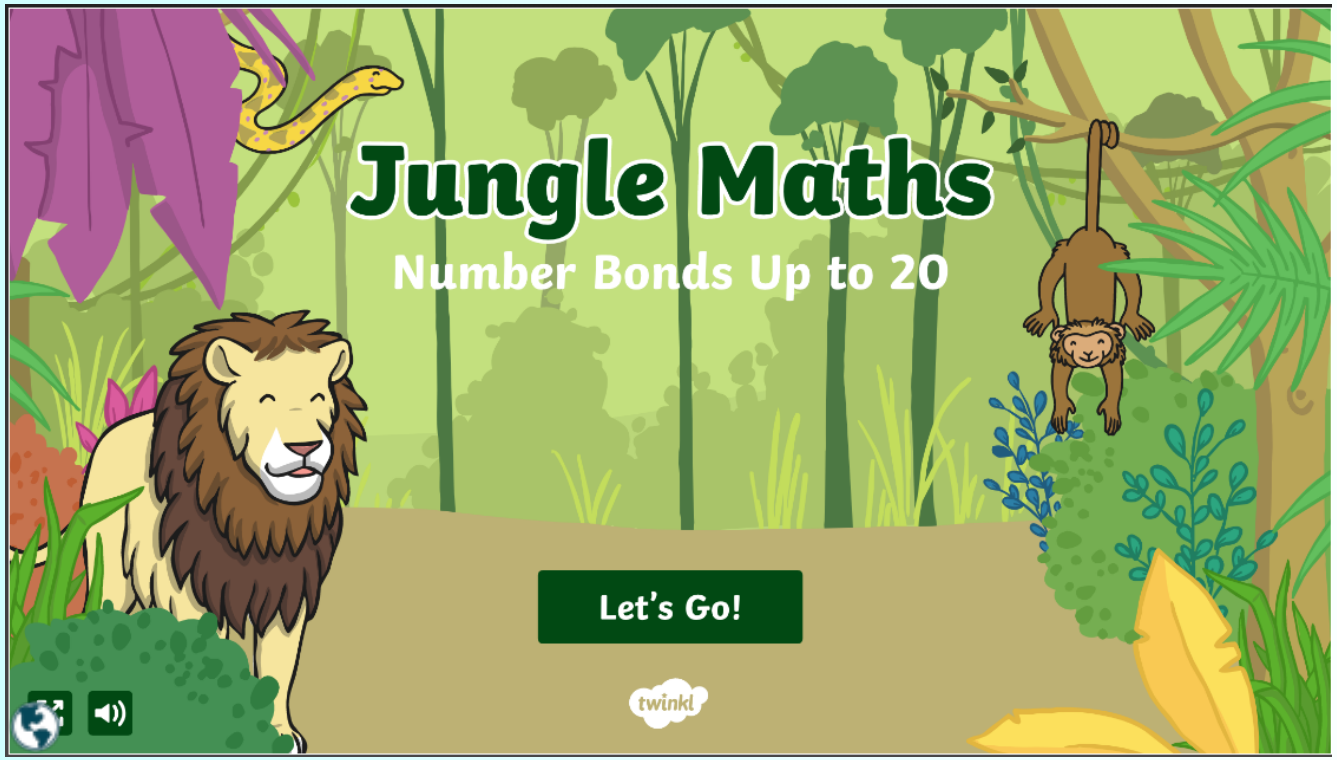
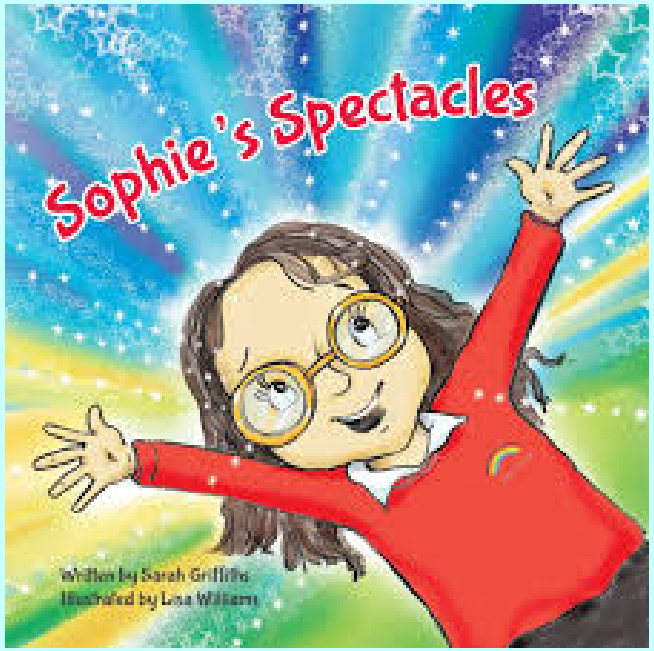
Maths 12.3.21

Let's warm up our brains...



What do we know about Sophie?



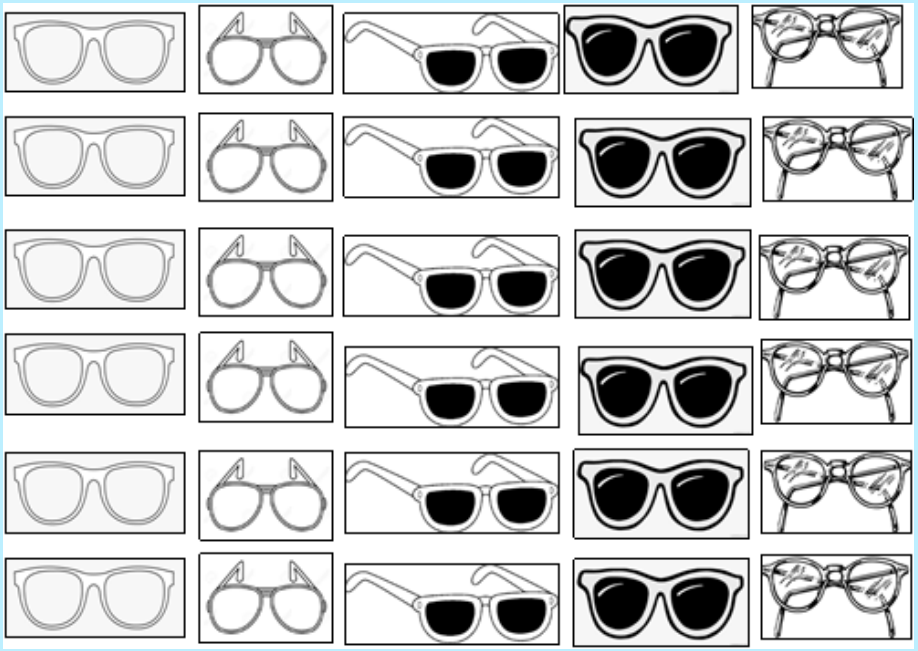


What makes her special?

We know that Sophie wears spectacles.



She has many pairs!



How could Sophie sort her spectacles into different groups?

Is there another way she could sort them?

Today we have a problem to solve!

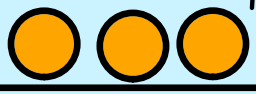


1. Sophie has between 16 and 30 spectacles.

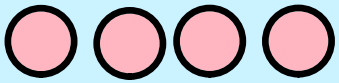
2. If she groups the spectacles in fives there are four left over.



3. If she groups the spectacles in threes there are none left over.



4. If she groups the spectacles in fours there are none left over.



How many spectacles does Sophie have?

This type of problem is called a



LOGIC PROBLEM

All the information we need, to work out the answer, is within the clues.

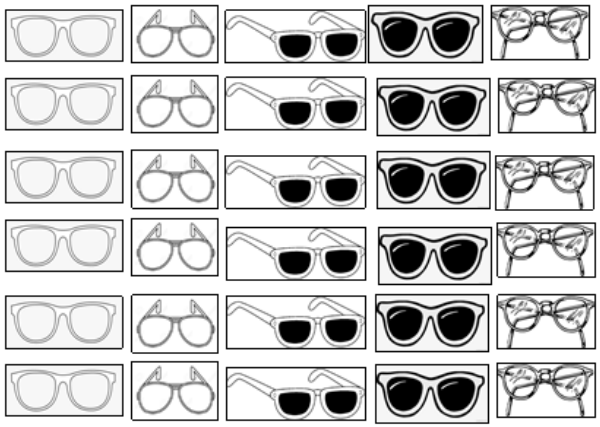
The clues can be used in any order.

Read the clues again. Which one would be most sensible to start with?

Sophie has lots of spectacles! Too many, in fact!

1. Sophie has between 16 and 30 spectacles!
2. If she groups the spectacles in fives there are four left over.
3. If she groups the spectacles in threes there are none left over.
4. If she groups the spectacles in fours there are none left over.

How many spectacles does Sophie have?



Can you work out the answer? Show me how you work it out. You can use drawings, number lines, number sentences or any other method you know.

1. Sophie has between 16 and 30 spectacles. Which numbers could it be?

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

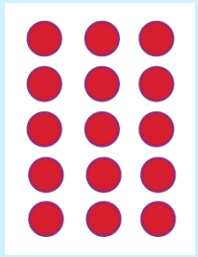
What is the smallest number <u>between</u> 16 and 30?



Let's read the clues and check if Sophie has 17 spectacles.







What can we use to help us work it out?

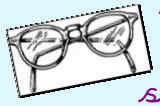
2. If she groups the spectacles in fives there are four left over.



17

Does it work? Can Sophie have 17 spectacles? Is it worth reading all the other clues?

Now it's your turn. Try another number and see if it follows the rules of each clue.



You can cut up and use the pictures of spectacles to sort and group!



Weave your web to your counting patterns to help you...

5...10...15...20...25...30

3...6...9...12...15...18...21...24...27...30

You could also write down the 4s:

4...8...12...16...20...24...28

How did you get on?

Have you checked that your number follows the rules within every clue?

Show me your strategies. Which one is best? Why?

And the answer is...

24

1. Sophie has between 16 and 30 spectacles.

2. If she groups the spectacles in fives there are four left over.

3. If she groups the spectacles in threes there are none left over.

4. If she groups the spectacles in fours there are none left over.