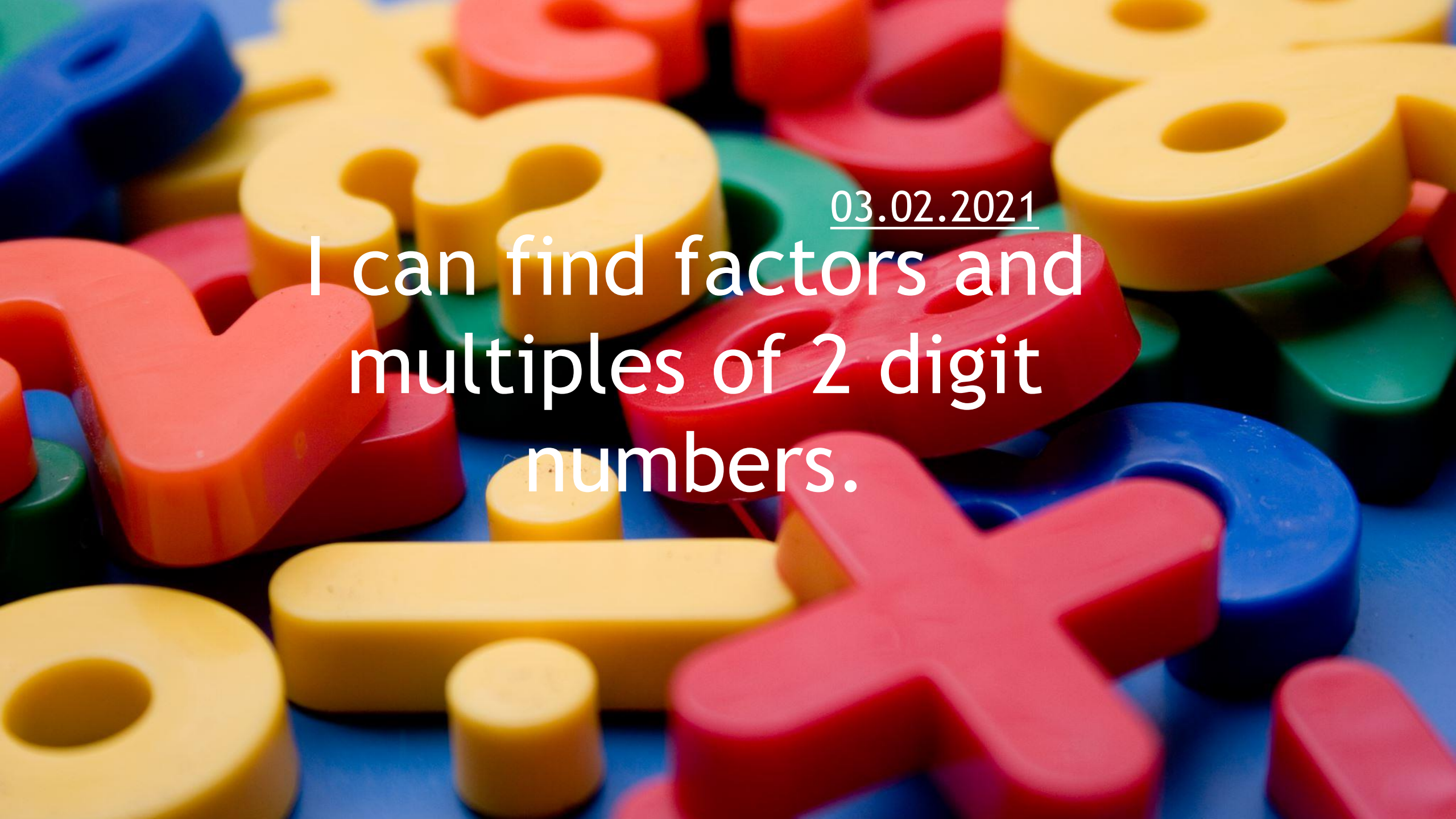


03.02.2021

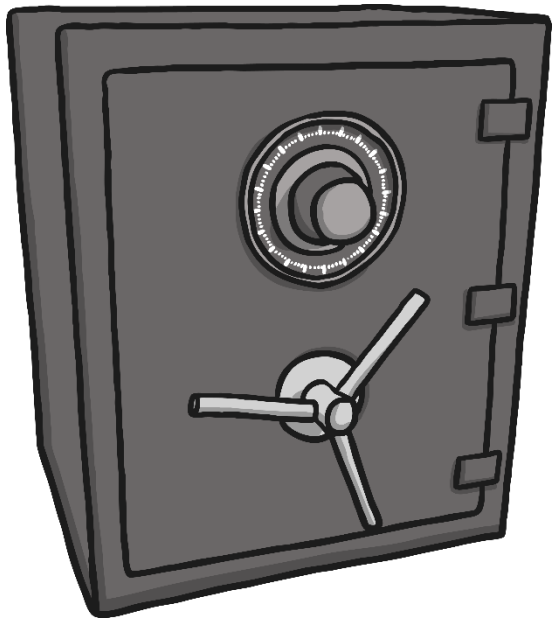
I can find factors and multiples of 2 digit numbers.

Warm up

The code for Mrs. Drummond-Davies' safe is 1543

The safe can be opened by a combination of these numbers. (eg. 4513)

How many different combinations are there to open the door?



Hide answers

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

Can you see a number that is a multiple of 3 and also a multiple of 2? We call these common multiples of 2 and 3.

Write at least four common multiples of 2 and 3 on your whiteboards.

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

The multiples of 2 are pink and the multiples of 3 are yellow.

The common multiples have pink and yellow stripes.

Use these to check your list of common multiples.

What do you notice about these numbers?

How can we recognise multiples of 9?

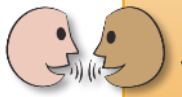
Some are also multiples of 6.
Write three common multiples of 6 and 9 on your whiteboards.

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

See how the common multiples have pink and yellow stripes. Check yours.

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

24



What numbers divide into 24 exactly?
Work in pairs to write as many as you can on your whiteboards.

Numbers which divide into 24 exactly are factors of 24. Let's use the numbers on your whiteboards to make an ordered list of pairs of factors…

24 has lots of factors!

27

What numbers divide into 27 exactly?
Work in pairs to write as many as you can on your whiteboards.

Let's use the numbers on your whiteboards to make an ordered list of pairs of factors.

Although 27 is a bigger number than 24, it does not have as many factors as 24: it is not in as many times tables…

It's time for an investigation…

Long as you like

1. Use the 1-100 grid
2. Choose a start number. Colour it red.
3. Now choose either a multiple or a factor. Colour it blue.
4. Now choose either a multiple or a factor of that number. Colour it yellow.
5. Now choose either a factor or a multiple of that number. Colour it purple.
6. Now choose either a factor or a multiple of that number. Colour it red.
7. Keep going like this until you get blocked and can't go on.

Your aim is to colour more than 50 squares! What makes a good starting number? Is it good to colour odd numbers? Or even ones? What makes a good strategy for your first move? For a second move?

Who will create the longest chain?

Please upload your 100 squares to the Year 5 website for me and I will announce the winner next week!