Lesson 1

Key Learning: to solve addition and subtraction missing box equations

Success criteria:

- I can label the parts and the whole
- I know how to find the missing part or whole
- I can complete missing box equations (addition and subtraction)

missing box part whole addition subtraction

Solve it!

Engage

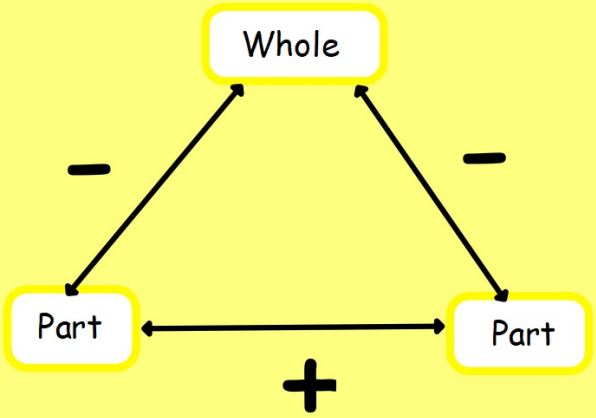
26+13	43-31=	6x5=	25÷5=	½ of 14=
31+17 =	55-32 =	4 x 10 =	20 ÷ 2 =	¼ of 24 =

Introduce

What is missing in this equation?

Whole? **Part?**

14 - ____ = 7



To find a missing part I will need to calculate:

Whole - part = part

10 - 7 = 3

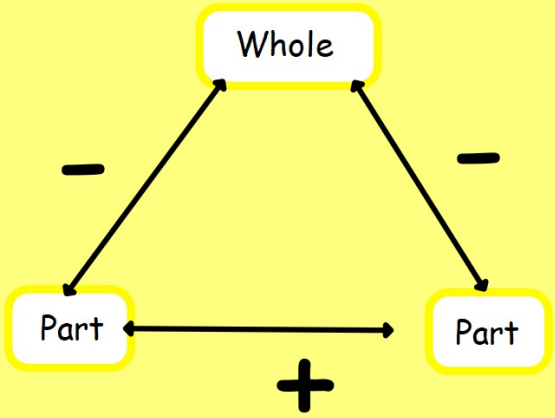
Introduce

What is missing in this equation?

Whole?

7 + 5 = _____

Part?



Label

To find a missing whole I will need to calculate:

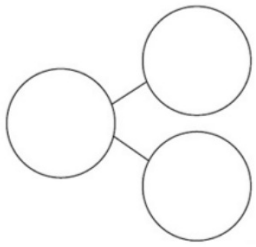
Part + part = whole

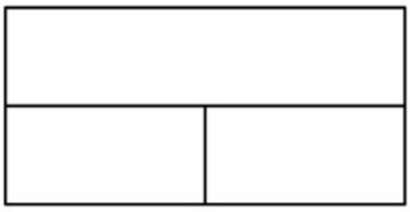
4 + 5 = 9

Consider and Practise

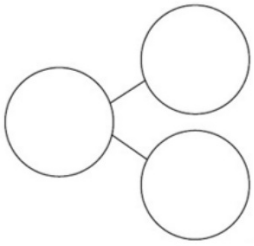
Label the equation with the parts and whole, then fill in the part-part-whole and the bar model:

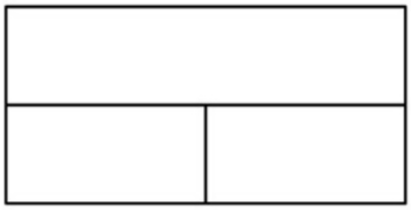
$7 + 9 = 16$



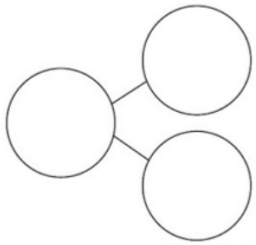


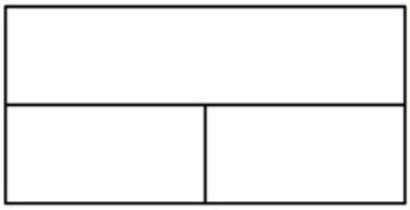
$34 - 23 = 11$





$8 + 12 = 20$





Independent

Label the parts or whole you know from the equation and use the part-part-whole triangle to help you find the missing number.

5 + ____ = 15

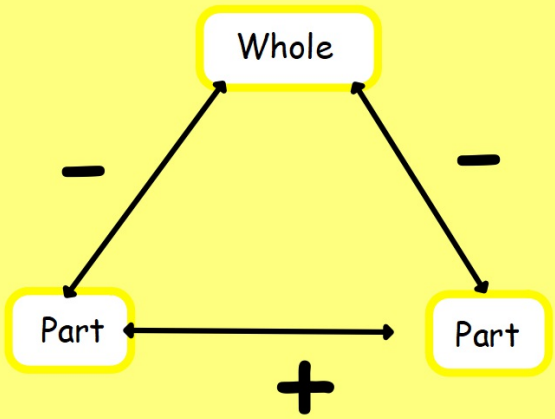
____ + 6 = 18

19 - ___ = 11

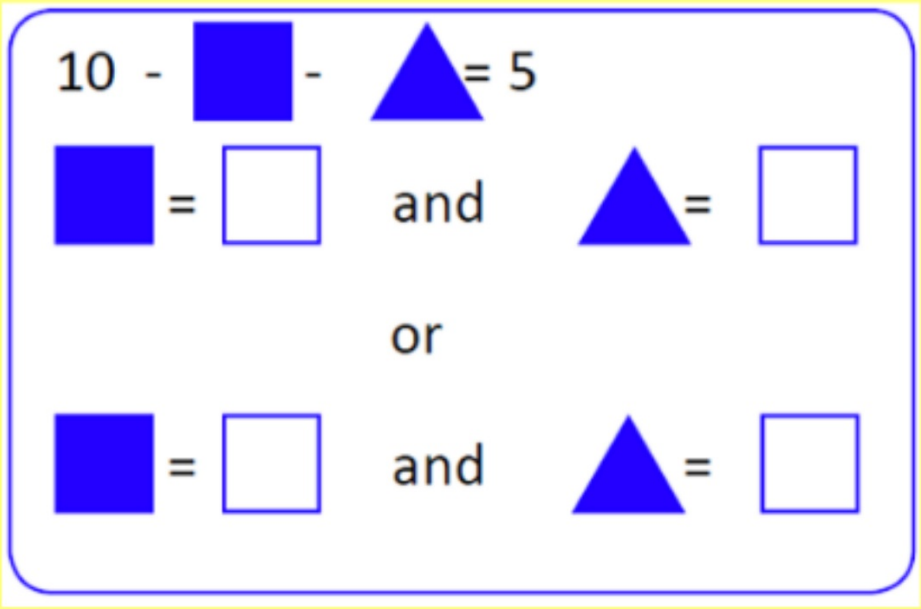
____ + 5 = 16

35 - ___ = 31

____ - 7 = 23



Deepening



Step 1: 10 – 5 = 5

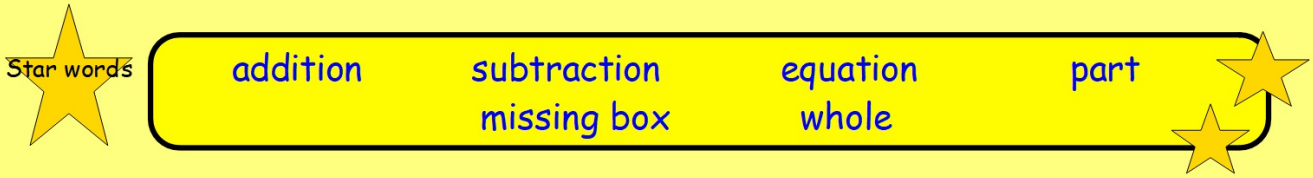
Step 2: + must equal 5

Lesson 2

Key Learning: : to solve addition and subtraction missing box equations (crossing tens)

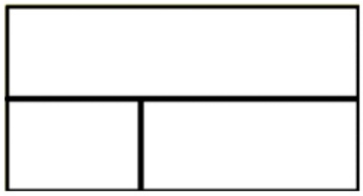
Success criteria:

- I know if it is the part or whole that is missing
- I know how to find the missing part or whole
- I can solve addition and subtraction missing box equations (crossing tens)

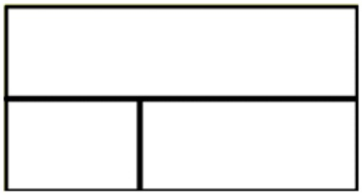


Engage

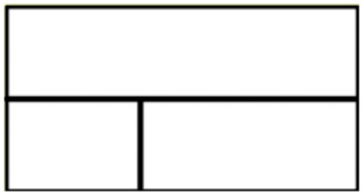
Put the parts and whole into the bar model.



12 + 4 = 16



25 – 16 = 9



19 + 11 = 30

Introduce

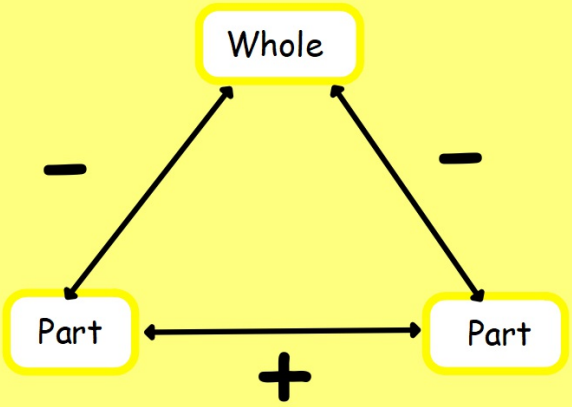
What is missing in this equation?

Whole?

24 - ____ = 15

Part?

Label!



To find a missing part I will need to calculate:

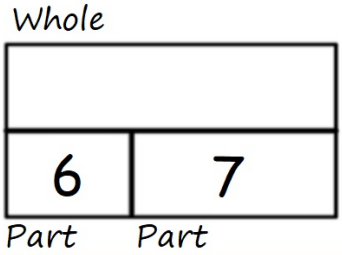
Whole - part = part

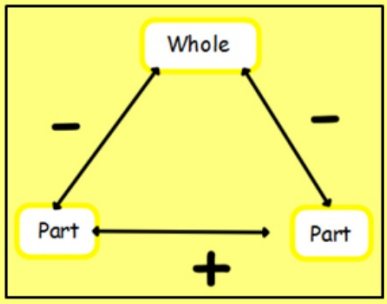
24 - 15 = 9

Let's try this one together...

Consider and Practise

Write an equation to find the number that is missing from the bar model





Label the parts or whole you know from the equation and use the part-part-whole triangle to help you find the missing number.

Independent

16 + _____ = 42

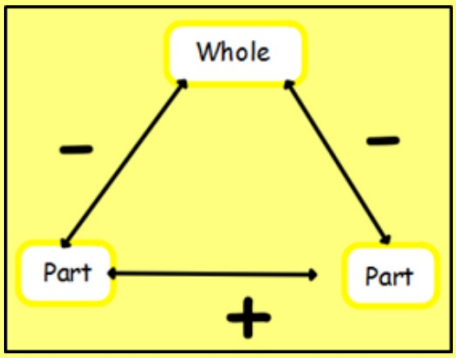
_____ + 24 = 44

_____ + 17 = 22

_____ - 26 = 32

_____ - 39 = 28

15 + ____ = 41



P P W
16 + ___ = 42

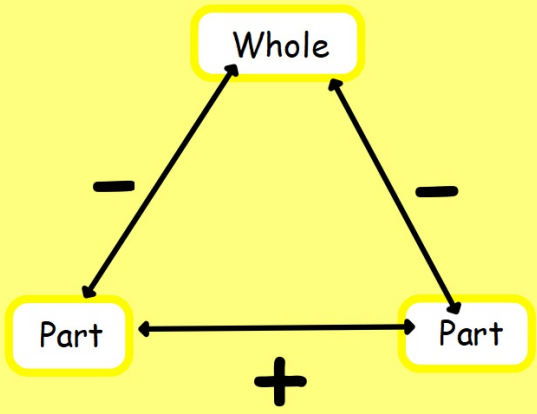
W P P
42 − 16 = 26

Deepening

Two-step missing box problems

$$3 + 4 + \_\_\_ = 19$$

$$3 + 4 = 7, \text{ so } 7 + \_\_ = 19$$



Lesson 3

Key Learning: to solve addition and subtraction missing box equations (word problems)

Success criteria:

- I know if the parts or whole are missing in word problems
- I can solve addition and subtraction missing box word problems

Star words

addition subtraction equation missing box

Introduce

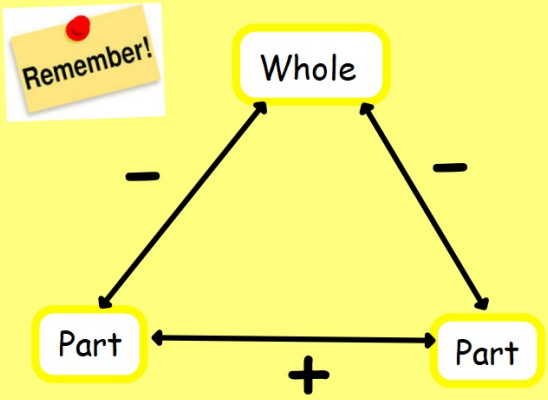
Today we will be solving word problems.

Lucy has 12 sweets and she gives 5 away to James.
How many sweets does she have **left**?

Whole: 12

Part: 5

12 - 5 = 7



Lucy has 7 sweets left.

Let's try this one together...

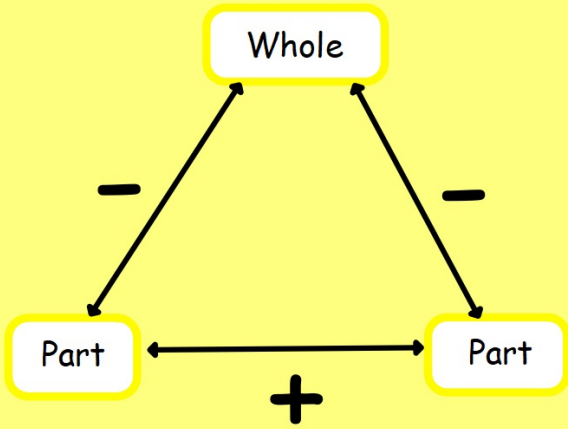
Independent

Will bought a bag of 28 sweets. He ate some of them of them at lunchtime.

At the end of lunchtime he had 21 sweets left. How many sweets did he eat?

Show your working

_____ sweets



Whole _____

Part _____

Deepening

Going Deeper

"The missing numbers for this number sentence could be the same number."

10 + ___ = 30 - ___

True or false?

Prove it.

10 + 1 = 11. 30 - 1 = 29 ✗

10 + 5 = 15. 30 - 5 = 25 ✗

10 + 10 = 20. 30 - 10 = 20 ✓

Both sides of the equals sign must be balanced, like scales!

Now it's your turn...

Going Deeper

"The missing numbers for this number sentence could be the same number."

15 + ☐ = 25 - ☐

True or false?

Prove it.

Lesson 4

Key Learning: to complete multiplication and division missing box equations

Success criteria:

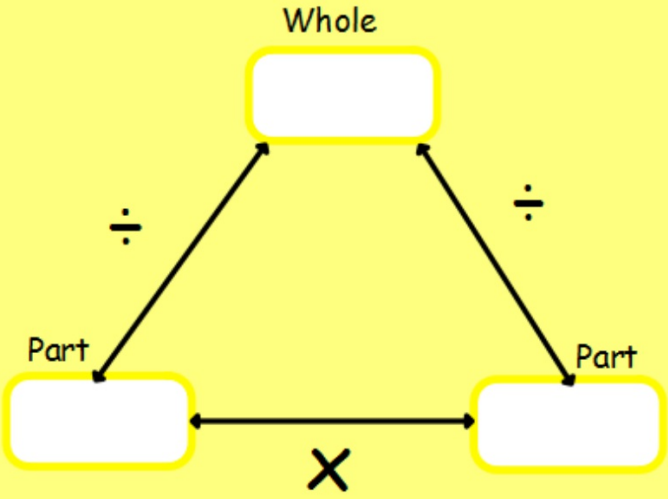
- I can label the parts and whole in multiplication and division equations
- I can solve multiplication and division missing box equations

multiplication division equation

Label the parts and the whole...

Introduce

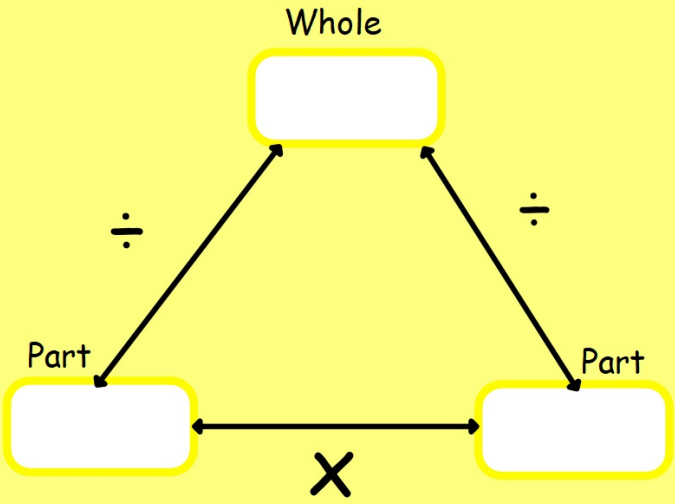
$$4 \times 5 = 20$$



Introduce

What is missing?

Part? ___ x 5 = 30 Whole?



The part is missing!

Whole ÷ part = part

30 ÷ 5 = 6

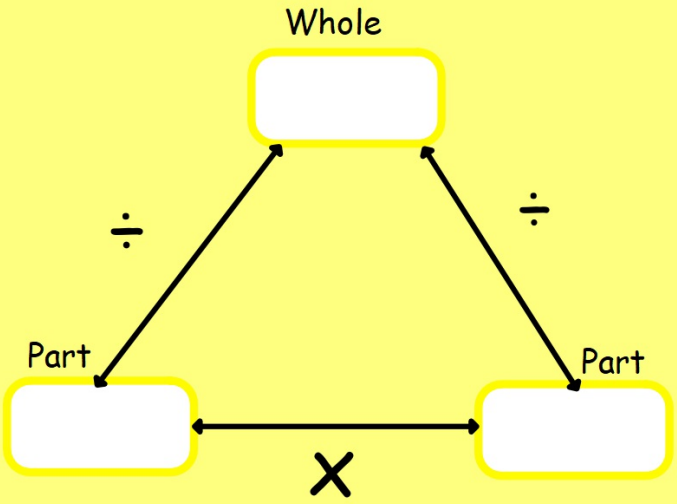
What is missing now?

Introduce

Part?

$50 \div 10 = \_\_$

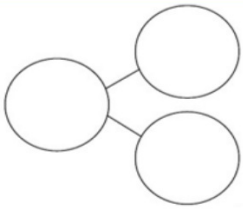
Whole?

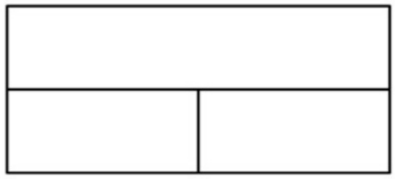


Label the equation with the parts and whole, then fill in the part-part-whole and the bar model:

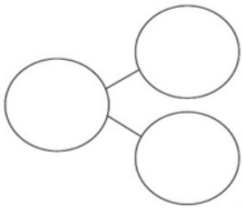
Consider and Practise

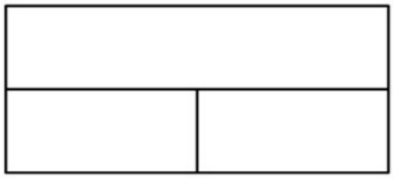
25 ÷ 5 = 5



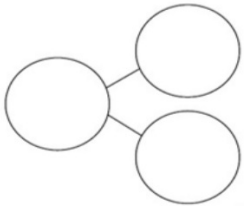


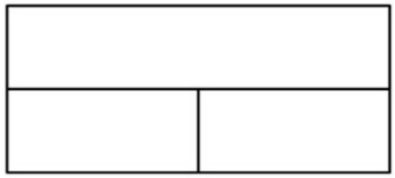
4 x 10 = 40





7 x 2 = 14





Independent

Solve the multiplication or division missing box equations. Independent

Label the parts and whole and draw a bar model or part-part-whole model to help you!

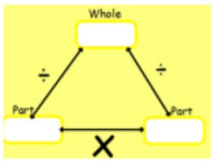
30 ÷ _____ = 3

5 x 2 = _____

2 x _____ = 6

_____ ÷ 5 = 4

_____ x 10 = 40

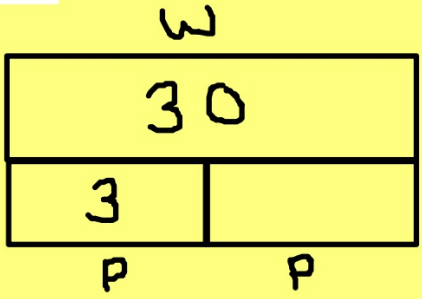


W P P

30 ÷ ___ = 3

W P P

30 ÷ 3 = 10



Deepening

Here are some number cards.

How many different multiplciation or division equations can you write using only these numbers?