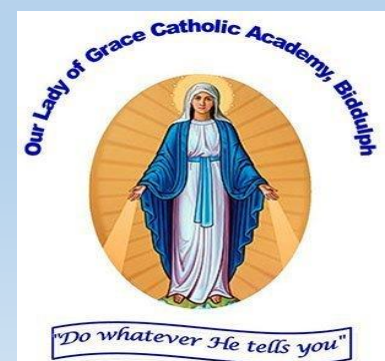




# LBQ Support Pack

Welcome to your maths help pack for the week. In this pack you will find a page or two that will help you with the days task on LBQ.

If you are still unsure of something from your LBQ task, just email Mr Spencer!



22.06.20

## Use Factor Pairs and Commutativity in Mental Calculations

Today you are going to be using factor pairs and commutativity in mental calculations.

"What is a factor pair?" I hear you cry. Don't worry, because all that you need to know is explained.

### **Factor pairs**

Factors are often given as pairs of numbers, which multiply together to give the original number. These are called factor pairs.

For example, the factor pairs of 12 are:

1 and 12

2 and 6

3 and 4

The factor pairs of 18 are listed below as well.

$$18 = 1 \times 18 \quad (1, 18)$$

$$18 = 2 \times 9 \quad (2, 9)$$

$$18 = 3 \times 6 \quad (3, 6)$$

22.06.20

## Use Factor Pairs and Commutativity in Mental Calculations

Let's practice!

Your first questions will look like the ones below. Have a go at them now to make sure you are ready.

Select **two** numbers that make a factor pair of 14.

1

2

4

7

Two whole numbers that multiply together to make 12 are a factor pair of 12. Select a factor pair of 12.

2 and 10

3 and 4

4 and 8

22.06.20

## Use Factor Pairs and Commutativity in Mental Calculations

Let's practice!

You are also going to have some questions that look like the one below.

Instead of attempting to calculate  $3 \times 14$  mentally we can use factor pairs to work out the missing number.

$$3 \times 14 = 42$$

A factor pair of 42 that includes a 7 is  $6 \times 7$ .

To make the size, we first need to multiply the  $3 \times 2 = 6$  and then multiply  $6 \times 7$ .

**Therefore**  $3 \times 14 = 3 \times 2 \times 7$

$$6 \times 7 = 42$$

$3 \times 14$

$3 \times \square \times 7$

$\square \times 7 = \square ?$

23.06.20

# Identifying Factors

Today you are continuing exploring factors.

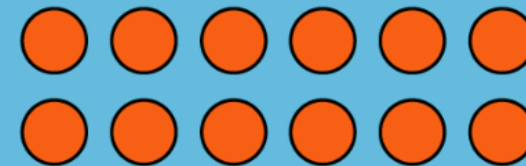
Let's practice!

1 and 12 are a factor pair of 12 because  $1 \times 12 = 12$ .

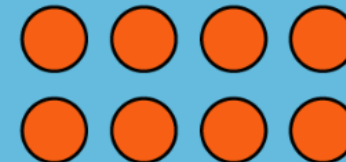
What two numbers are another factor pair of 12?



$$1 \times 12$$



$$2 \times 6$$



$$3 \times 4$$

factor pairs of 12	
1	12
2	6
3	4

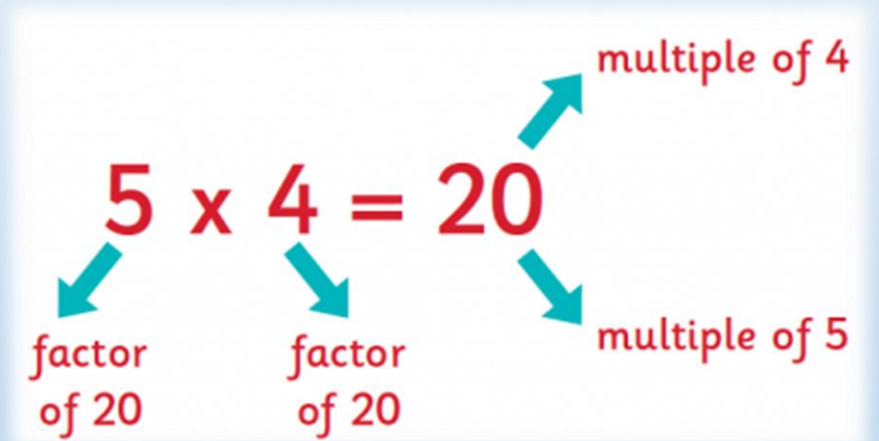
24.06.20

## Identifying Multiples

Today you are going to be exploring and identifying multiples.

What are multiples?

A **multiple** is a number that can be divided by another number a certain number of times without a remainder (anything left over). A factor is one of two or more numbers that divides a given number without a remainder. ... This number sentence tells us that 20 is a **multiple** of 5 and is also a **multiple** of 4.



24.06.20

## Identifying Multiples

Let's practice!

Have a go at this question below to get yourself ready!

Which of these numbers is a multiple of 7?

17

24

35

47

**multiples of 7**

7

14

<b>multiples of 7</b>
7
14

25.06.20

## Identifying multiples and factors

Today you are going to further explore multiples and factors. From your work over the last few days, you will already know what these are, so we don't need any further practice on these.

The examples below are for you to have a practice of the type of questions you might get.

12 is a multiple of 6. Which of the following numbers is also a multiple of 6?

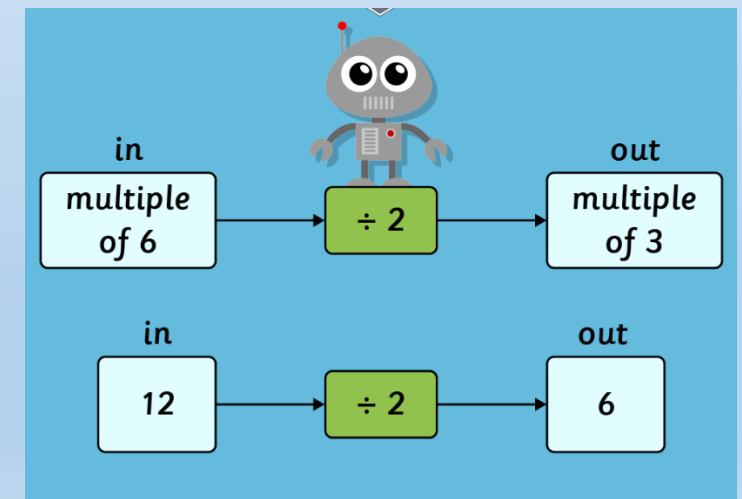
9

15

16

24

26



25.06.20

## Identifying multiples and factors

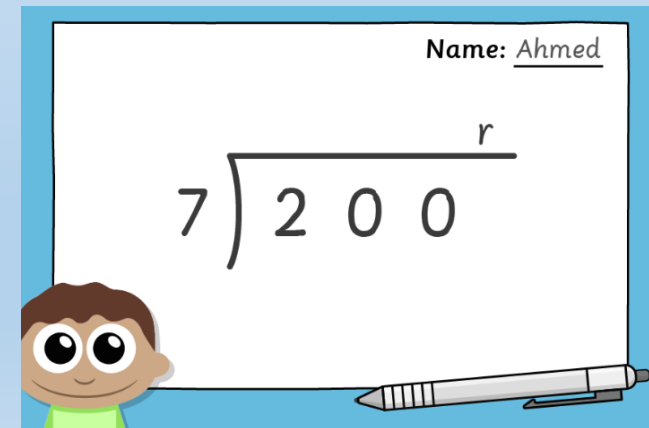
The examples below are for you to have a practice of the type of questions you might get.

Give four factors of 21

factor pairs of 21	

Ahmed used the calculation 200 divided by 7 to find the highest multiple of 7 that is less than 200. What is his answer?

Name: Ahmed

$$7 \overline{) 200}^r$$


26.06.20

## Identifying Prime Factors

Today you are going to be exploring prime factors.

"What are prime factors?" I hear you cry.

**Prime factors** are the **prime numbers** which multiply together to make a number.

**Prime numbers** are numbers which are only **divisible by 1 and themselves**.

**19** is a **prime number** because it can **only be divided by 1 and 19**.

Therefore the **prime factors of 19 are 1 and 19** because  $1 \times 19 = 19$

26.06.20

## Identifying Prime Factors


**Prime Numbers**

A natural number greater than 1 with no divisors other than 1 and itself.

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

Remember these facts about Prime Numbers!

- There are no even numbers except 2.
- There are no prime numbers ending in 5, except 5.
- The digits can't add up to 3 except 3 (digital root).



26.06.20

## Identifying Prime Factors

Composite prime numbers can be broken down into prime factors. Composite prime numbers are numbers that are the product of the multiplication of two prime factors.

The composite prime number of this question is 22.

Your job is to find out the missing prime factor that makes this number.

2 multiplied by ? Is equal to 22.

$2 \times 11 = 22$ . The prime factor is 11.

