Key Instant Recall Facts

Parents' Information

KIRF's (Key Instant Recall Facts) are pieces of mathematical knowledge that we want the children to learn off-by-heart or be able to work out very quickly (within 3 seconds).

They are designed to support the development of the mental skills that underpin mathematics. They are particularly useful when calculating, be it adding, subtracting, multiplying or dividing. They will include facts such as number bonds, counting on, back, times tables, equivalence of units of measure, and square numbers.

Each year group is allocated key facts to focus on throughout the year, in line with age related expectations. These should be practised for rapid recall.

Why are they important?

Research shows that:

- Learning key facts 'by heart' enables children to concentrate on the calculation, which helps them to develop calculation strategies.
- Using and applying strategies to work out answers helps children to acquire and so remember more facts.
- Many children who are not able to recall key facts often treat each calculation as a new one and have to return to first principles to work out the answer again.
- Once they have a secure knowledge of some key facts, and by selecting problems carefully, you can help children to appreciate that from the answer to one problem, other answers can be generated.

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 don't need to practise them all at once: perhaps you could have a fact of the day.

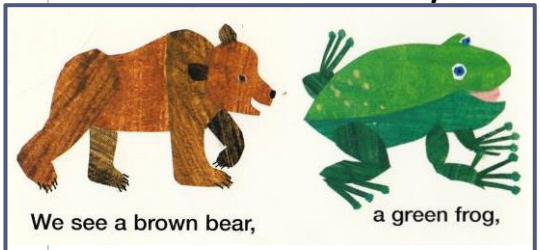
If you would like more ideas, please speak to your child's teacher.

Key Instant Recall Facts

Nursery – Spring 2

I can use size and weight language.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.



Which would be heavier?

Key Vocabulary

Size: tall, taller, big, little, middle size, small, medium, long, short, tiny, large, centimetres, thickest, enormous

Weight: heavy, heavier, light, lightest

Scan the QR code to take you to a comparison game.

Top Tips

The best, and easiest, way to learn this skill is to make it part of your everyday life and activities. For instance, at home you could discuss toys, food etc. or when looking at things out and about you could talk about size/weight of trees, cars, animals etc.

Play games –
Who can make the longest playdough worm?!
Who has the longest piece of spaghetti on their plate, or the biggest crisp in the packet?
Online - Let's Compare - Early Years Size Comparison Game (topmarks.co.uk)

Get outside –
Find as many sticks as you can and order them in size from biggest to smallest.
Compare the sizes of pebbles on the beach – can they balance a stack of pebbles with the biggest on the bottom?

Get practical – Using Lego or other blocks, make different height towers or different length lines and talk about them.
When packing the shopping you could ask which items are heavier, lighter etc.

Read (or watch) stories and nursery rhymes –
Big and Small Song | Nursery Rhymes | Original Song by LittleBabyBum! – YouTube
Long or Short - Math Song l Nursery Rhymes & Kids Songs – YouTube
Heavy or Light - Math Song l Nursery Rhymes & Kids Songs - YouTube

Key Instant Recall Facts

Reception – Spring 2

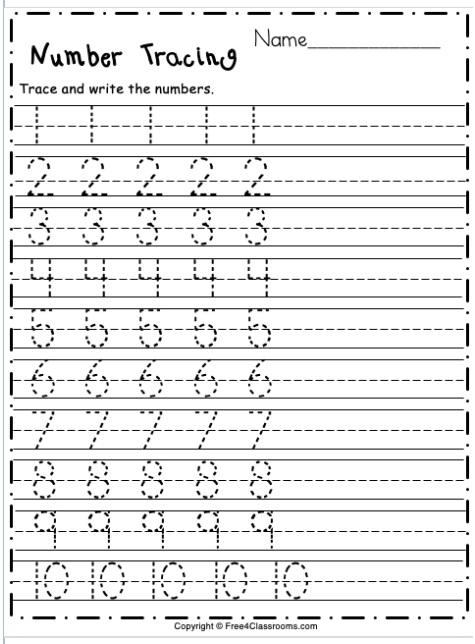
I know how to write numbers to 10.

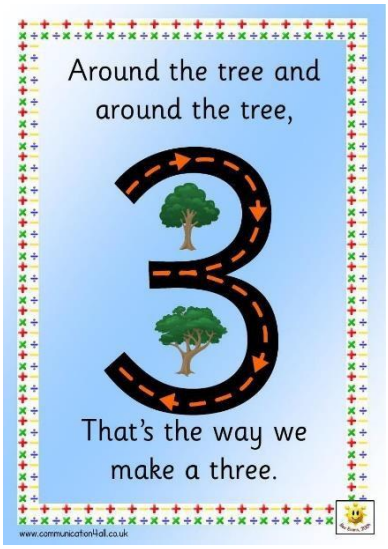
By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Key Vocabulary

Trace

Copy





Top Tips

Sing songs - Writing Numbers | Number Songs | PINKFONG Songs for Children – YouTube

Trace numbers - Free Number Tracing 1 to 10 For Pre-k and Kindergarten - Free4Classrooms

Use poems and rhymes with visuals - Number Formation Rhyme Cards (communication4all.co.uk)

Get messy – rather than just using a pencil, get children to practise forming numbers in the air, in a plate of shaving cream, paint, muddy puddle, etc.!

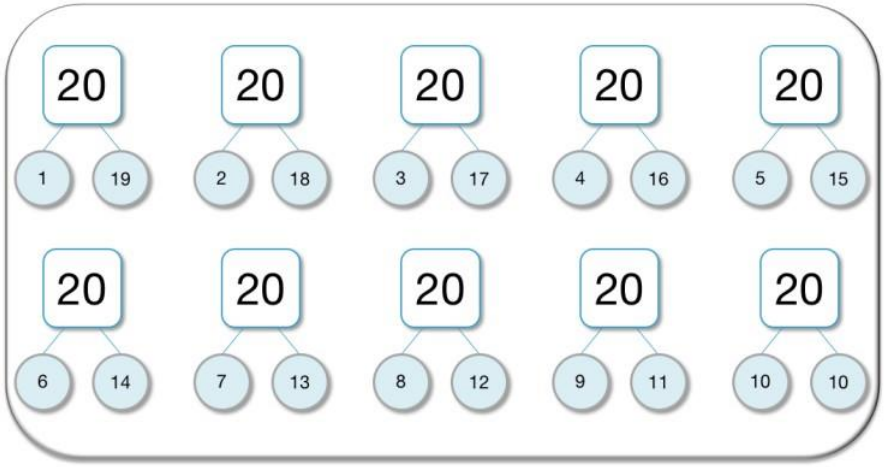
Key Instant Recall Facts

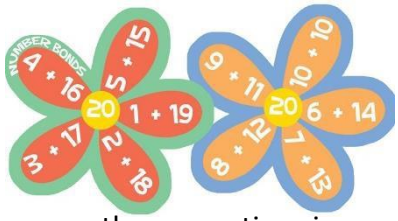
Year 1 – Spring 2

I know all the number bonds to 20.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

0 + 20 = 20	20 + 0 = 20
1 + 19 = 20	19 + 1 = 20
2 + 18 = 20	18 + 2 = 20
3 + 17 = 20	17 + 3 = 20
4 + 16 = 20	16 + 4 = 20
5 + 15 = 20	15 + 5 = 20
6 + 14 = 20	14 + 6 = 20
7 + 13 = 20	13 + 7 = 20
8 + 12 = 20	12 + 8 = 20
9 + 11 = 20	11 + 9 = 20
10 + 10 = 20	





Key Vocabulary

What do I **add** to 5 to make 20?

How many more than 16 is 20?

They should be able to answer these questions in any order, including missing number questions e.g. 19 + ◯ = 20 or 20 – ◯ = 8.

Top Tips

Use what you already know – Use number bonds to 10 (e.g. 7 + 3 = 10) to work out related number bonds to 20 (e.g. 17 + 3 = 20).

Use practical resources – Make collections of 20 objects. Ask questions such as, "How many more conkers would I need to make 20?"

Play games – Play online games to practise recall Number Bonds 20 | Math Playground
Number Bonds Game (mental-arithmetic.co.uk)
Check out BBC Bitesize for tutorials, games and songs. Number bonds to 10 and 20 - Year 2 - P3 - Maths - Learning with BBC Bitesize - BBC Bitesize

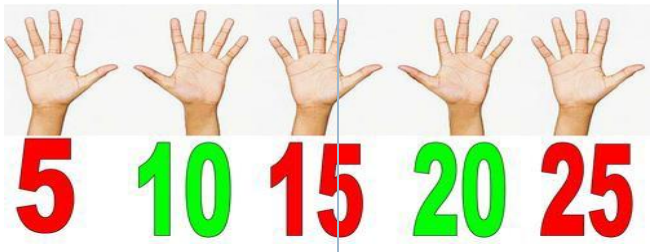
Key Instant Recall Facts

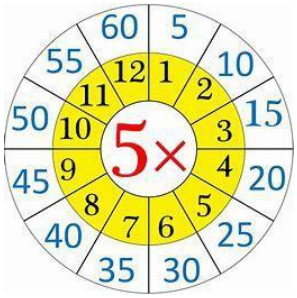
Year 2 – Spring 2

I know multiplication and division facts for the 5 times table.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

5 × 1 = 5	5 ÷ 5 = 1
5 × 2 = 10	10 ÷ 5 = 2
5 × 3 = 15	15 ÷ 5 = 3
5 × 4 = 20	20 ÷ 5 = 4
5 × 5 = 25	25 ÷ 5 = 5
5 × 6 = 30	30 ÷ 5 = 6
5 × 7 = 35	35 ÷ 5 = 7
5 × 8 = 40	40 ÷ 5 = 8
5 × 9 = 45	45 ÷ 5 = 9
5 × 10 = 50	50 ÷ 5 = 10
5 × 11 = 55	55 ÷ 5 = 11
5 × 12 = 60	60 ÷ 5 = 12





Key Vocabulary

What is 5 **multiplied by** 7?

What is 5 **times** 9?

What is 60 **divided by** 5?

They should be able to answer these questions in any order, including missing number questions e.g. 5 × ◯ = 40 or ◯ ÷ 5 = 9.

Top Tips

Songs, Dances and Chants – You can find many multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.
KS1 Maths: The 5 Times Table - BBC Teach

Spot patterns – What patterns can your child spot in the 5 times table? Are there any similarities with the 10 times table?

Test the Parent – Your child can make up their own tricky division questions for you e.g. *What is 45 divided by 5?* They need to be able to multiply to create these questions.

Play games – Create doublesided flashcards, play snap or pairs where they have to match the question to the answer.
Play online games on the go or at home Times Tables Games for 6 to 7 year olds (topmarks.co.uk)

Key Instant Recall Facts

Year 3 – Spring 2

I know facts about duration of time.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

There are 60 seconds in a minute.
There are 60 minutes in an hour.
There are 24 hours in a day.
There are 7 days in a week.
There are 12 months in a year.
There are 365 days in a year.
There are 366 days in a leap year.

Number of days in each month

January	31	July	31
February	28/29	August	31
March	31	September	30
April	30	October	31
May	31	November	30
June	30	December	31

Children also need to know the order of the months in a year. They should be able to apply these facts to answer questions, such as:

What day comes after 30th April?

What day comes before 1st February?

Top Tips

Use rhymes and memory games– The rhyme, *Thirty days hath September*, can help children remember which months have 30 days. There are poems describing the months of the year in order. 30 Days Has September | learn or teach Days in the months song | the calendar song - YouTube
Days In The Month Rap | Helpful Calendar Song for Kids | Jack Hartmann - YouTube

Use calendars – If you have a calendar for the new year, your child could be responsible for recording the birthdays of friends and family members in it. Your child could even make their own calendar.

Online tutorials, songs and games - Relating Units of Time – YouTube
Time: "Seconds, Minutes and Hours" by StoryBots | Netflix Jr - YouTube

Create sets of cards/flashcards– Create double sided flashcards with the months and number of days, or equivalent units of time e.g. '1min' on one side and '60secs' on the other. Shout out one side and see if they can respond with the other.
Use multiple cards to play 'snap' or 'pairs'.

Key Instant Recall Facts

Year 4 – Spring 2

I know pairs of multiples of 50 that total 1000.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

50 + 950 = 1000	1000 - 50 = 950
100 + 900 = 1000	1000 - 100 = 900
150 + 850 = 1000	1000 - 150 = 850
200 + 800 = 1000	1000 - 200 = 800
250 + 750 = 1000	1000 - 250 = 750
300 + 700 = 1000	1000 - 300 = 700
350 + 650 = 1000	1000 - 350 = 650
400 + 600 = 1000	1000 - 400 = 600
450 + 550 = 1000	1000 - 450 = 550
500 + 500 = 1000	1000 - 500 = 500

Key Vocabulary

What is 150 **add** 850?

What does 350 **plus** 650 equal?

What is 1000 **subtract** 300?

What is the **difference between** 1000 and 450?

They should be able to answer these questions in any order, including missing number questions e.g. 750 + ◯ = 1000 or ◯ - 550 = 450.

Top Tips

Buy one get three free – If your child knows one fact (e.g. 50 + 950 = 1000), can they tell you the other three facts in the same fact family?

Practise counting in multiples of 50 first, up to 1000.

Get creative – make a poster displaying all the pairs of multiples of 50 that total 1000. Or make some double-sided flashcards (children can self check their answer by turning it over).

Watch tutorials – An online lesson, using Base 10 can be found here Lesson 85: Pairs of multiples of 50 with a total of 1000 - Teleskola

Play games - Play number ping pong! Start off saying 'ping', child replies with 'pong'. Repeat and then convert to numbers i.e. say '350' and they reply '650'.

Key Instant Recall Facts

Year 5 – Spring 2

I know decimal complements to one whole and 10 – with decimals to one decimal place.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Some examples:

0.6 + 0.4 = 1	3.7 + 6.3 = 10
0.4 + 0.6 = 1	6.3 + 3.7 = 10
1 – 0.4 = 0.6	10 – 6.3 = 3.7
1– 0.6 = 0.4	10 – 3.7 = 6.3
0.75 + 0.25 = 1	4.8 + 5.2 = 10
0.25 + 0.75 = 1	5.2 + 4.8 = 10
1 – 0.25 = 0.75	10 – 5.2 = 4.8
1 – 0.75 = 0.25	10 – 4.8 = 5.2

Key Vocabulary

What do I **add** to 0.8 to make 1?

What is 1 **take away** 0.06?

What is 1.3 **less than** 10?

How many more than 9.8 is 10?

What is the **difference** between 0.92 and 10?

This list includes some examples of facts that children should know – children will need to explore all of the complements to one whole and 10. They should be able to answer questions including missing number questions e.g. 0.49 + ◯ = 10 or 7.2 + ◯ = 10.

Top Tips

Buy one get three free - If your child knows one fact (e.g. 0.8 + 0.2 = 1), can they tell you the other three facts in the same fact family?

Use number bonds to 10 – Use your number bonds to 10 to help with the tenths in these decimals

Play games – Hit the button on Topmarks – select 'number bonds', then choose 'make 1' or 'make 10' with 1 decimal place. Hit the Button - Quick fire maths practise for 6-11 year olds (topmarks.co.uk)

Offline, play number ping pong! Start off saying 'ping', child replies with 'pong'. Repeat and then convert to numbers i.e. say '0.3' and they reply '0.7' (decimal bonds for 1)

Practise different question types – different worksheets of questions can be found online Decimal Number Bonds to 1 Worksheets (math-salamanders.com)

Key Instant Recall Facts

Year 6 – Spring 2

I know divisibility tests for numbers up to 10.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Divisibility Rules			
A number is divisible by. . .		**Divisible**	**Not Divisible**
2	if the last digit is even (0, 2, 4, 6, or 8).	3,978	4,975
3	if the sum of the digits is divisible by 3.	315	139
4	if the last two digits form a number divisible by 4.	8,512	7,518
5	if the last digit is 0 or 5.	14,975	10,978
6	if the number is divisible by both 2 and 3	48	20
9	if the sum of the digits is divisible by 9.	711	93
10	if the last digit is 0.	15,990	10,536

Key Vocabulary

Divisible (shares equally)

Digit (any numeral 0-9)

Sum (add together)

Is 493 **divisible** by 3?

Is 670 a **multiple** of 9?

2 THANK	**3** YOU	**4** ALL
5 FOR	**6** HAVING	**7** NOT YOU
8 EASY	**9** DIVISIBILITY	**10** RULES

Top Tips

Get Creative – make a poster of the divisibility rules to stick on your wall or fridge – somewhere that you pass regularly. Read it aloud each time you walk past.

Listen to songs –
Divisibility rules song – YouTube
Math Rocks! Rules for Divisibility – YouTube

Practice applying the rules – play a game online:
Math in the Middle (execute-api.us-east-1.amazonaws.com)
Print out a board game: is-that-divisible-game.pdf (metcalfe.k12.ky.us)