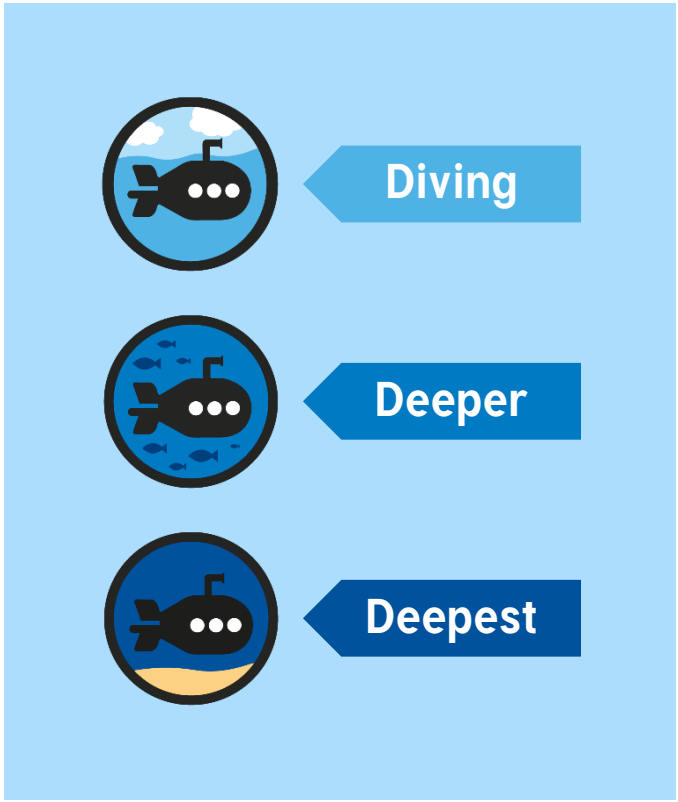
Diving into Mastery

Factors

twinkl
Quality Standard Approved

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:

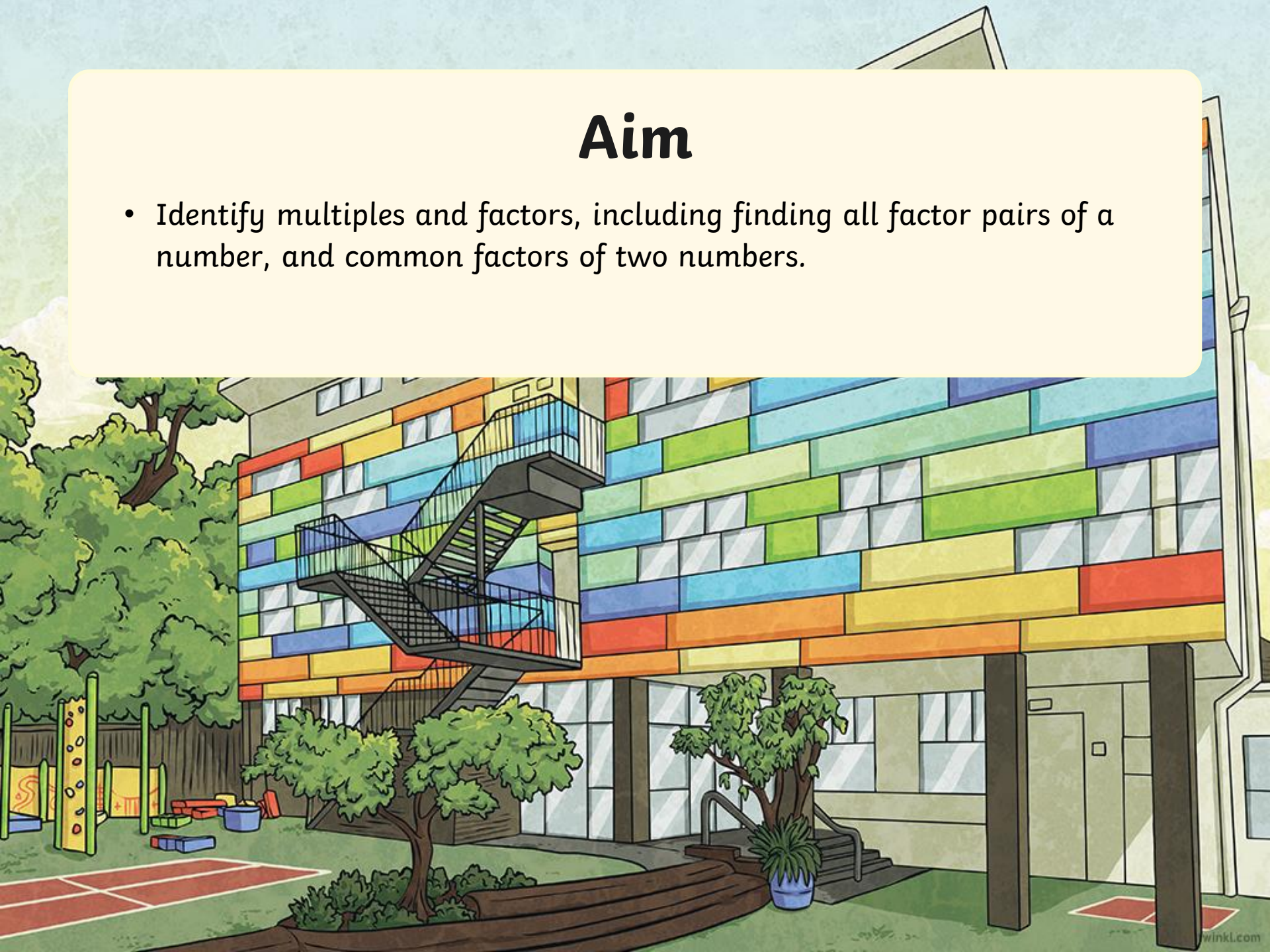


These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

Aim

- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.



Factors | **Diving**

Sort these numbers into the correct columns.
Remember: they might be factors of more than one number.

2 4 3 7 10 6 5

Factors of 15	Factors of 20	Factors of 24	Factors of 35
3 5	2 4 5 10	2 3 4 6	5 7

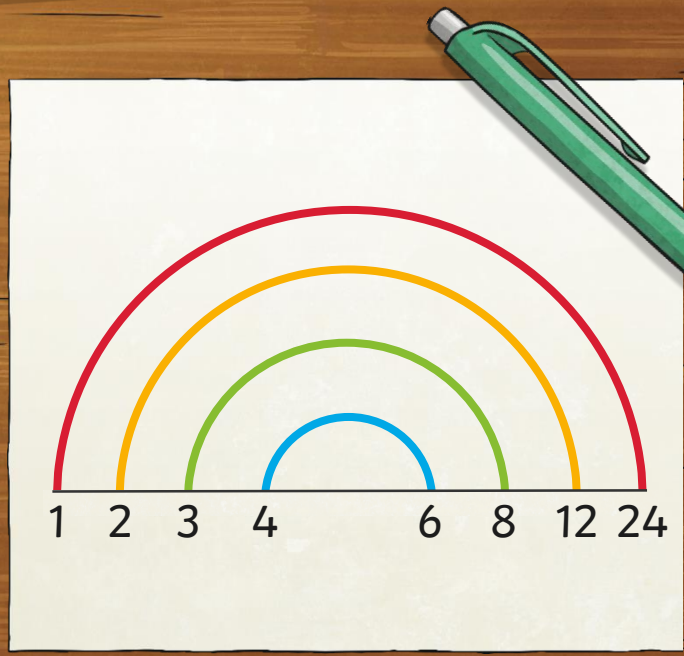
twinkl.com

Factors | **Diving**

Look at the table. Which factors are missing for each number?

Draw factor rainbows, like the example, to help you identify missing factors and add them to the table.

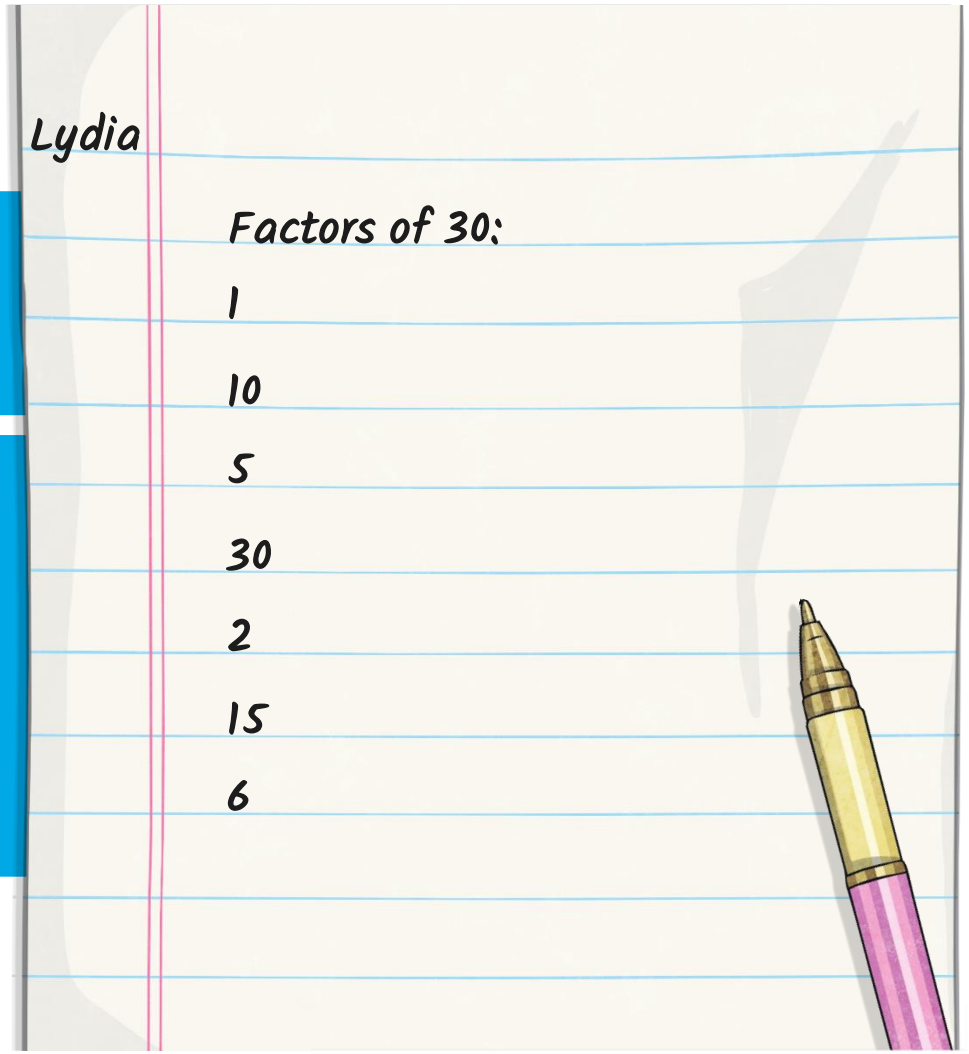
Factors of 15	Factors of 20	Factors of 24	Factors of 35
1	1	1	1
3	2	2	5
5	4	3	7
15	5	4	35
	10	6	
	20	8	
		12	
		24	



Factors | **Diving**

Lydia has written down all the factors of 30 she can think of.

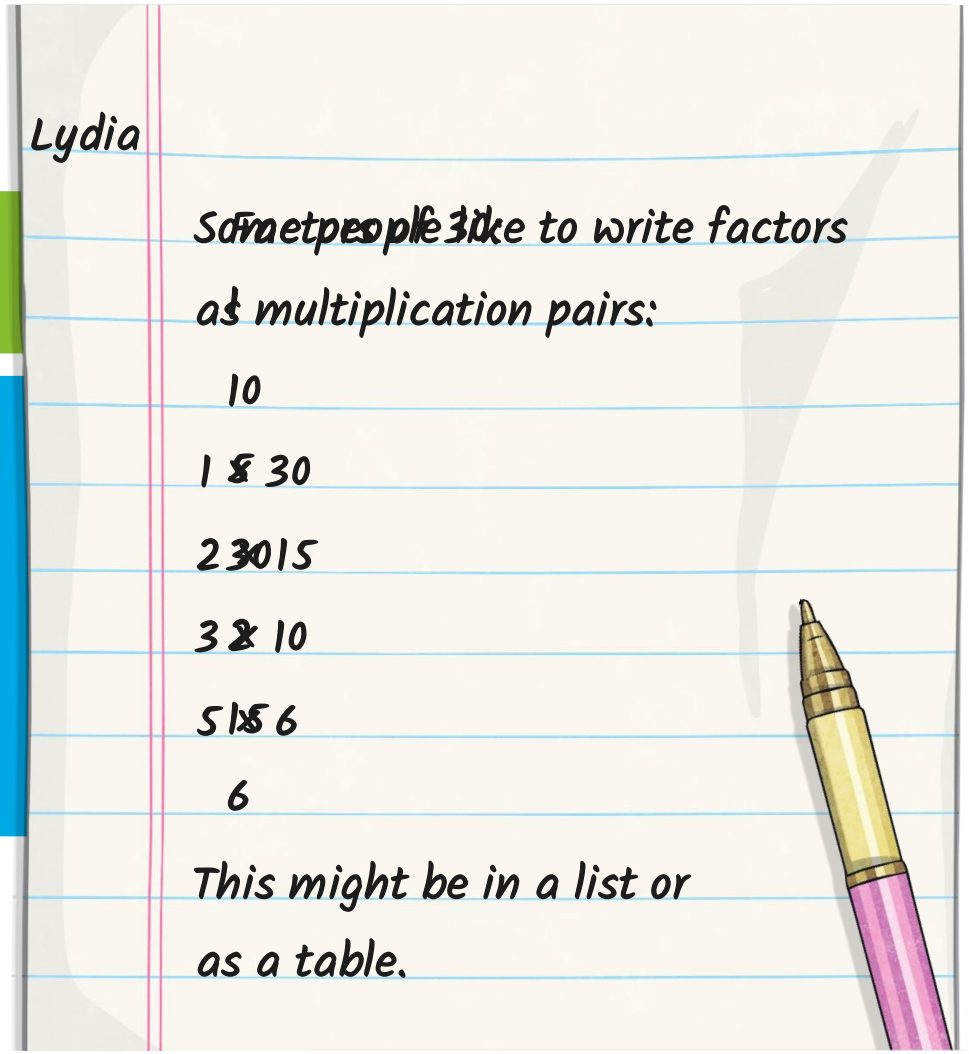
Can you help Lydia to use a more systematic approach to identifying all factors of numbers? Use your method to identify which factor she has missed.



Factors | **Diving**

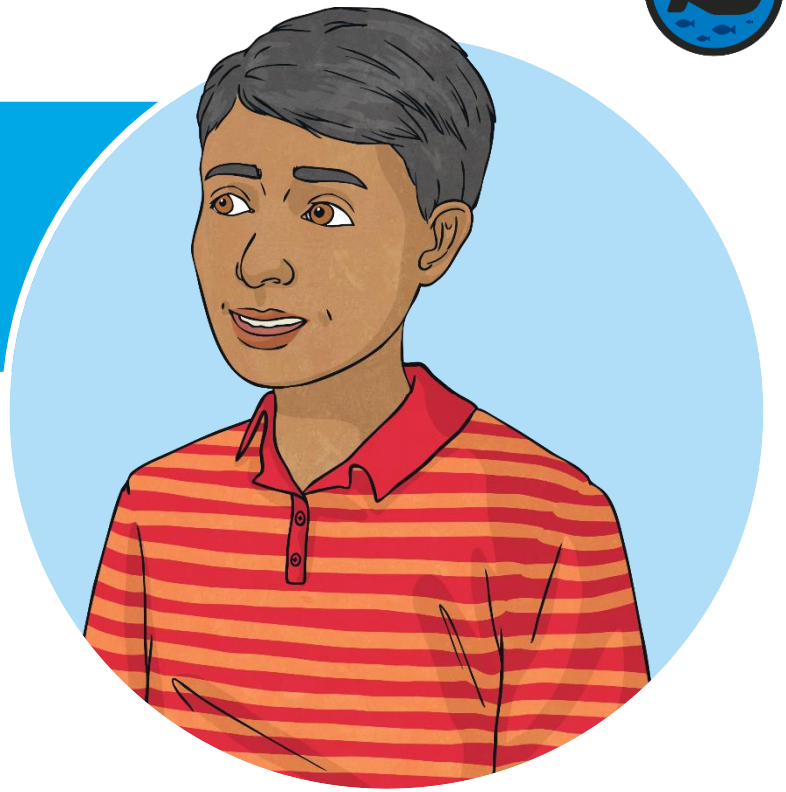
Lydia has missed the factor 3.

Working through numbers in a consecutive order from 1 up to half of the number can help to make sure you do not miss any factors.



Factors | **Deeper**

Michel is identifying the factors of 40. He says that 25 and 15 are factors of 40. Explain the mistake that Michel has made.



- Factors are whole numbers that can be multiplied by another factor to make the given number or product.
- factor × factor = product
- Michel is thinking of numbers that add together to make 40, rather than factors.

twinkl.com

Are these statements true or false? Explain your thinking.

Odd numbers have fewer factors than even numbers.

This is false. Odd and even numbers can have the same number of factors. For example, 21 has 4 factors and so does 22.

Every number has 1 as a factor.

This is true. Every number has 1 as a factor because it is the product of 1 and itself, for example, 1 × 22 = 22.

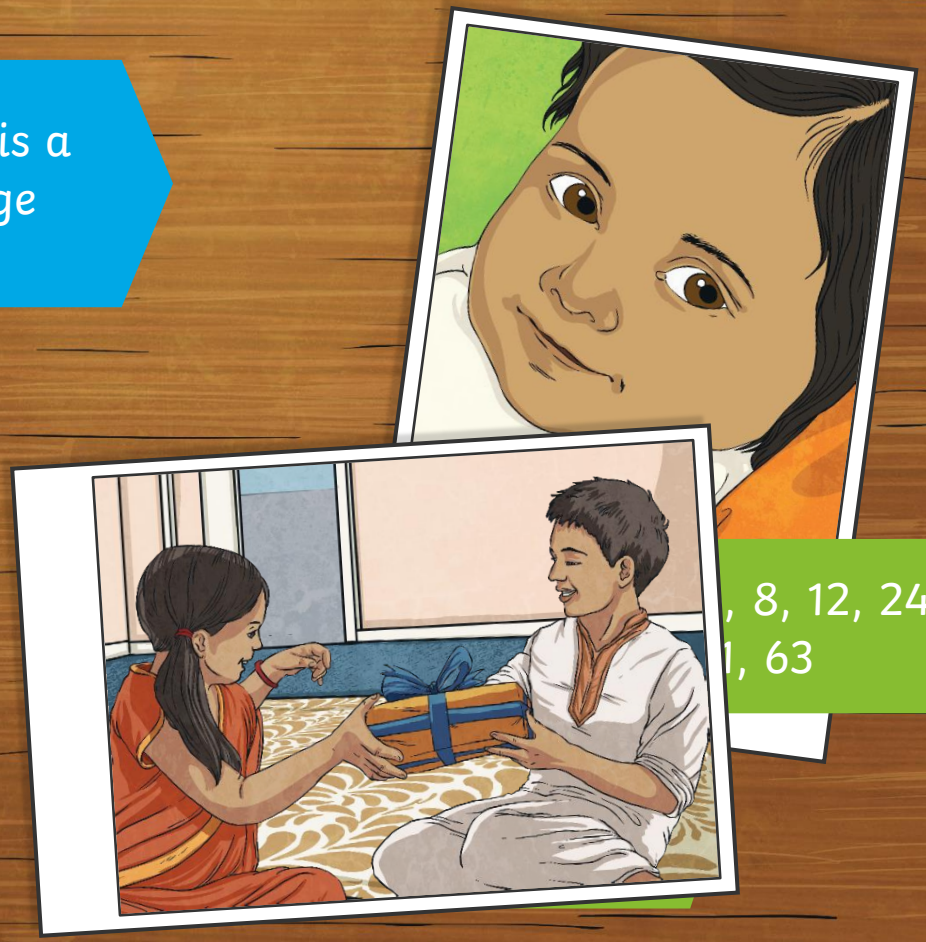
twinkl.com

Factors | **Deepest**

Rosy says,

"This year, my brother's age is a factor of 24. Next year, his age will be a factor of 63."

How old could he be?



, 8, 12, 24
1, 63

Factors | **Deepest**

Ronan says,

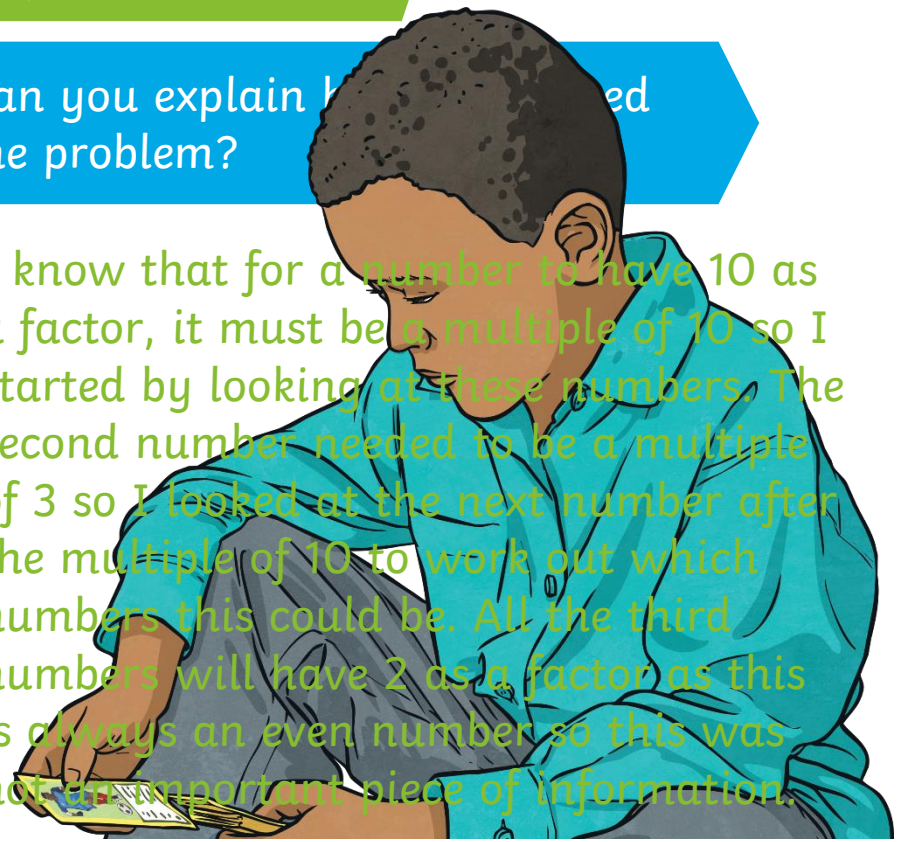
"I am thinking of 3 consecutive numbers less than 100. The first number has 10 as one of its factors, the second number has 3 as a factor and the third number has 2 as one of its factors."

What could the three consecutive numbers be? Can you find all possible sets of numbers?

Possible sets are:
20, **21** and **22**
50, **51** and **52**
80, **81** and **82**

Can you explain how you solved the problem?

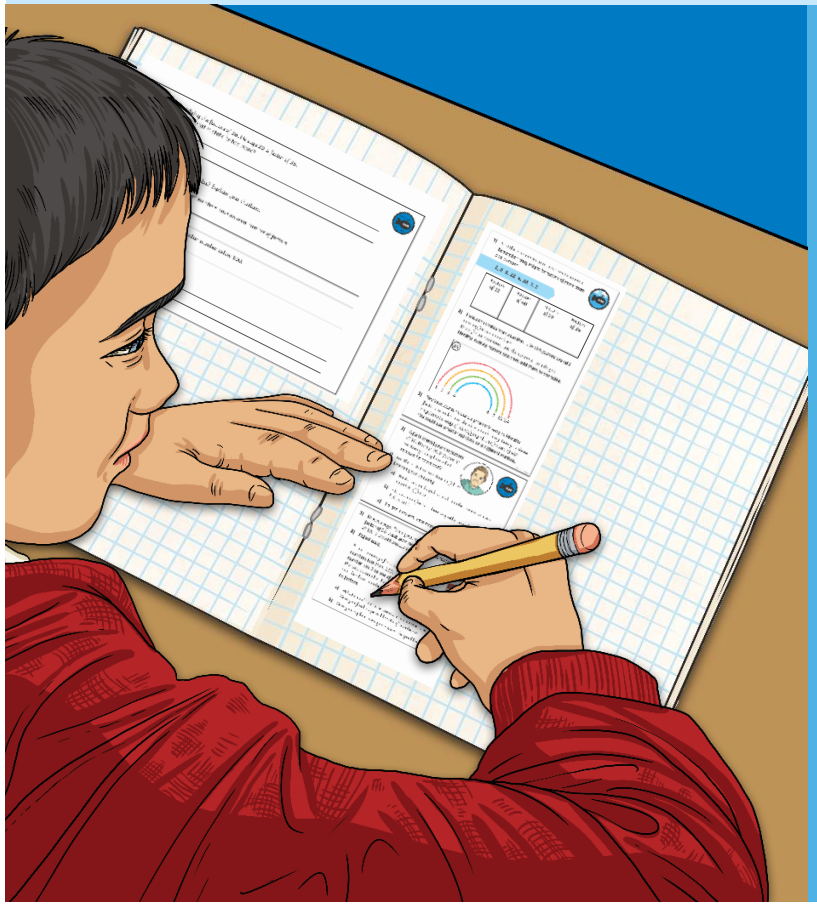
I know that for a number to have 10 as a factor, it must be a multiple of 10 so I started by looking at these numbers. The second number needed to be a multiple of 3 so I looked at the next number after the multiple of 10 to work out which numbers this could be. All the third numbers will have 2 as a factor as this is always an even number so this was not an important piece of information.

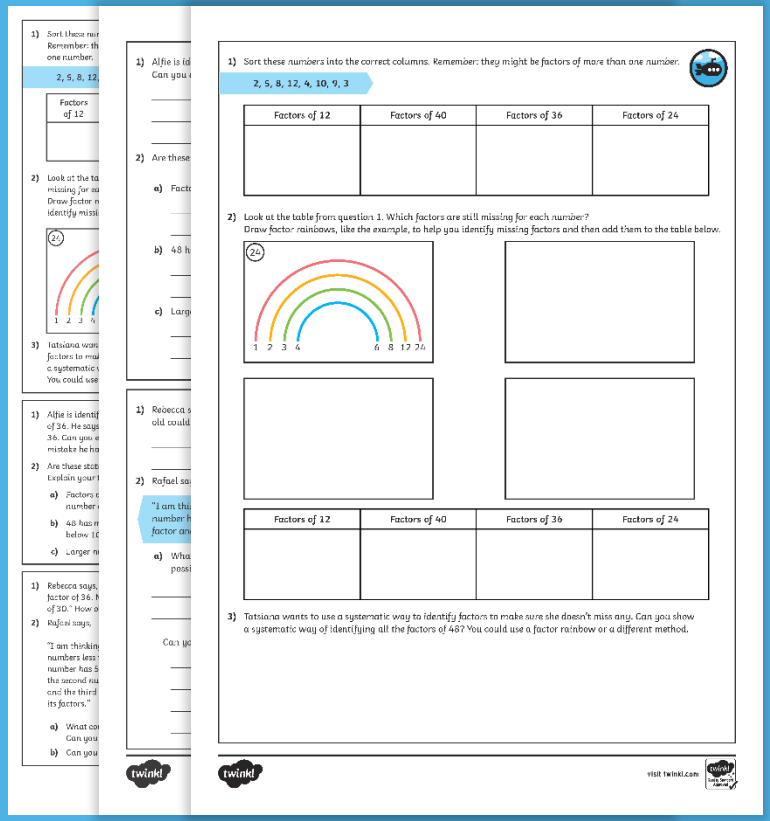


twinkl.com

Factors

Dive in by completing your own activity!





1) Sort these numbers into the correct columns. Remember: they might be factors of more than one number.

2, 5, 8, 12, 4, 10, 9, 3

Factors of 12	Factors of 40	Factors of 36	Factors of 24

2) Look at the table from question 1. Which factors are still missing for each number?
Draw factor rainbows, like the example, to help you identify missing factors and then add them to the table below.

24

1 2 3 4 6 8 12 24

Factors of 12	Factors of 40	Factors of 36	Factors of 24

3) Tatsiana wants to use a systematic way to identify factors to make sure she doesn't miss any. Can you show a systematic way of identifying all the factors of 48? You could use a factor rainbow or a different method.

twinkl

twinkl

visit twinkl.com

Need Planning to Complement this Resource?

National Curriculum Aim

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

For more planning resources to support this aim, click here.

Twinkl PlanIt is our award-winning scheme of work with over 4000 resources.

twinkl planit


twinkl
twinkl
Quality Standard
Approved