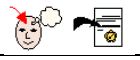
Steps to success

Date	8.1.21
Subject/s	Maths
Learning Objective 	To understand and identify factor pairs.

		SA 	TA 
Success Criteria 	I understand what a factor is.		
	I can find factor pairs		
Support	Independently Support ( ) Group work		

Pre-task:

Find the factor pairs of these numbers

14 –
20-
12-

What are factors?

Factors are numbers that divide exactly into another number.

For example, the factors of 8 are:

1, 2, 4, 8

Factors can be shown in pairs. Each pair multiplies to make 8.

The factor pairs of 8 can be shown:

1 x 8 = 8

2 x 4 = 8

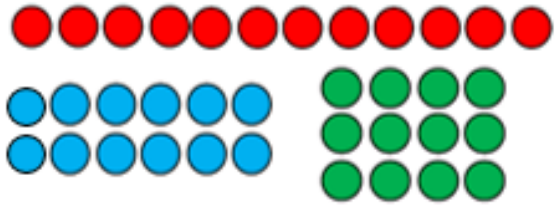
https://whiterosemaths.com/homelearning/year-4/week-1-number-multiplication-division/

Watch the factor pairs video (Video 3)

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Fluency

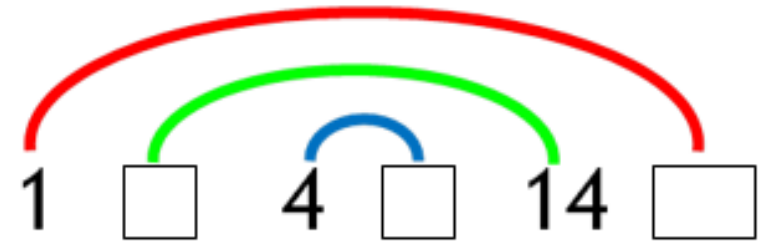
1 What factor pairs for 12 do these arrays show?



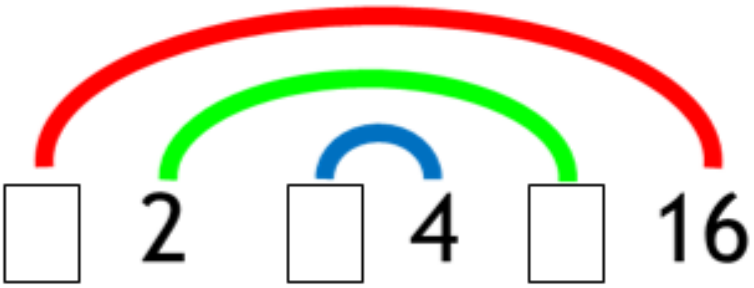
Use counters to create arrays for 24. How many factor pairs can you find?

2. Complete these factor rainbows.

This rainbow is for 28.



This rainbow is for 16.



3. Draw your own factor rainbow for 20.

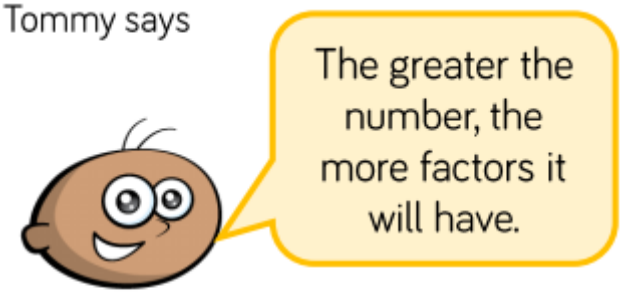
4. Draw your own factor rainbow for 48.

How many factor pairs can you find for these numbers?

Problem solving and reasoning:

Prove it!

Tommy says



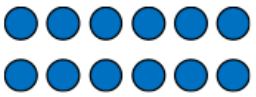
Is Tommy correct?

Use arrays to explain your answer.

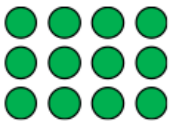
Use it!

Complete the factor pairs for 12

1 × ☐ = 12



☐ × 6 = 12



☐ × ☐ = 12

12 has ___ factor pairs. 12 has ___ factors altogether.
Use counters to create arrays for 24
How many factor pairs can you find?

Further challenge

Some numbers are equal to the sum of all their factors (not including the number itself).
e.g. 6
6 has 4 factors, 1, 2, 3 and 6
Add up all the factors not including 6 itself.
$1 + 2 + 3 = 6$
6 is equal to the sum of its factors (not including the number itself)

How many other numbers can you find that are equal to the sum of their factors?
Which numbers are less than the sum of their factors?
Which numbers are greater than the sum of their factors?