



## Key Instant Recall Facts

### KIRFs

To develop your child's fluency and mental maths skills, we are introducing KIRFs throughout school. **KIRFS are a way of helping your child to learn by heart, key facts and information which they need to have instant recall of.**

KIRFs are designed to support the development of mental maths skills that underpin much of the maths work in our school. They are particularly useful when calculating, adding, subtracting, multiplying or dividing. They contain number facts such as number bonds and times tables that need constant practise and rehearsal, so children can recall them quickly and accurately.

Instant recall of facts helps enormously with mental agility in maths lessons. When children move onto written calculations, knowing these key facts is very beneficial and if these facts can be recalled mentally, it frees up the working memory for them to unpick and solve more complex reasoning and problem solving questions. For your child to become more efficient in recalling facts easily, they need to be practised frequently and for short periods of time.

Each half term, children will focus on 1 or 2 Key Instant Recall Facts (KIRFs) to practise and learn at home for the half term. They will also be available on our school website under the maths section and will be sent to parents and carers alongside the curriculum newsletter each term. The KIRFs include links to online games, videos and resources that you may find useful when practising these KIRFs with your child at home. They are not designed to be a time-consuming task and can be practised anywhere – in the car, walking to school, etc. Regular practice - little and often – helps children to retain these facts and keep their skills sharp.

**Throughout the half term, the KIRFs will also be practised in school and your child's teacher will assess whether they have been retained.**

Over their time at primary school, we believe that - if the KIRFs are developed fully - children will be more confident with number work, understand its relevance, and be able to access the curriculum much more easily. They will be able to apply what they have learnt to a wide range of problems that confront us regularly, thus becoming efficient mathematicians.

An overview of the KIRFs for every year group across the whole year can be found on the maths section of our website.

**Maths is a journey  
not a destination**



## Key Instant Recall Facts

### Year 6 Autumn A

#### Identify the common factors of a pair of numbers.

By the end of this half term, children should be able to name factors of numbers and use this to identify common factors of a pair of numbers.

**Method** - When working out factors of numbers, the children are taught to think about pairs of numbers that are multiplied together to create that number. This should be thought of in order so that no factors are missed. E.g. Factors of 12

1 and 12

2 and 6

3 and 4

**Misconception!** - Lots of children get factors and multiples confused. Make sure they understand the difference. Multiples are counting in multiples of that number e.g. multiples of 12 are 12, 24, 36, 48 and so on..

**Top Tips:** The secret to success is practising little and often. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day.

#### Online games

[Multiples and Factors \(topmarks.co.uk\)](https://www.topmarks.co.uk/Multiples-and-Factors)

[Factor Trees \(transum.org\)](https://www.transum.org/FactorTrees)

[Connect 4 Factors \(transum.org\)](https://www.transum.org/Connect4Factors)

#### Know prime numbers within 100.

By the end of the half term, children should also be able to recite prime numbers within 100.

**What is a prime number?** A prime number is a whole number greater than 1 whose only factors are 1 and itself. The number can only be divided by 1 and itself.

A prime number has 2 factors.

#### Online games

[Number Ninja - Prime Numbers • ABCya!](https://www.numberninjas.com/prime-numbers)

Prime Number				
2	3	5	7	11
13	17	19	23	29
31	37	41	43	47
53	59	61	67	71
73	79	83	89	97



# Key Instant Recall Facts

Year 6 Autumn B



# Key Instant Recall Facts

Year 6 Spring A



## Key Instant Recall Facts

### Year 6 Spring B

#### **Find a fraction of an amount.**

By the end of this half term, children should be able to use their knowledge of unit fractions ( $1/3$ ,  $1/5$ ,  $1/7$  etc) of a quantity to find non-unit fractions ( $2/5$ ,  $6/8$ ,  $2/3$  etc) of a quantity. Children should be able to answer questions such as  $4/7$  of  $161 = \underline{\hspace{2cm}}$

**Method** - Children use the method of divide by the denominator, multiply by the numerator. If the numbers are times table facts, this should be able to be carried out mentally. E.g.  $5/6$  of  $72$ . Children should know that  $72$  divided by  $6 = 12$  and then  $12 \times 5 = 60$  to quickly solve the answer of this calculation. With larger numbers, children will use a quick short division pencil and paper method, followed by short multiplication.

**Top Tips:** The secret to success is practising little and often. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day. Mental strategies can be practised with smaller numbers.

#### **Key Vocabulary**

**Denominator**—The bottom number in a fraction. Shows the number of equal parts in the whole.

**Numerator**—The top number in a fraction. Show how many parts we have.

**Unit fraction**—A fraction where the numerator is one.

**Non unit fraction**—A fraction where the numerator is not one.

#### **Online Resources**

[Finding Fractions of Amounts: Ks2 maths | Year 5 and 6 home learning - YouTube](#)

[Crystal Crash - Fractions of Numbers - Mathsframe](#)

[KS2 Maths Invaders - Mathsframe](#) (select fraction of numbers)



## Key Instant Recall Facts

### Year 6 Summer A

1. Recall metric conversions.
2. Know angles on a straight line and around a point.
3. Name parts of a circle

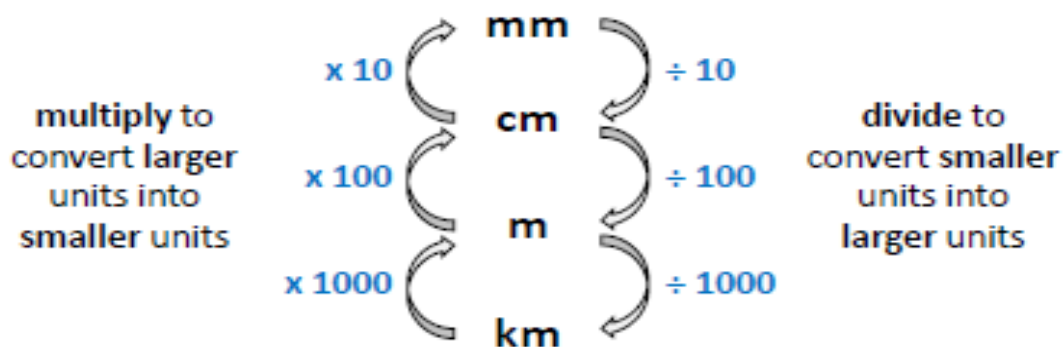
By the end of this half term, children should be able to remember that angles on a straight line add up to  $180^\circ$  and  $360^\circ$  around a point. They should be able to name radius, diameter and circumference on a circle. They should be able to recall metric conversions as below.

## Measurement

### Length

$$10 \text{ mm} = 1 \text{ cm} \quad 100 \text{ cm} = 1 \text{ m} \quad 1000 \text{ m} = 1 \text{ km}$$

### Converting Length



### Examples

$$3 \text{ m} = 300 \text{ cm}$$

$\times 100$

$$60 \text{ mm} = 6 \text{ cm}$$

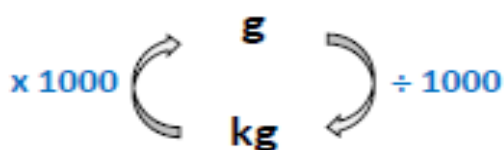
$\div 10$

$$5.6 \text{ km} = 5600 \text{ m}$$

$\times 1000$

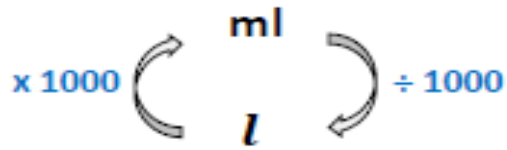
### Mass

$$1000 \text{ g} = 1 \text{ kg}$$



### Capacity

$$1000 \text{ ml} = 1 \text{ litre (l)}$$



### Examples

$$4.5 \text{ kg} = 4500 \text{ g}$$

$\times 1000$

$$3800 \text{ g} = 3.8 \text{ kg}$$

$\div 1000$

$$6.5 \text{ l} = 6500 \text{ ml}$$

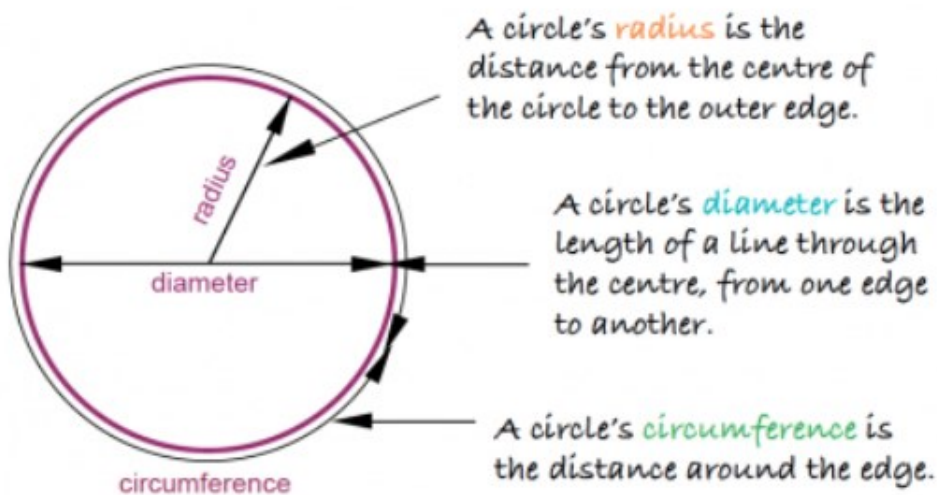
$\times 1000$

## Parts of a circle

[What are the parts of a circle? - BBC Bitesize](#)

[3 parts of a circle you must know! - YouTube](#)

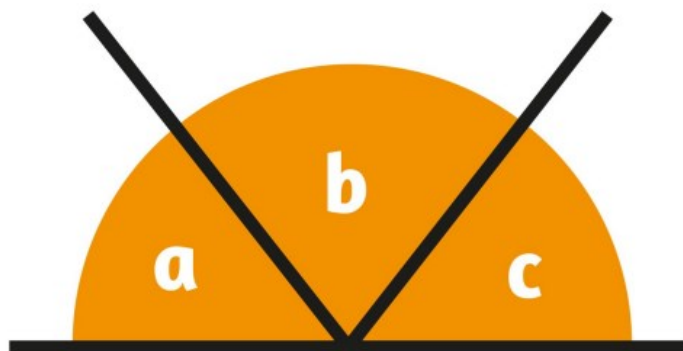
At the end of KS2, in Year 6, children will be asked to **illustrate and name parts of circles**, including radius, diameter and circumference.



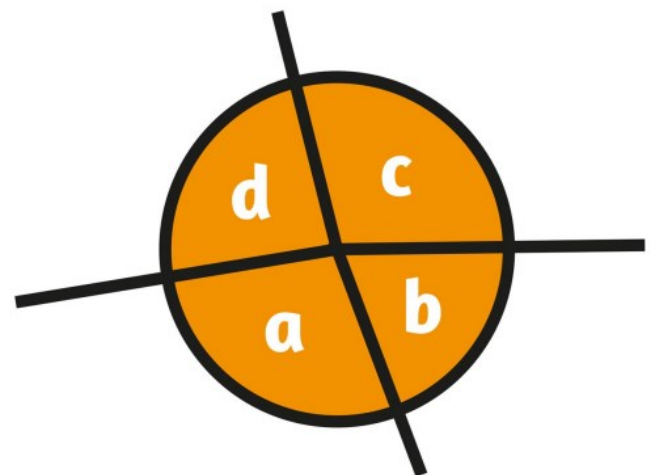
## Angles around a point and on a straight line

[Calculate angles around a point - Maths - Catch Up Lessons - Learning with BBC Bitesize - BBC Bitesize](#)

[Artistic Angles \(educationcity.com\)](#)



Angles on a straight line add up to  $180^\circ$



Angles around a point add up to  $360^\circ$

## Online Games

Metric conversions [Metric Units \(transum.org\)](#)

Angles [Angles Alien Attack - Mathsframe](#)

