# Reasoning and Problem Solving
# Step 3: Divide by 2

## National Curriculum Objectives:

**Mathematics Year 2: (2C7)** Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) 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 (Reasoning)**
**Developing** Explain an error in a one-step calculation including dividing by 2. Pictorial support.
**Expected** Explain an error in a one-step calculation including dividing by 2. No pictorial support given
**Greater Depth** Explain an error in a two-step calculation including dividing by 2. No pictorial support.

**Questions 2, 5 and 8 (Problem Solving)**
**Developing** Use digit cards to complete the divide by 2 calculation. Pictorial support given.
**Expected** Use digit cards to complete the divide by 2 calculation. Find 4 possible answers. No pictorial support given
**Greater Depth** Use mixed representation cards to complete the divide by 2 calculation. Find 4 possible answers. No pictorial support given.

**Questions 3, 6 and 9 (Problem Solving)**
**Developing** Solve a word problem using knowledge of dividing numbers by 2. Pictorial support.
**Expected** Solve a two-step word problem using knowledge of dividing numbers by 2. No pictorial support given.
**Greater Depth** Solve a multi-step word problem using knowledge of dividing numbers by 2. No pictorial support given.

## More Year 2 Multiplication and Division resources.

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

# Divide by 2

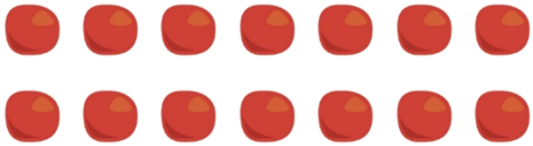
1a. Kyle has 6 sweets. He gives half of them to Katie.

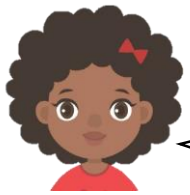
We will get 3 sweets each.

Is Kyle correct? Explain why.

D R

1b. Arooj has 14 sweets. She gives half of them to Max.





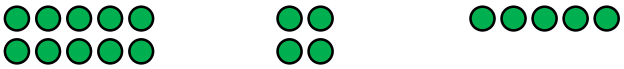
We will get 8 sweets each.

Is Arooj correct? Explain why.

D R

2a. Use the correct digit cards to complete the calculation below.

10 4 5

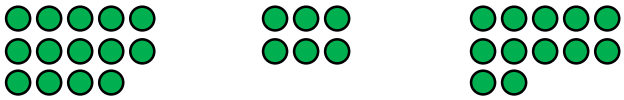


☐ ÷ 2 = ☐

D PS

2b. Use the correct digit cards to complete the calculation below.

14 6 12



☐ ÷ 2 = ☐

D PS

3a. Mum is tidying up and she finds 8 shoes.

How many pairs can she make?

D PS

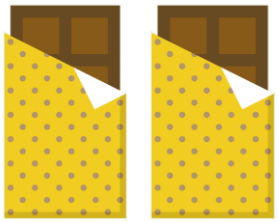
3b. Dad is tidying up and he finds 10 earrings.

How many pairs can he make?

D PS

## Divide by 2

4a. Emma has 18 pieces of chocolate. She gives half of them to Mike.



We will get 8 pieces each.

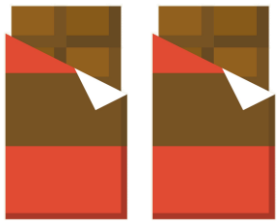
Is Emma correct? Explain why.

E

R

## Divide by 2

4b. Lia has 22 pieces of chocolate. She gives half of them to Joe.



Joe will get 11 pieces.

Is Lia correct? Explain why.

E

R

5a. Use the digit cards to make 4 division calculations.

| | | |
|---|---|---|
| 10 | 16 | 40 |
| 5 | 20 | 8 |

☐ ÷ 2 = ☐

E

PS

5b. Use the digit cards to make 4 division calculations.

| | | |
|---|---|---|
| 24 | 6 | 2 |
| 4 | 12 | 8 |

☐ ÷ 2 = ☐

E

PS

6a. Dad is tidying up and he finds 16 socks.

How many pairs can he make?

He finds 6 more socks. Can he still make pairs?

E

PS

6b. Sam is tidying up and she finds 24 socks.

How many pairs can she make?

She loses 8 socks. Can she still make pairs?

E

PS

## Divide by 2

7a. Sam has 24 sweets, he eats 2 and then he gives half of what is left to Lee.

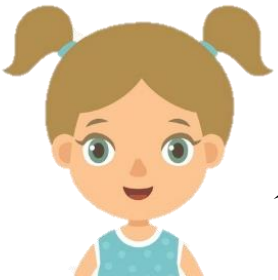
We will get 10 sweets each.

Is Sam correct? Explain why.

GD R

## Divide by 2

7b. Ola has 16 sweets. She finds 6 more and then she gives half to Will.

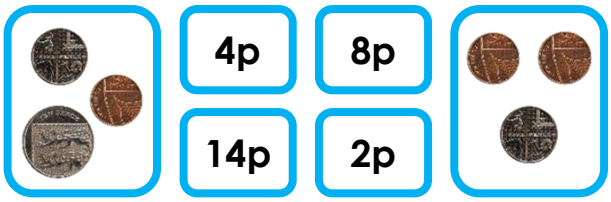


We will get 8 sweets each.

Is Ola correct? Explain why.

GD R

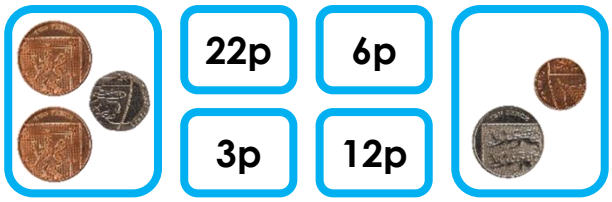
8a. Use the digit cards to make 4 division calculations.




☐ ÷ 2 = ☐

GD PS

8b. Use the digit cards to make 4 division calculations.




☐ ÷ 2 = ☐

GD PS

9a. Kim is tidying up and she finds 18 red gloves and 6 blue gloves.

How many pairs can she make?

She loses 3 of the red and 3 of the blue gloves. Can she still make pairs?

GD PS

9b. Albie finds 14 green gloves and 12 grey gloves.

How many pairs of gloves has he found?

He loses 5 of the green and 1 of the grey gloves. Can he still make pairs?

GD PS

## Reasoning and Problem Solving
## Divide by 2

**Developing**

1a. Kyle is correct. 6 ÷ 2 = 3

2a. 10 ÷ 2 = 5

3a. 4

**Expected**

4a. Emma is incorrect. 18 ÷ 2 = 9

5a. 40 ÷ 2 = 20; 20 ÷ 2 = 10; 10 ÷ 2 = 5; 16 ÷ 2 = 8

6a. He can make 8 pairs of socks.
Yes, he can still make pairs. He can now make 11 pairs.

**Greater Depth**

7a. Sam is incorrect. 24 – 2 = 22 and 22 ÷ 2 = 11

8a. 14p ÷ 2 = 7p; 16p ÷ 2 = 8p; 8p ÷ 2 = 4p; 4p ÷ 2 = 2p

9a. Various answers, for example: She can make 12 pairs of gloves, she can make 9 pairs of red gloves and 3 pairs of blue gloves.
She can make pairs but one pair will have one blue glove and one red glove.

## Reasoning and Problem Solving
## Divide by 2

**Developing**

1b. Arooj is incorrect. 14 ÷ 2 = 7

2b. 12 ÷ 2 = 6

3b. 5

**Expected**

4b. Lia is correct. 22 ÷ 2 = 11

5b. 24 ÷ 2 = 12; 12 ÷ 2 = 6; 8 ÷ 2 = 4; 4 ÷ 2 = 2

6b. She can make 12 pairs of socks.
Yes, she can still make pairs. She can now make 8 pairs.

**Greater Depth**

7b. Ola is incorrect. 16 + 6 = 22. 22 ÷ 2 = 11.

8b. 22p ÷ 2 = 11p; 24p ÷ 2 = 12p; 12p ÷ 2 = 6p; 6p ÷ 2 = 3p

9b. Various answers, for example: He can make 13 pairs of gloves, he can make 7 pairs of green gloves and 6 pairs of grey gloves.
He can make pairs but one pair will have one green glove and one grey glove.