).

Greater Depth Solve a two-step word problem when sharing between more than 4 groups (using knowledge of 2, 5 and 10 times tables).

Questions 3, 6 and 9 (Reasoning)

Developing Identify and explain which numbers which can be shared equally into 2 groups (using knowledge of the 2 times tables).

Expected Identify and explain which numbers can be shared equally in up to 4 groups.

Greater Depth Identify and explain which numbers can be shared equally into groups of 5 or more (using knowledge of the 2, 5 and 10 times tables).

[More resources](#) which follow the same small steps as White Rose.

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

Make Equal Groups – Sharing

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1a. Jeanie has some strawberries. When she shares them equally between 2 bowls there are none left over.



She has fewer than 13 berries in total.

How many could be in each bowl?



PS

1b. Chris has some marbles. When he puts them in 2 equal piles there are none left over.



He has fewer than 19 marbles in total.

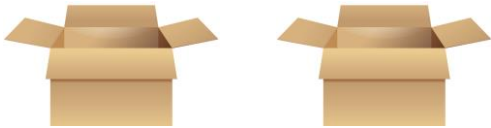
How many could be in each pile?



PS

2a. Eijah shares his toy cars between 2 boxes. Each box has 7 cars.

How many cars does Elijah have altogether?



He sells 5 cars.

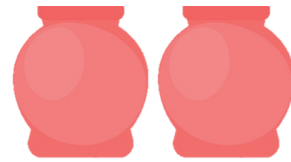
Can Elijah share his cars equally between the boxes? Explain how you know.



PS

2b. Amelia shares her buttons into 2 jars. Each jar has 9 buttons.

How many buttons does Amelia have altogether?



She uses three buttons.

Can Amelia share her buttons equally between the jars? Explain how you know.



PS

3a. Which of these numbers can create 2 equal groups?

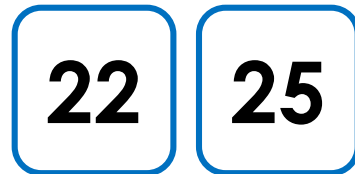


Explain your choices.



R

3b. Which of these numbers can create 2 equal groups?



Explain your choices.



R

Make Equal Groups – Sharing

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4a. Emilio has some trading cards. When he puts them in 3 equal piles there are none left over.

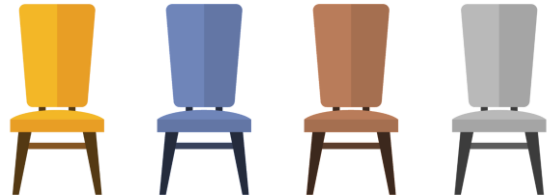


He has fewer than 15 cards in total.
How many cards could be in each pile?



PS

4b. Miss. Blythe has stacked her chairs. When she puts them in 4 equal stacks there are none left over.



She has fewer than 30 chairs in total.
How many chairs could be in each stack?



PS

5a. Tania shares her flowers between 4 vases. Each vase has 5 flowers.

How many flowers does Tania have altogether?



Tania gives away 2 flowers and 2 vases.

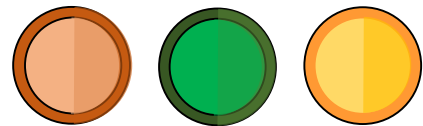
Can Tania share the flowers equally between 2 vases? Explain how you know.



PS

5b. Albie places his cupcakes onto 3 plates. Each plate has 5 cupcakes.

How many cupcakes does Albie have altogether?



Albie eats a cupcake and drops a plate.

Can Albie share the cupcakes equally between 2 plates? Explain how you know.



PS

6a. Which of these numbers can create 4 equal groups?



Explain your choices.



R

6b. Which of these numbers can create 3 equal groups?



Explain your choices.



R

Make Equal Groups – Sharing

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7a. Elia has some sweets. When she shares them equal between her 5 friends there are none left over.



She has fewer than 26 sweets in total. How many sweets could each friend have?



PS

7b. Dylan has some flower bulbs. When he puts them in 6 equal rows there are none left over.



He has fewer than 40 bulbs in total. How many bulbs could be in each row?



PS

8a. Tyrone shares his conkers between 7 buckets. Each bucket has 5 conkers.

How many conkers does Tyrone have altogether?



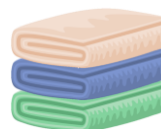
Tyrone loses 4 conkers in a battle, his Dad takes 2 of his buckets.

Can Tyrone share his conkers equally? Explain how you know.



PS

8b. Dan tidies his towels on 5 shelves. Each shelf has 3 towels. How many towels does Dan have altogether?



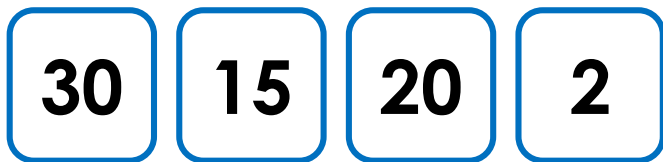
Dan's sister uses 4 towels. His Mum asks him to only use 2 shelves for towels.

Can Dan share the towels equally? Explain how you know.



PS

9a. Which of these numbers can create equal groups of both 2 and 5?

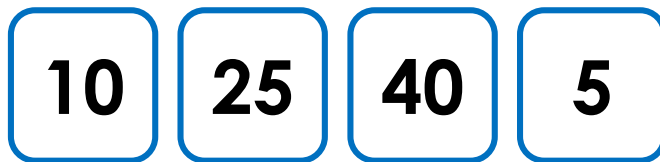


Explain your choices.



R

9b. Which of these numbers can create equal groups of both 5 and 10?



Explain your choices.



R

Developing

- 1a. Various answers, for example: 6 strawberries in each bowl.
2a. 14 cars altogether. Elijah cannot share the remaining cars as 9 cannot be shared equally between 2 groups.
3a. 14; $14 \div 2 = 7$

Expected

- 4a. Various answers, for example: 4 cards in each pile.
5a. 20 flowers altogether. Tania can share the remaining flowers as 18 can be shared equally into 2 groups of 9.
6a. 16 and 8; $16 \div 4 = 4$ and $8 \div 2 = 4$

Greater Depth

- 7a. Various answers, for example; 5 sweets for each friend.
8a. 35 conkers altogether. Tyrone cannot share the remaining conkers as 31 cannot be shared equally between 5 groups.
9a. 30 and 20; $30 \div 5 = 6$, $30 \div 2 = 15$,
 $20 \div 5 = 4$, $20 \div 2 = 10$

Developing

- 1b. Various answers, for example: 7 marbles in each pile.
2b. 18 buttons altogether. Amelia cannot share the remaining buttons as 15 cannot be shared equally between 2 groups.
3b. 22; $22 \div 2 = 11$

Expected

- 4b. Various answers, for example: 7 chairs in each stack.
5b. 15 cupcakes altogether. Albie can share the remaining cakes as 14 can be shared equally into 2 groups of 7.
6b. 9 and 15; $9 \div 3 = 3$, $15 \div 3 = 5$

Greater Depth

- 7b. Various answers, for example: 5 bulbs in each row.
8b. 15 towels altogether. Dan cannot share the remaining towels as 11 cannot be shared equally between 2 groups.
9b. 10 and 40; $10 \div 5 = 2$; $10 \div 10 = 1$;
 $40 \div 5 = 8$, $40 \div 10 = 4$