20/9/2021

LO: To understand properties of number

The product of 3 and 4 is 12.
12 is a multiple of 3 and a multiple of 4.
3 and 4 are both factors of 12.
12 is not prime because it has more than two factors.
It has 1, 2, 3, 4, 6 and 12.
12 is not a square number.

The **product** of ☐ and ☐ is ☐.

☐ is a **multiple** of ☐ and is a **multiple** of ☐.

☐ and ☐ are both **factors** of ☐.

☐ is not **prime** because it has more than two **factors**.

It has _____.

☐ *is/is not* a **square number**.

The **product** of ☐ and ☐ is ☐.

☐ is a **multiple** of ☐ and is a **multiple** of ☐.

☐ and ☐ are both **factors** of ☐.

☐ is not **prime** because it has more than two **factors**.

It has _____.

☐ *is/is not* a **square number**.

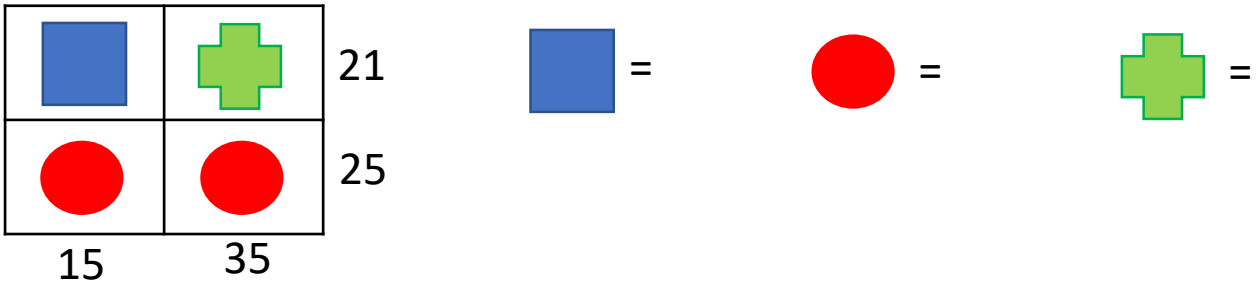
Complete the sentences to make them true:

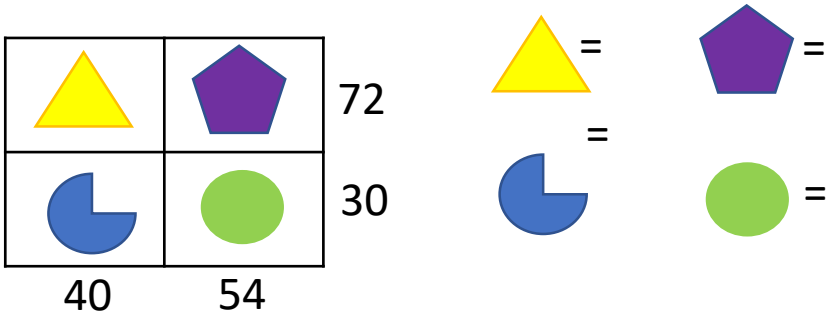
____ is a multiple of ___ and ___ .

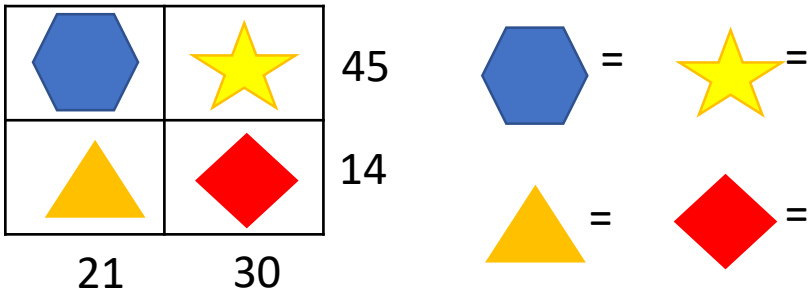
____, ___ and ___ are factors of ___ .

These are product grids. Each symbol represents a factor. When you multiply the factors in each row or column, the product is the multiple outside the grid.

Can you work out what each symbol represents?



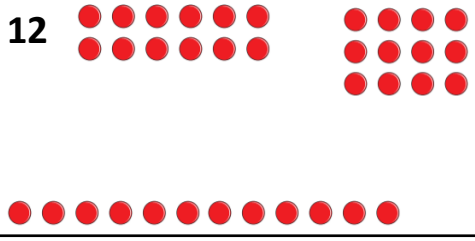




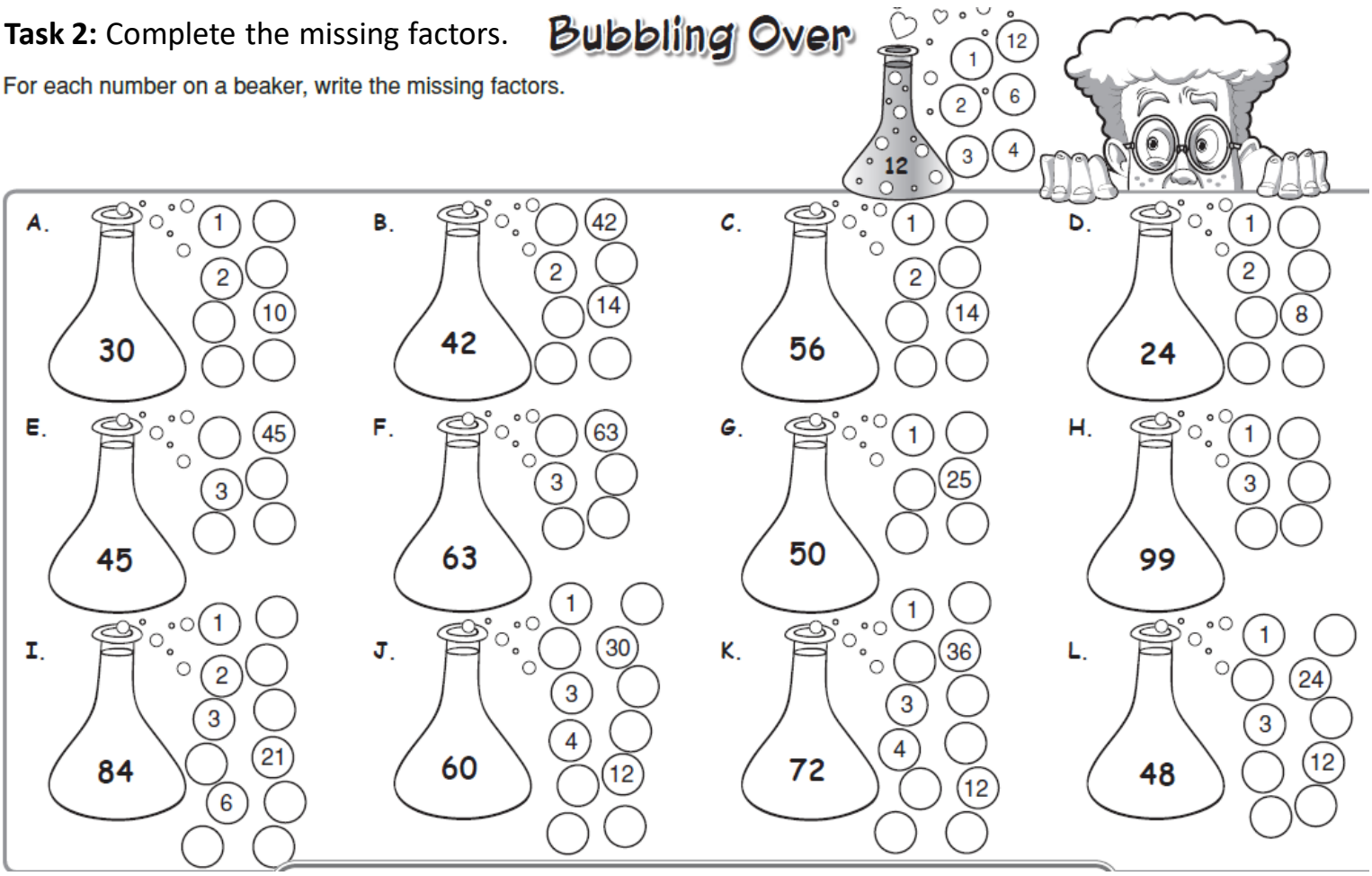
21/9/2021

LO: To identify factors and common factors

Task 1: Make the arrays using cubes. Record the arrays.

12 	**10**	**18**

Task 2: Complete the missing factors.



Task 3: How do we know these statements are true?

a) 5 is a factor of 195 but not a factor of 196.

_____

_____

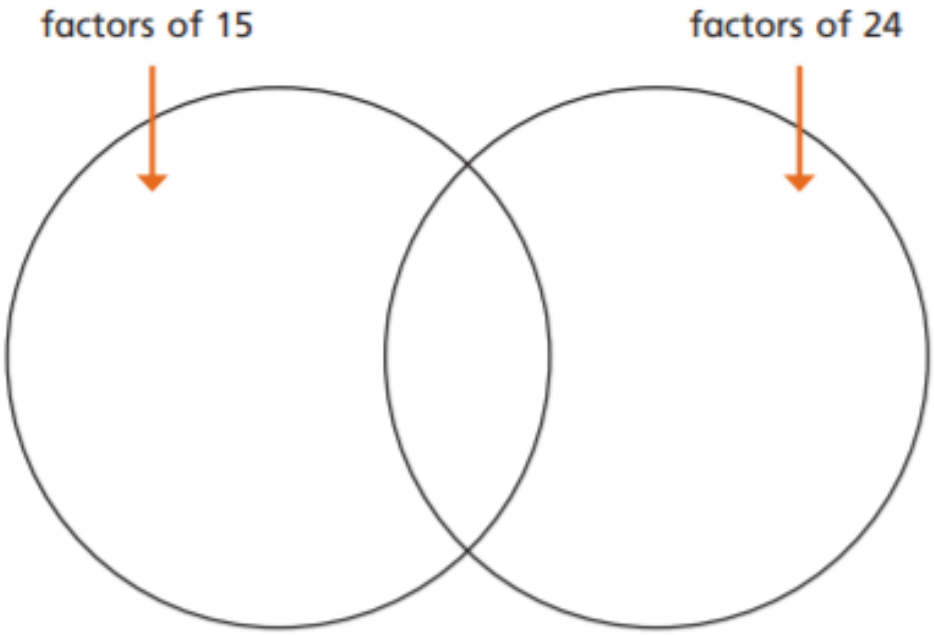
b) 20 is a factor of 180 but not a factor of 190.

_____

_____

Task 4: Write the numbers in the sorting diagram.

1 2 3 4 5 6 8 12 15 24



Complete the sentence.

The common factors of 15 and 24 are _____

Task 5: Find the common factors of each pair of numbers.

a) 12 and 20

_____

b) 16 and 25

_____

c) 20 and 50

_____

d) 20 and 60

22/9/2021

LO: To understand and identify prime numbers

Reasoning Always, sometimes, never: **Prime numbers are odd.**

TASK 1

a) Find the factors of these numbers: 6 8 9

The factors of 6 are _____

The factors of 8 are _____

The factors of 9 are _____

b) Find the factors of these numbers: 3 5 7

The factors of 3 are _____

The factors of 5 are _____

The factors of 7 are _____

c) What is the same and what is different about your answers to part a) and part b)?

_____

_____

d) Complete the sentence.

All the numbers in part b) are _____ numbers.

TASK 2

How can you prove that 18 is NOT a prime number?

_____

_____

Circle the prime numbers in each list:

a) 1 2 3 4 5 6 7

b) 17 22 9 36 21 35 23

c) 10 18 38 74 92 2 14

TASK 3

Write ten numbers in the sorting diagram. Each section must have at least one number.

	Even	**Not even**
Prime		
Not prime		

TASK 4

Many people think that 1 is a prime number. Explain why 1 is NOT a prime number:

_____

_____

Many people think that 2 is not a prime number. Explain why people might think this.

_____

_____

TASK 5

Cross out all the numbers that are NOT prime numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

List all the prime numbers between 0 and 50:

_____

_____

23/9/2021

LO: To apply knowledge of common multiples

What is a ‘Frump’?
In an ancient time in history, long, long ago groups of numbers were given strange and amazing names.
At this time, there was a group of numbers called frumps.
- These numbers are frumps 14, 98, 28, 56
- These numbers are not frumps: 102, 20, 60, 8, 76
- Only three of these numbers are frumps: 21,147, 52, 25, 630

Can you work out what is special about frumps?

What do you know?

What patterns might you look for? Odd, even, squared number, prime…

What could all frumps have in common?

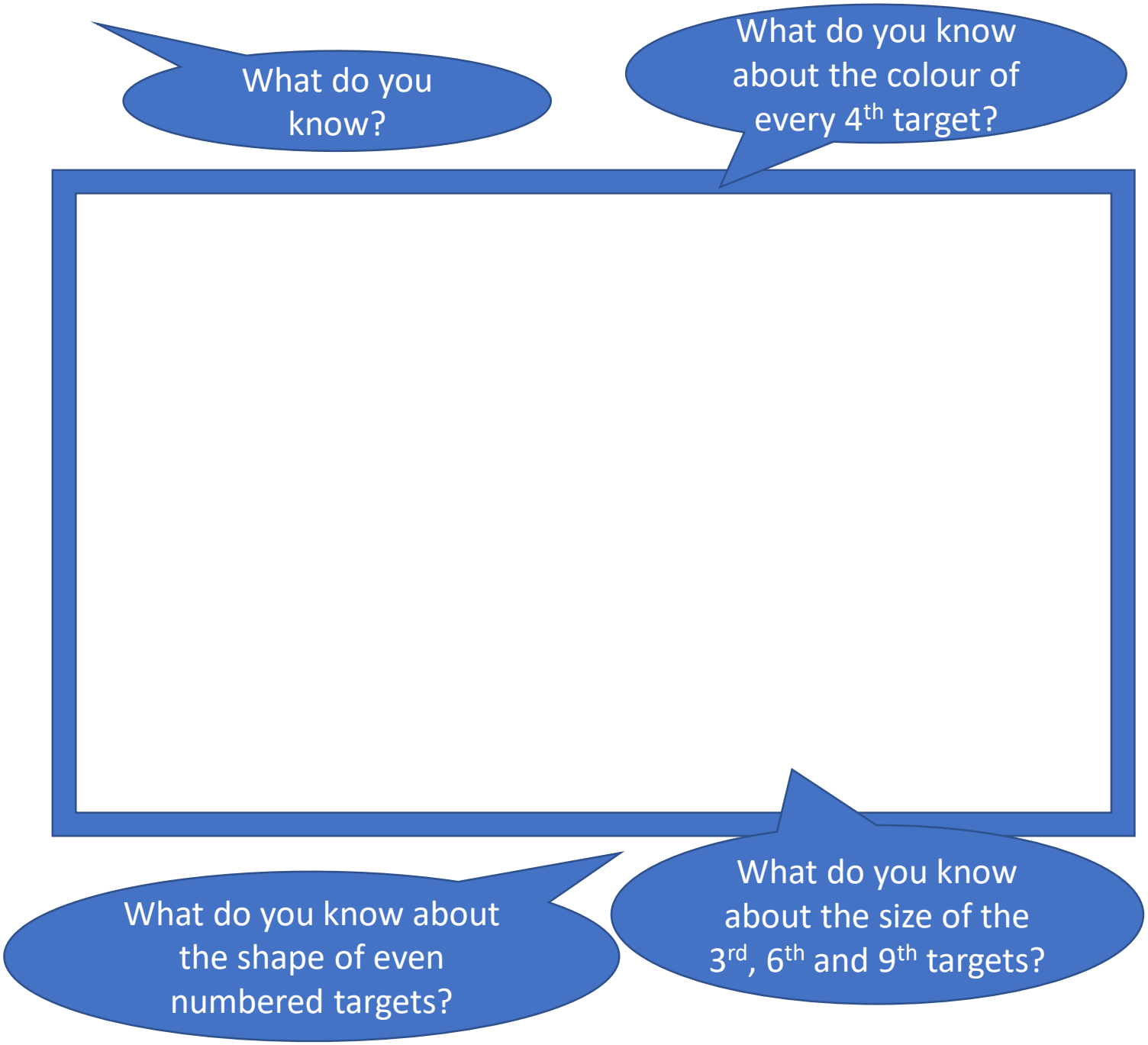
What properties DON’T the frumps have??

6LS5 Step 3 Factors and Multiples

Some targets of different shapes, sizes and colours are sequenced.

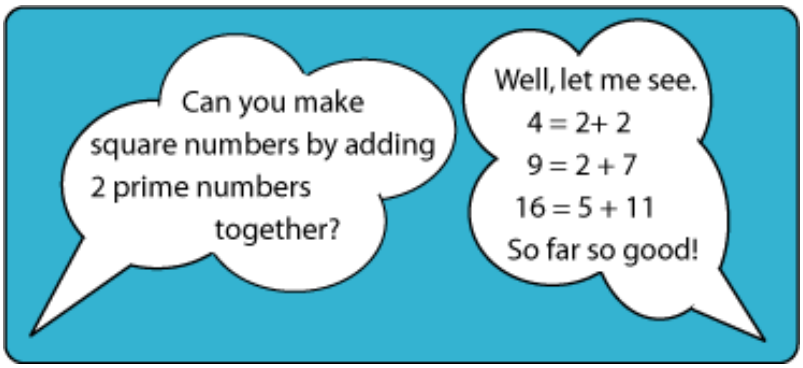
1. The first target is a triangle, the second target is a square. The triangle, square, triangle, square sequence repeats all down the line.
2. The first target is big, the second is medium-sized and the third is small. This pattern continues all down the line.
3. The first target is red, the second is blue, the third is green and the fourth is yellow. The red, blue, green, yellow pattern continues all down the line.

Use the clues to work out exactly what the 35th target in the sequence will look like.
Record your reasoning in the box below.



24/9/2021

LO: To use models to support with investigative problems



Try with the squares of the numbers up to 100.

Did you find any square numbers which cannot be made by adding two prime numbers together?

Task 1: Identify all the prime numbers using the 1-102 grid.

Remember that prime numbers are only divisible by themselves and 1. Use the grid by circling the first number in a times table and colouring in any numbers that can be found with extra factors (so numbers in the times tables). The numbers that have not be coloured in at the end will be your prime numbers.

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48
49	50	51	52	53	54
55	56	57	58	59	60
61	62	63	64	65	66
67	68	69	70	71	72
73	74	75	76	77	78
79	80	81	82	83	84
85	86	87	88	89	90
91	92	93	94	95	96
97	98	99	100	101	102

Task 2: List the square numbers up to 10 x 10:

1 x 1 =

2 x 2 =

3 x 3 =

4 x 4 =

5 x 5 =

6 x 6 =

7 x 7 =

8 x 8 =

9 x 9 =

10 x 10 =

Task 3: Use the prime numbers and square numbers to answer the investigation at the top of this page.