

11.2.22

Arithmetic LO: To find factors of whole numbers.

I know what factors are.

I can find factors of whole numbers.

I understand that factors always come in pairs.

Factors



Factors are numbers that divide exactly into another number.

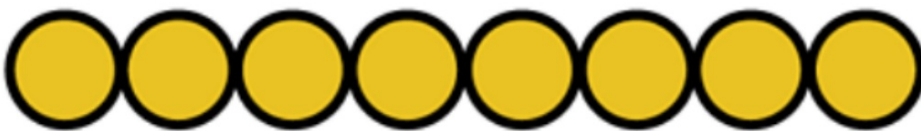
For example, the factors of 8 are:

1, 2, 4 and 8.

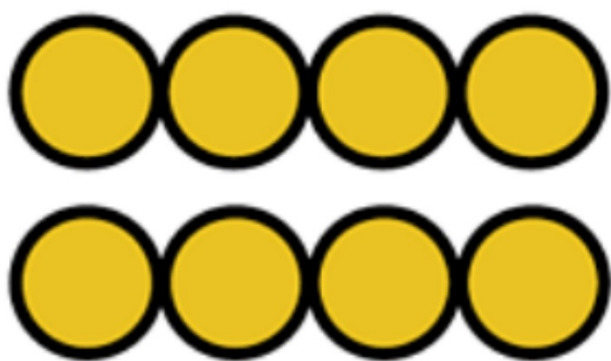
Factors can be shown in pairs. Each pair multiplies to make 8.

The factor pairs of 8 can be shown:

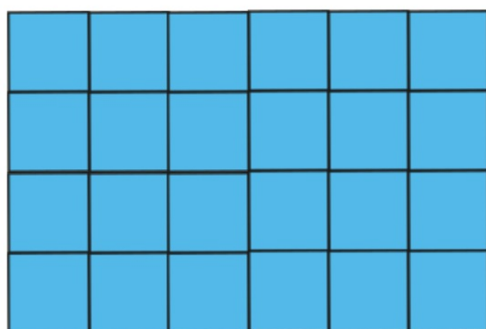
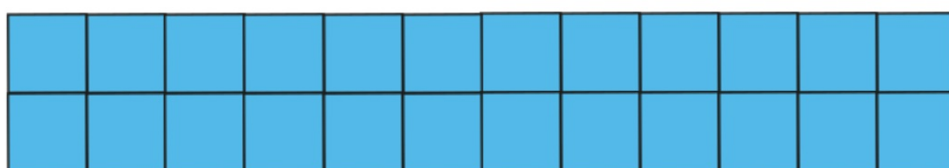
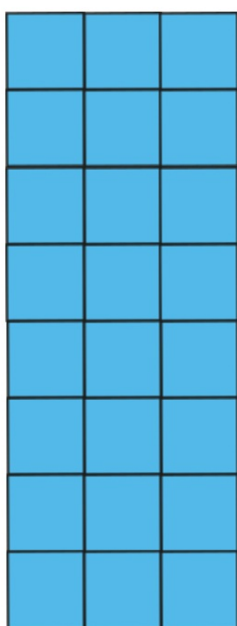
$$1 \times 8 = 8$$



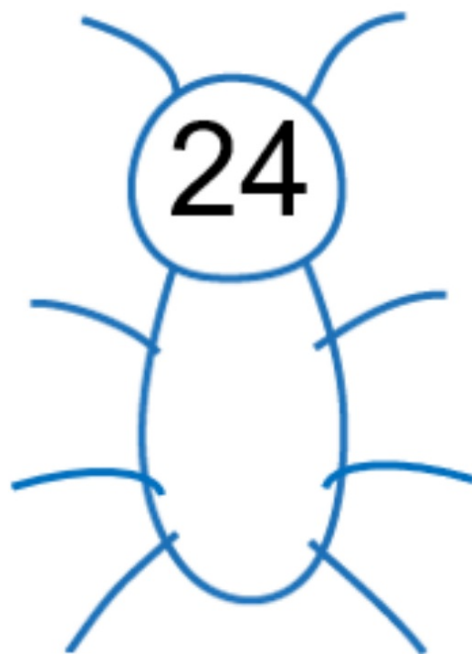
2 × ?



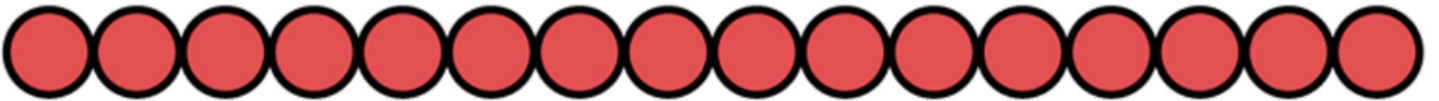
What multiplication facts can you see from these cubes?



Using those multiplication facts, can you name the factors of 24?

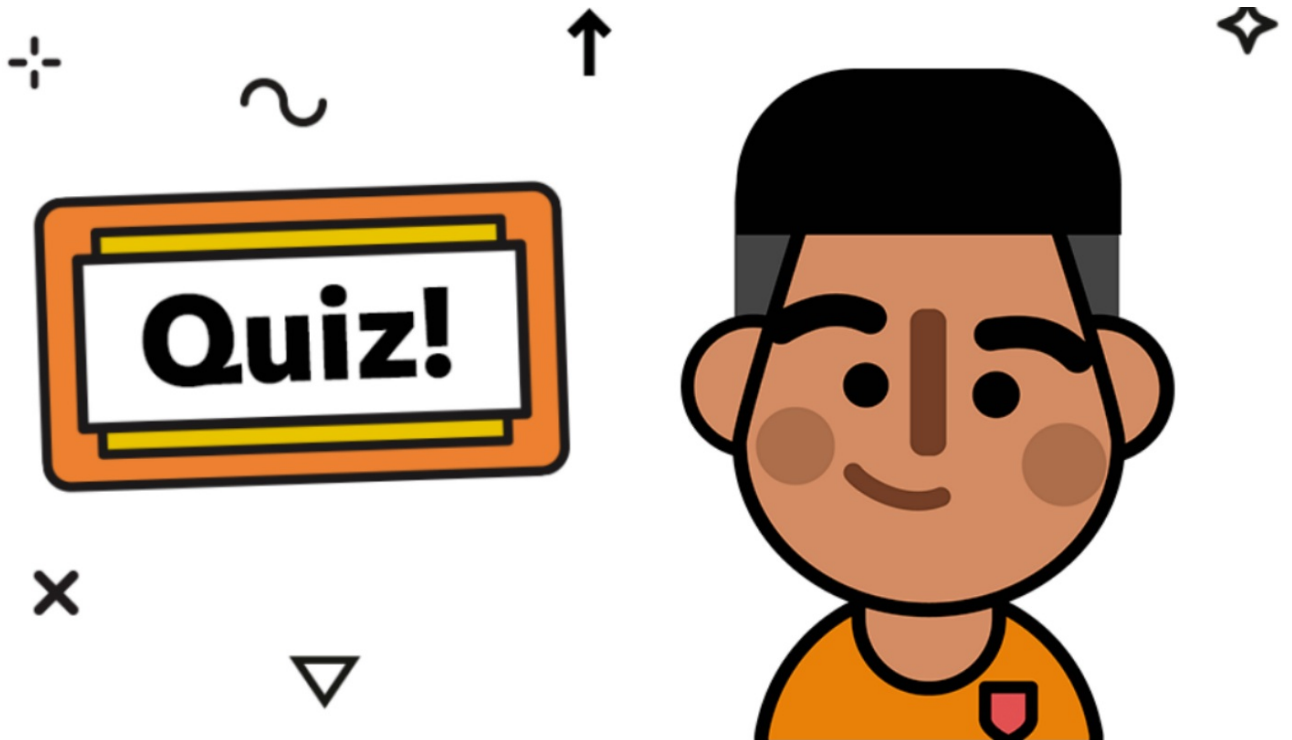


*As a table, use the
multilink cubes to find
the factor pairs of 16.*



Can you use the
multilink cubes to find
factor pairs of 19?

What does this tell you about the number 19?



Factor pairs

Practise factor pairs and test your knowledge with this multiple choice quiz.

[Start](#)

Your turn!

Find the factor pairs of:

- 1) 12
- 2) 18
- 3) 35
- 4) 48
- 5) 45
- 6) 64
- 7) 96

Find the factor pairs of:

- 1) 6
- 2) 8
- 3) 12
- 4) 14
- 5) 24
- 6) 27

LA - use multilink with TA to support.

Challenge

Use your knowledge of factors and find all the factors of 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.

Extension activity:

- 1) Rebecca says, "This year, my sister's age is a factor of 36. Next year, her age will be a factor of 30." How old could she be?



- 2) Rafael says,

"I am thinking of 3 consecutive numbers less than 100. The first number has 5 as one of its factors, the second number has 1 as a factor and the third number has 2 as one of its factors."



- a) What could the three consecutive numbers be? Can you find all possible sets of numbers?
- b) Can you explain how you solved the problem?

- 1) Alfie is identifying the factors of 36. He says 20 is a factor of 36. Can you explain what mistake he has made?

- 2) Are these statements true or false? Explain your thinking.

- a) Factors come in pairs so all numbers have an even number of factors.
- b) 48 has more factors than any number below 100.
- c) Larger numbers have more factors.

Plenary



Calculate the factors for each number in ascending order.

(iv) 12

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(v) 16

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(vi) 25

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**Year 5
NUMERACY
TARGET GRIDS**

I can read Roman numerals to 1000 (M) and recognise years written in numerals.

I can solve number problems and practical problems that involve all of the below.

I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.

I can use negative numbers in context; count forwards and backwards with positive and negative whole numbers through 0

I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.

I know what each digit represents in numbers to 1 000 000.

I can read, write, order and compare numbers to at least 1 000 000.

Number and Place Value

I can use all 4 rules of number to solve multi-step problems.

I can use rounding to check answers to calculations.

I can subtract mentally using increasingly large numbers.

I can add mentally using increasingly large numbers.

I can subtract numbers with up more than 4 digits

I can add whole numbers with more than 4 digits.

Addition and Subtraction

I can solve \times and \div problems, scaling by fractions and ratio.

I can solve problems involving \times and \div including factors, multiples square and cubes.

I can recognise and use square and cube numbers.

I can \times and \div whole numbers and decimals by 10, 100 and 1000.

I can multiply and divide numbers mentally.

I can divide numbers up to 4 digits by a one or two-digit number.

I can multiply numbers up to 4 digits by a one or two-digit number.

I can establish whether a number is prime and recall prime numbers up to 19.

I know and use the vocabulary of prime numbers, prime factors and composite.

I can identify multiples and factors including finding all factor pairs.

Multiplication and Division

I can use all four operations to solve problems involving measure using decimal notation, including scaling.

I can solve problems involving converting between units of time.

I can estimate the volume and capacity.

I can estimate the area of irregular shapes.

I can calculate and compare the area of rectangles (including squares)

I can measure and calculate the perimeter of composite rectilinear shapes in centimetres & metres.

I understand and use approximate equivalences between metric units and imperial units such as inches & pounds

I can convert between different units of metric measure.

Measurements

I can solve problems involving decimals to 3 decimal places.

I can read and order numbers with 3 decimal places.

I can round decimals with 2 decimal places to the nearest whole number & to one decimal place.

I can recognise and use 1000ths and relate them to 10ths, 100ths and decimal equivalents.

I can multiply proper fractions and mixed numbers by whole numbers.

I can $+$ and $-$ fractions with the same denominator and denominators that are multiples of the same number.

I can recognise mixed number and improper fractions and convert from one form to another.

I can identify, name and write equivalent fractions of a given fraction.

I can compare and order fractions whose denominators are all multiples of the same number.

Fractions

I can identify, describe and represent the position of a shape following a reflection or translation.

I can distinguish between regular and irregular polygons.

I can use the properties of rectangles to deduce related facts and find missing lengths and angles.

I can identify other multiples of 90°

I can identify angles at point on a straight line and $1/2$ a turn.

I can identify angles at a point and one whole turn.

I can draw angles and measure them in degrees ($^\circ$)

I know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.

I can identify 3-D shapes, including cubes and other cuboids from 2-D drawings.

Geometry

I can read and write decimal numbers as fractions.

I can write $\frac{1}{10}$ as a fraction and decimal equivalents.

I can complete, read and interpret information in tables including timetables.

I can solve 'difference' problems using information presented in a line graph.

I can solve 'sum' problems using information presented in a line graph.

I can solve 'comparison' problems using information presented in a line graph.

Statistics