RECAP…

Factor – goes into!

E.g. 5 goes into 25 therefore is a FACTOR of 25

Multiple – lots of!

e.g. 9 is in the 3x table and therefore is a MULTIPLE of 3.

Prime number – by itself and one!

e.g. 11 can only be divided by itself and one therefore is a PRIME number.

RECALL

Here is a diagram for sorting numbers.

Write **one number** in each white section of the diagram.

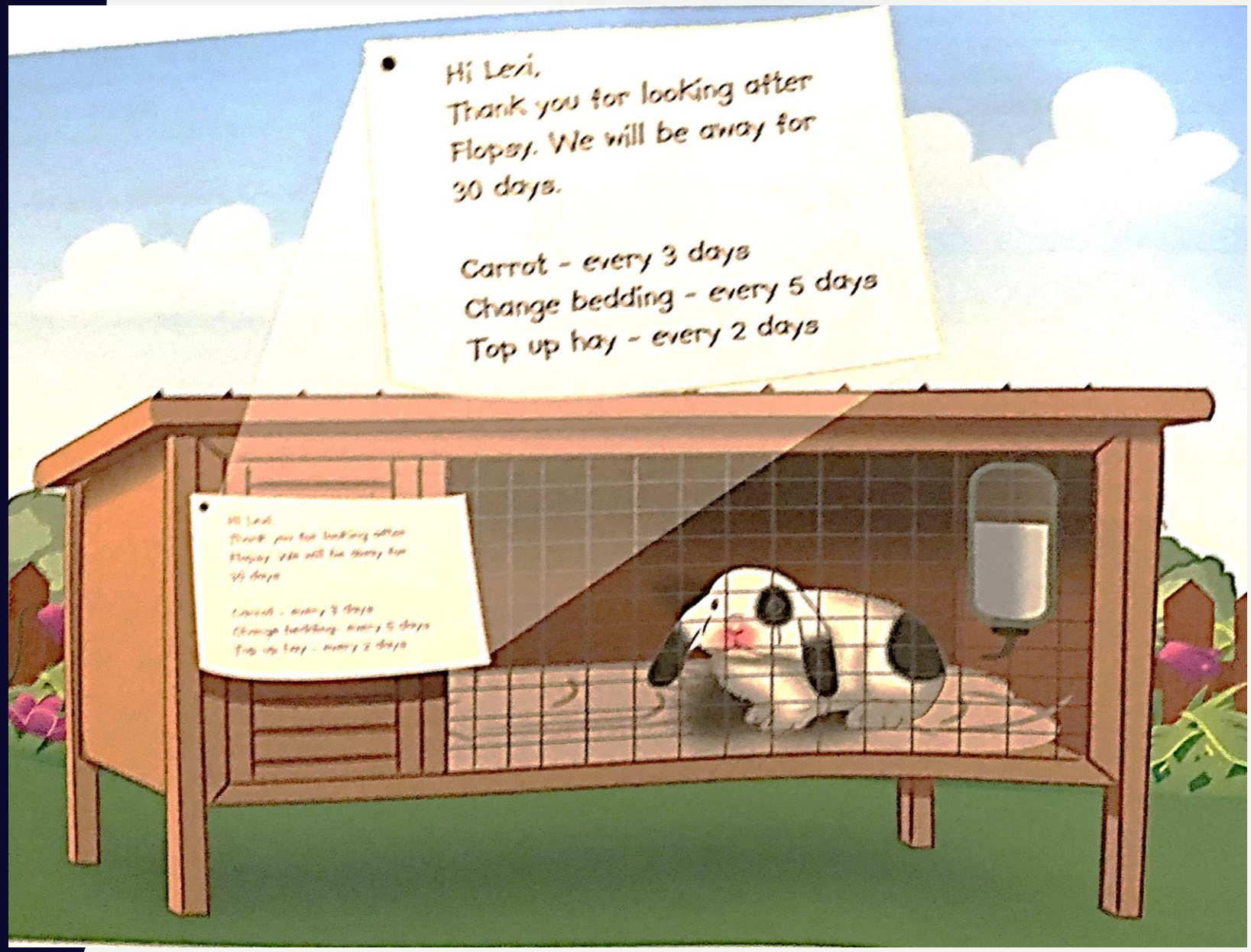
	less than 1000	1000 or more
multiples of 20		
not multiples of 20		

2 marks

L.O. IDENTIFY COMMON FACTORS, COMMON MULTIPLES AND PRIME NUMBERS.

- SOME WILL EVEN: Find patterns and quick ways to identify.
- SOME WILL: Identify common factors and multiples.
- MOST WILL: Identify specific factors, multiples and prime numbers.
- ALL WILL: Understand meaning of multiple, factor and prime number.

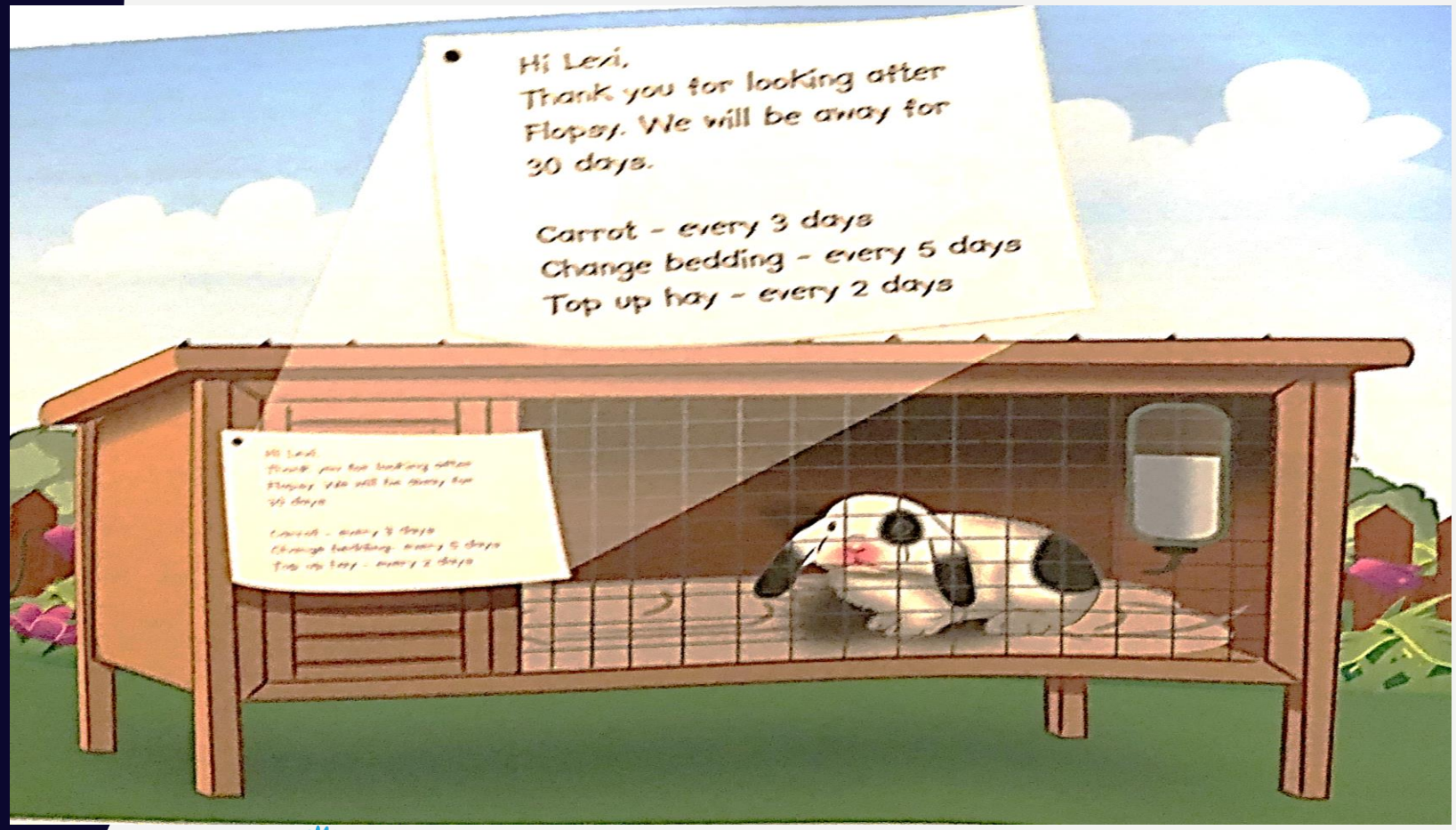
GUIDED PRACTICE - MY TURN



1 a) On which days will Lexi need to give carrots?

b) On which days will Lexi need to do change bedding and give carrots?

GUIDED PRACTICE - YOUR TURN



1 a) On which days will Lexi need to change the bedding?

b) On which days will Lexi need to do all three jobs?

help

Use a 30 square to help you. Circle the common multiples.

CHALLENGE!

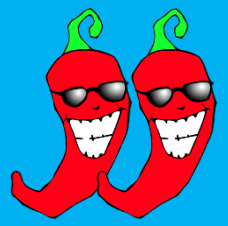
What if the bedding was changed every 6 days and carrots still every three days?

Intelligent Practice

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

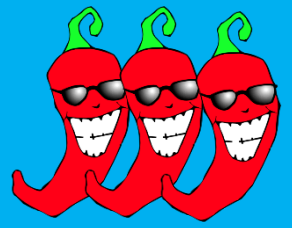
Every 3 days Jacob walks home.

Can you colour in these days?



Every 4 days Sarah walks home.
Every 6 days Chris walks home.

Can you circle Sarah's days and box Chris' days?



What days do all three children walk home?

What two children walk home together most often?

What days do none of the children walk home?

What could the children do to ensure somebody walks home every day?

Intelligent Practice

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
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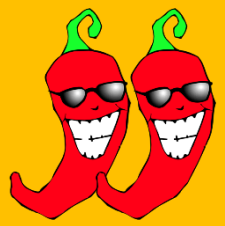

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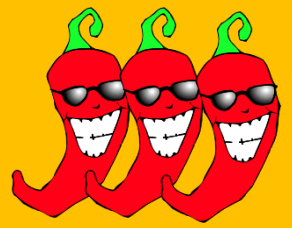

What days do all three children walk home?

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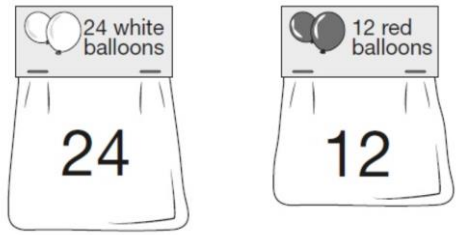
What days do none of the children walk home?

change Sarah to every two days
change Chris to every day

DIVE DEEPER 1

1)



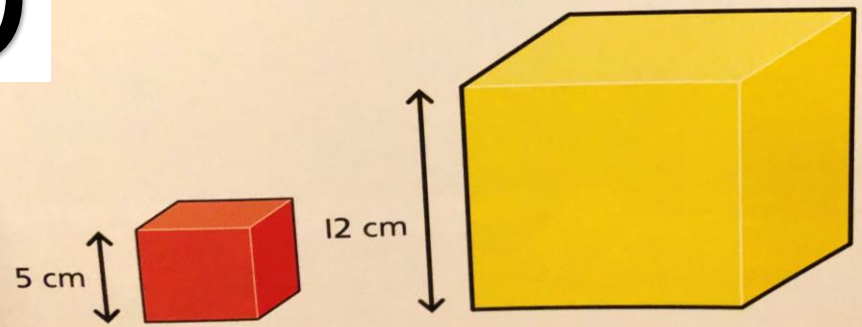
Adam has 6 bags of white balloon.
Chen has 3 bags of red balloons.

Adam says,
"I have four times as many balloons as Chen"

Explain why Adam is correct.

2)

Emma has cubes that are 5 cm tall. Ambika has cubes that are 12 cm tall.



I will think about common multiples.
I think there is more than one solution.

They each make a tower. The two towers are equal in height. How tall could the towers be?

The towers could be ☐ cm tall.

3)

Max and Jamilla are discussing common factors and common multiples.

10 25

I can list all the common factors of 10 and 25, so I must be able to list all the common multiples of 10 and 25.

I do not think it's possible to list all the common multiples, because the list goes on forever. Common factors and common multiples are different ideas.

Max

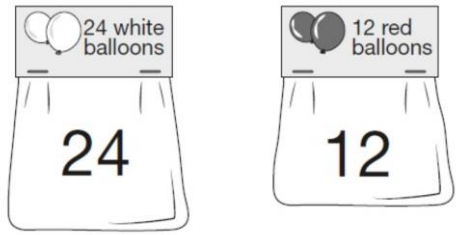
Jamilla

a) Do you agree with Max or Jamilla?

b) How could you describe the common multiples of 10 and 25, without listing them all?

DIVE DEEPER 1

1)



Adam has 6 bags of white balloon.
Chen has 3 bags of red balloons.

Adam says,
"I have four times as many balloons as Chen"

24 x 6 = 144 3 x 12 = 36
36 x 4 = 144 (4x as many)

2)

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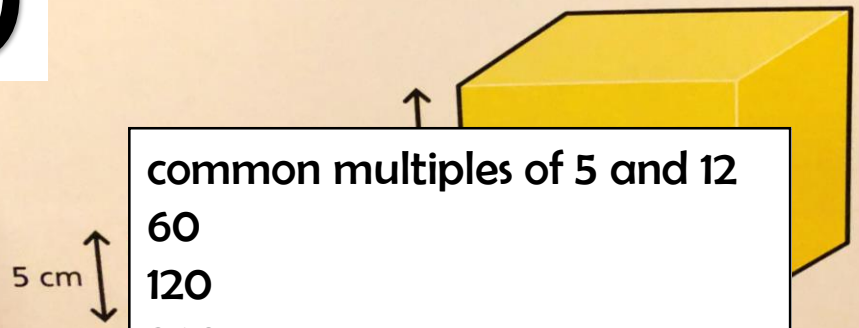

common multiples of 5 and 12
60
120
240
360...

I will think about common multiples.
I think there is more than one solution.

Th... equal
in...

The towers could be ☐ cm tall.

3)

Max and Jamilla are discussing common factors and common multiples.

CHALLENGE!

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Max Jamilla

a) Do you agree with Max or Jamilla?

b) How could you describe the common multiples of 10 and 25, without listing them all?

Factor Lines

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

1	2	3	21

Arrange the four number cards (1, 2, 3 and 21) on the grid above to make a diagonal, vertical or horizontal line.
You can put a number card on a square with

- a multiple of that number
- a factor of that number.

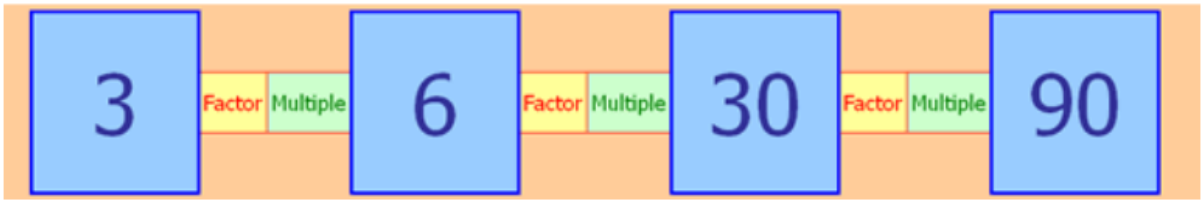
In how many different ways can you do it? Can you use a strategy that you haven't tried before?

https://nrich.maths.org/1138

Factor-multiple Chains

Age 7 to 11
Challenge Level ★★

Here is an example of a factor-multiple chain of four numbers:



Can you see how it works? Perhaps you could make some statements about some of the numbers in the chain using the words "factor" and "multiple".

In these chains, each blue number can range from 2 up to 100 and must be a whole number.

What are the smallest blue numbers that will make a complete chain?

What are the largest blue numbers that will make a complete chain?

What numbers cannot appear in any chain?

What is the biggest difference possible between two adjacent blue numbers?

What is the largest and the smallest possible range of a complete chain?
(The range is the difference between the largest and smallest values.)