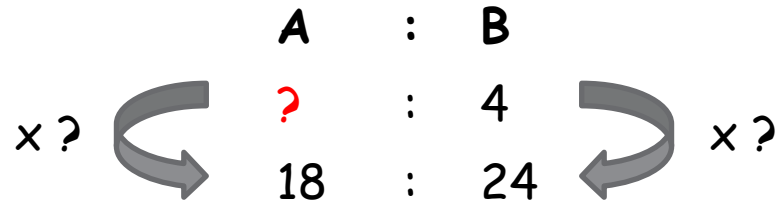
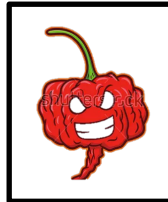


# RECALL

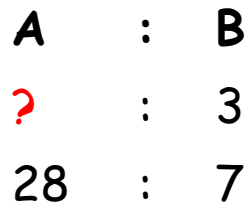
Can you complete the diagram below?



Can you think of a question which fits this diagram?



What if you had this diagram? What will you have to do for this one?

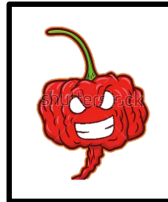


# RECALL

Can you complete the diagram below?



Can you think of a question which fits this diagram?



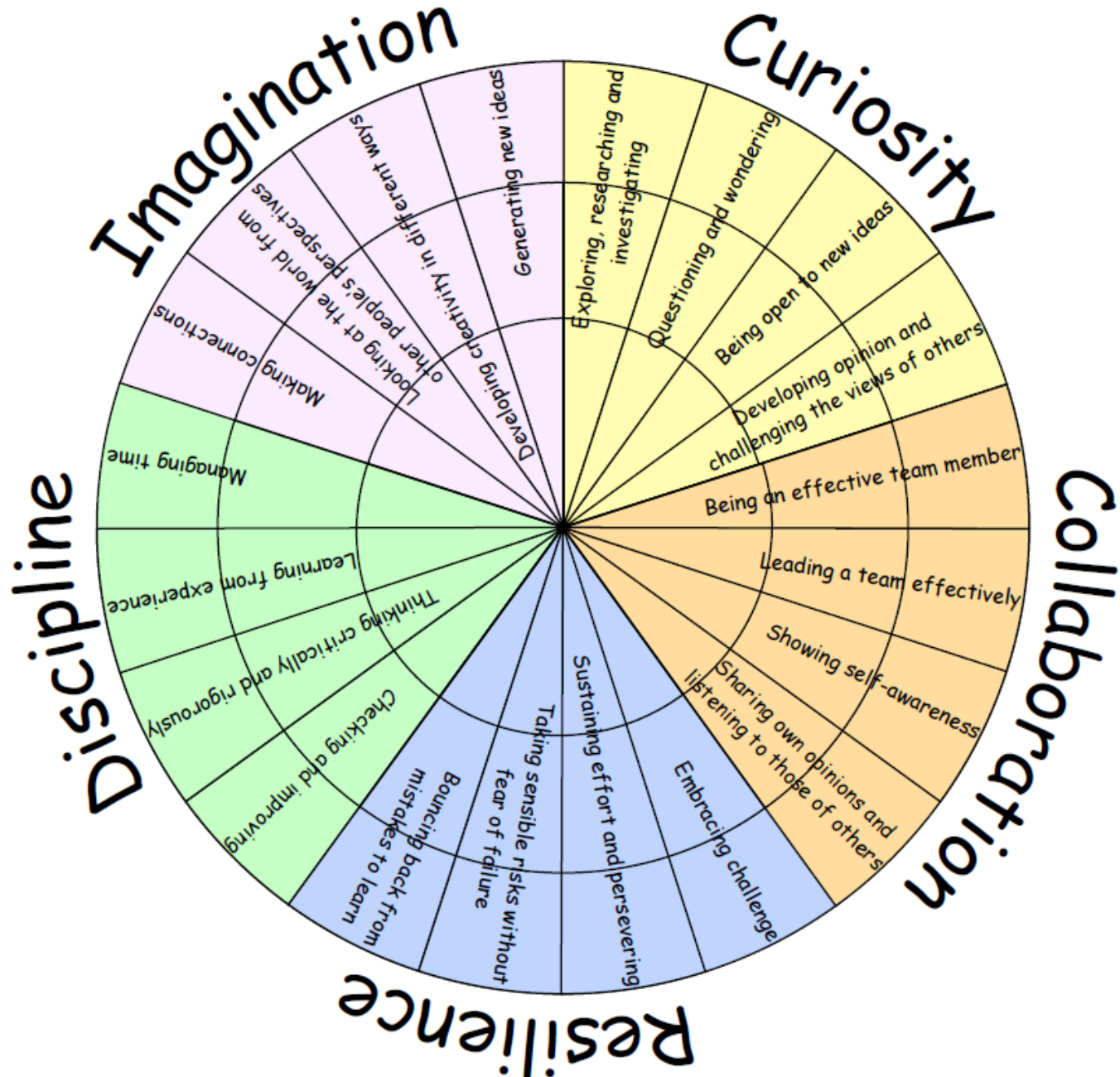
What if you had this diagram? What will you have to do for this one?

<b>A</b>	:	<b>B</b>
12	:	3
4	:	1
28	:	7

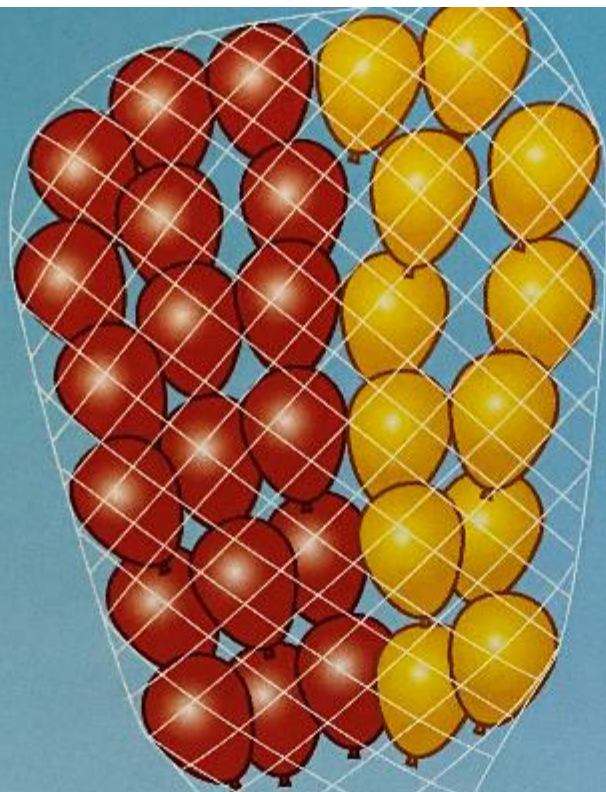
I CAN IDENTIFY THAT A  
PROBLEM CAN BE WRITTEN AS  
A RATIO

Percentages and Ratio (15v)

# LEARNING HABITS?



# GUIDED PRACTICE



There are 30 balloons in the net.

For every 2 yellow balloons I inflated ...

Ebo



# INTELLIGENT PRACTICE



What are the total number of objects in each ratio? How do you know?

- 1)  $1 : 2 \rightarrow ?$
- 2)  $2 : 3 \rightarrow ?$
- 3)  $3 : 5 \rightarrow ?$
- 4)  $2 : 7 \rightarrow ?$
- 5)  $3 : 7 \rightarrow ?$



Fill in the missing boxes:

A	B	Total
2	3	5
4	6	?

C	D	Total
3	4	7
9	12	?

E	F	Total
2	7	9
8	?	?



Fill in the missing boxes:

A	B	Total
2	?	7
?	20	?

C	D	Total
8	?	12
?	36	?

E	F	Total
?	4	5.5
3	?	?



I make some green paint by mixing blue and yellow paint together. The ratio has to be 3 : 2 (blue : yellow).  
If I make 1 litre of yellow paint, how much of each paint will I need?

# INTELLIGENT PRACTICE - ANSWERS



What are the total number of objects in each ratio? How do you know?

1)  $1 : 2 \rightarrow 3$

2)  $2 : 3 \rightarrow 5$

3)  $3 : 5 \rightarrow 8$

4)  $2 : 7 \rightarrow 9$

5)  $3 : 7 \rightarrow 10$



Fill in the missing boxes:

A	B	Total
2	3	5
4	6	10

C	D	Total
3	4	7
9	12	21

E	F	Total
2	7	9
8	28	36



Fill in the missing boxes:

A	B	Total
2	5	7
8	20	28

C	D	Total
8	4	12
72	36	108

E	F	Total
1.5	4	5.5
3	8	11



I make some green paint by mixing blue and yellow paint together. The ratio has to be 3 : 2 (blue : yellow).

$3 : 2 \rightarrow 5$

$(\times 200)$

$600 : 400 \rightarrow 1000\text{ml (1 litre)}$

# DIVE DEEPER 1

1) Eva is baking cakes and biscuits. For every 1 cake, she will bake 2 biscuits.



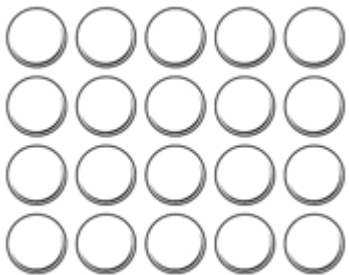
a) If Eva bakes 3 cakes, how many biscuits will she bake?

a) If Eva bakes 10 biscuits, how many cakes will she bake?

2) The ratio of red to yellow counters is 2:3.

There are 20 counters in total.

How many counters of each colour are there?



Red = ?

Yellow = ?

3) Tom has 5 green cubes for every 3 yellow cubes.

He has 16 cubes in total.

Draw a diagram to represent this.

4) Esther is building a tower of cubes.

The ratio of red to yellow cubes is 3:1.

The tower has 40 cubes in total.

How many red cubes will there be?

How many yellow cubes will there be?

5) Geoffrey is organising his books.

He has 4 fiction books for every 3 non-fiction books.

The ratio of fiction to non-fiction is ? : ?  
If he has 21 books in total, how many does he have of each type?



# DD 1 - ANSWERS

1) Eva is baking cakes and biscuit. For every 1 cake, she will bake 2 biscuits.



a) If Eva bakes 3 cakes, how many biscuits will she bake?

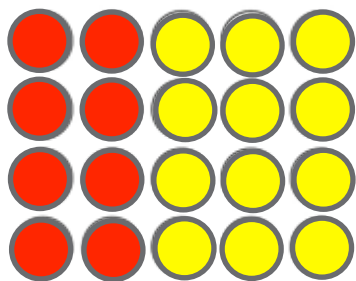
**6 biscuits**

a) If Eva bakes 10 biscuits, how many cakes will she bake? **5 cakes**

2) The ratio of red to yellow counters is 2:3.

There are 20 counters in total.

How many counters of each colour are there?



Red = 8

Yellow = 12

3) Tom has 5 green cubes for every 3 yellow cubes.

He has 16 cubes in total.



Draw a diagram to represent this.

4) Esther is building a tower of cubes.

The ratio of red to yellow cubes is 3:1.

The tower has 40 cubes in total.

How many red cubes will there be? **30**

How many yellow cubes will there be? **10**

5) Geoffrey is organising his books.

He has 4 fiction books for every 3 non-fiction books.

The ratio of fiction to non-fiction is **4:3**

He has 21 books in total: **12 fiction**

**9 non-fiction**

# DIVE DEEPER 2

6) Nijah plays 21 games of chess.

For every 5 games she wins, she loses 2 games.

How many games does she win?

7) Henry is making a drink by mixing 1 part juice for every 5 parts water.

Copy and complete the following table:

Juice	Water
1 litre	5 litres
2 litres	
4 litres	
100 ml	
200 ml	
300 ml	
	30 litres
	750 ml

8) A group of students study French or German in a ratio of 3:7

- Which subject has the most students?
- Draw a diagram to represent this. You could use a bar or use letters, symbols or pictures.
- There are 80 children in total. How many students study French?

# DIVE DEEPER 2 - ANSWERS

6) Nijah plays 21 games of chess.

For every 5 games she wins, she loses 2 games.

How many games does she win? **15 games won**

7) Henry is making a drink by mixing 1 part juice for every 5 parts water.

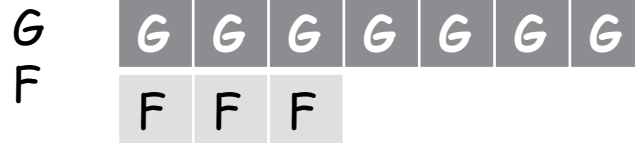
Copy and complete the following table:

Juice	Water
1 litre	5 litres
2 litres	<b>10 litres</b>
4 litres	<b>20 litres</b>
100 ml	<b>500 ml</b>
200 ml	<b>1000 ml (1 litre)</b>
300 ml	<b>1500 ml (1.5 litres)</b>
<b>6 litres</b>	30 litres
<b>150 ml</b>	750 ml

8) A group of students study French or German in a ratio of 3:7

a) Which subject has the most students? **German**

b) Draw a diagram to represent this. You could use a bar or use letters, symbols or pictures.



c) There are 80 children in total. How many students study French?

**24 students study French**

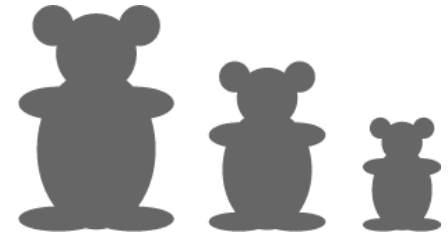
# DIVE DEEPER 3

9) Once upon a time there were three bears. There was Father Bear, Mother Bear and Baby Bear. But you knew that!

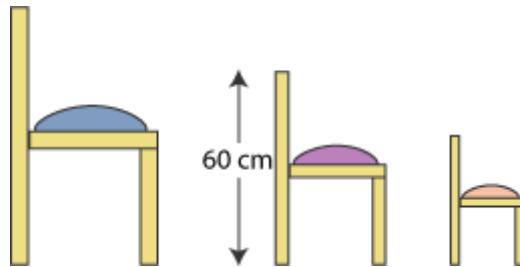
Everything they had was in the same ratio, including the bears themselves!

The ratio of the three bears

(Father Bear: Mother Bear: Baby Bear) was 4:3:2.



a) Mother Bear's chair was 60 cm high. How high were the other two chairs?



b) The diameter across the top of each Bear's porridge bowl was three times the height.

Father Bear's bowl was 24 cm across. What was the diameter of Mother Bear's bowl and the height of Baby Bear's bowl?



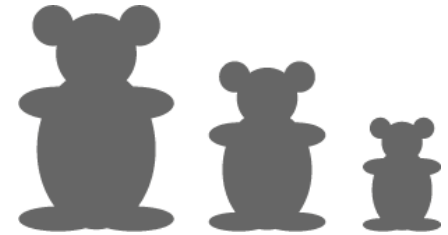
# DIVE DEEPER 3 - ANSWERS

9) Once upon a time there were three bears. There was Father Bear, Mother Bear and Baby Bear. But you knew that!

Everything they had was in the same ratio, including the bears themselves!

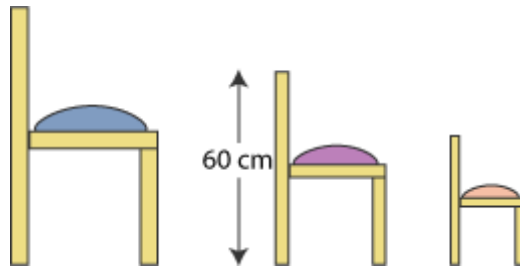
The ratio of the three bears

(Father Bear: Mother Bear: Baby Bear) was 4:3:2.



a) Mother Bear's chair was 60 cm high. How high were the other two chairs?

Father bear's chair = 80cm; Mother bear's chair = 60cm; Baby bear's chair = 40cm



b) The diameter across the top of each Bear's porridge bowl was three times the height.

Father Bear's bowl was 24 cm across. What was the diameter of Mother

Bear's bowl and the height of Baby Bear's bowl? Mother bear's bowl = 18cm

Height of baby bear's bowl = 4cm



# SELF-ASSESSMENT

- Some will even realise that you can have more than 2 different objects in a ratio
  - Some will be able to represent ratios in several different ways confidently
  - Most will be able to manipulate ratios (both increasing and decreasing their values)
  - All will write ratios and write multiples of that ratio
- 