Key Instant Recall Facts

This half term your child is working towards achieving knowledge of KIRFs, indicated below.
The ultimate aim is for your child to be able to recall these facts instantly!

Know all number bonds for each number to 20 Green	Know all number bonds to 100 Blue	Know all decimals that total 1 or 10 (1 decimal place) Purple	Know all previous number bonds including decimals Lilac	Know the two place decimal complements of 1

Example of number bonds to 100:
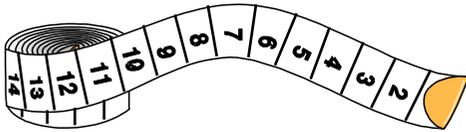
I have a metre of string. I use 67cm to wrap my parcel.
How much string is left?

33cm are left!

Well done, that was quick!

All decimal bonds to 1:

0.1	+	0.9	= 1
0.2	+	0.8	= 1
0.3	+	0.7	= 1
0.4	+	0.6	= 1
0.5	+	0.5	= 1
0.6	+	0.4	= 1
0.7	+	0.3	= 1
0.8	+	0.2	= 1
0.9	+	0.1	= 1
1.0	+	0.0	= 1

Example of decimal bonds to 10:

6.2 + 3.8 = 10; 6.2 + 3.8 = 10 so
10 - 6.2 = 3.8; 10 - 3.8 = 6.2

4.9 + 5.1 = 10; 5.1 + 4.9 = 10 so
10 - 4.9 = 5.1; 10 - 5.1 = 4.9

Helpful hints for parents

- *Create regular, short opportunities for rapid fire questions where an instant correct answer is required*
- *Use objects to consider the bonds in a practical way*
- *Look at the patterns with both objects and numbers e.g. as one number increases the other one decreases*
- *Practise with the numbers in order and chosen randomly - remember the aim is for the child to be able to respond immediately*

Key vocabulary

How many more to make?   altogether, make, sum, total, how much more is…than…, …difference between

Make it real!

Jack has £1, he spends 30p. How much change does he get?

70p!
Are you sure?
Yes, the sum of 70p and 30p is
100p - that's £1

A bag of sugar contains 1 kg. If I use 340g how much will I have left?

660 grams!
How do you know?
The difference between 1000 grams and 660g is 340g.

A litre jug is filled with 0.25l of juice. How much more is needed to make a litre?

0.75 of a litre!
How did you work that out?
Because a quarter of a litre plus three quarters of a litre equals 1 whole litre.

Remember - a great place to think about capacity is in the bath!

Make it fun!

Call out!
Play number ping pong!
Start by saying 'ping', child replies with 'pong'.
Repeat and then convert to numbers i.e. say '0.3' and they reply '0.7' (decimal bonds to 1)

What's hidden?
There are 17 beans on this plate, I hide some under a beaker - how many have I hidden? (bonds for *each* number to 20)

Playing cards:
Remove picture cards and the 10s. Play snap treating each card as tenths. When you have a pair which total 1, shout snap and explain why e.g. 0.2 + 0.8 = 1

Dice:
Roll two die treat them as the first as the tens digit and the second as the ones - ask how many more to make 100.

Dominoes:
Pick a domino from a set facing down. Choose one side to represent the whole number and the other side to be the tenth. Ask how much more to make 10.
e.g. picture shows 5.2, so 4.8 more makes 10.

Timed Games:
How well are you doing? How many questions can you answer in 2 minutes. Can you beat your own record?

Key Instant Recall Facts

This half term your child is working towards achieving knowledge of KIRFs, indicated below.
The ultimate aim is for your child to be able to recall these facts instantly!

| Know multiplication and division facts for 5x and 10x tables	Know multiplication and division facts for the 7 and 8x tables	Consolidate multiplication and division facts for all times tables	Use all multiplication and division facts for the times tables up to 10x10, to derive x and ÷ of decimals numbers	Use place value and all multiplication and division facts for the times tables up to 10x10, to derive x and ÷ of small multiples of 10 and 100 (e.g. 30 x 900; 8100 ÷ 9)

How many 10 pence pieces make 50 pence?
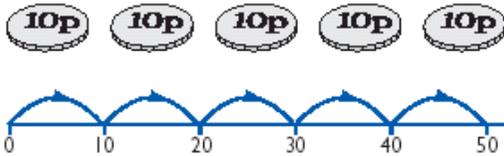
five coins!

Well done, that was quick!

$0 \times 7 = 0$
$1 \times 7 = 7$
$2 \times 7 = 14$
$3 \times 7 = 21$
$4 \times 7 = 28$

So....

$7 \div 7 = 1$
$14 \div 7 = 2$
$21 \div 7 = 3$
$28 \div 7 = 4$

If 36 divided by 4 is 9, £3.60 divided by 4 must be 90 pence!

Helpful hints for parents

- *Create regular opportunities for rapid fire questions where an instant correct answer is required*
- *Encourage children use what they already know, for example the 6x table is double the 3x table!*
- *Chanting tables really does help. Make it fun by adding actions too or singing!*
- *Don't forget to chant those division facts too, they are often much harder to recall.*

Key vocabulary times   multiplied by   lots of   groups of   multiple of   divided by   shared
product   divisible by   factor   square number

Make it real!

A vending machine is broken and only takes 5p coins. How many coins do you need to pay for a bar of chocolate that costs 45p?

9 coins!
How did you work that out?
Well, the product of 9 and 5 is 45.

There are 7 smarties on each bun, if we make 6 buns how many smarties will we need?

42 smarties!
Can you explain why?
7 lots of 6 are 42.

A piece of ribbon measure 56cm in total. 8 cm are needed to make a bow. How many bows can we make?

7 bows!
Can you prove it to me?
Well there are seven, eights in 56.

Encourage children to use doubling to work out their 8x table if they already know their 4x table. Equally if you know your 8x table, then the 0.8x table follows the same pattern!

Make it fun!

Call out!
Play Fizz Buzz. To practice the 5 and 8 times tables together take it in turns to count in ones. If a number is in the 5 x table say 'Fizz' instead of the number. Say 'Buzz' if it's in the 8's and 'Fizz Buzz' if it's in both.

What's hidden?
Use a multiplication square, hide some of the facts. Ask your child what is missing and why?

Playing cards:
Remove picture cards from the pack. Pick a card and treat the number as tenths. State the multiplication and division fact that the child is working on.
e.g. Pick the '8' card
so 7 x 0.8 = 5.6 and 5.6 divided by 7 is 0.8

Dominoes:
Pick a domino, add the number of dots together then multiply by the table they are working on. To extend to all times tables, pick two dominoes to multiply the total number of dots on each together.

Songs and rhymes

There are lots of CDs available with musical tables. Great fun to sing along to on long car journeys!

Timed Games:
How well are you doing? How many questions can you answer in 2 minutes. Can you beat your own record?

Key Instant Recall Facts

This half term your child is working towards achieving knowledge of KIRFs, indicated below.
The ultimate aim is for your child to be able to recall these facts instantly!

Know multiplication and division facts for 2x and 4x table	Know all 2-digit pairs that total 100	Know the doubles and halves of all two-digit numbers	Know doubles and halves of 2-digit decimals	Know the prime numbers within 50

If there are 4 wheels on a skateboard, how many wheels will there be on 4 skateboards?

Double

34 → 68

35 → 70

36 → 72

Halves

84 → 42

85 → 42 ½ or 42.5

86 → 43

Sixteen wheels!

Well done, that was quick!

What is 1/2 of 0.38?

•	3	8

•	3

1/2 of 0.3 =0.15

•	0	8

1/2 of 0.08 = 0.04

So 1/2 of 0.38 must be 0.19!

Helpful hints for parents

- *Create regular opportunities for rapid fire questions where an instant correct answer is required*
- *Encourage children to use what they already know, for example the 6x table is double the 3x table!*
- *When children are confident with doubles ask them to find the corresponding halves*
- *Practise halving at least as often as doubling. This will help children with subtraction at a later date*

Key vocabulary

multiply	product	times by	lots of	share	group	divide	double	near double
twice	2 lots of	2 times	half	halved	divided by 2	shared between 2	group in pairs	

Make it real!

A piece of ribbon measuring 63 cm is cut from a piece which is a metre long. How much ribbon is left?

37cm!
Can you tell me why?
I know 63 and 37 make 100 - there are 100cm in a metre

Two tickets cost £67, how much would one ticket cost?

£33.50
How do you know?
I know because half of 60 is 30 and half of 7 is 3.5

The swimming pool is 3.7km away. How far will we travel there and back?

7.4km
Can you explain?
Well, double 3 is 6 and double 0.7 is 1.4 which makes 7.4 altogether

If children are finding decimals tricky relating questions to money makes it much easier to understand.

Make it fun!

Call out!
Play number ping pong!
Start of saying 'ping', child replies with 'pong'.
Repeat and then convert to numbers i.e. say 3.9' and they reply '7.8' (double 2 digit decimal) Or say, '7.8' and they say '3.9'

Money:
Show children a set of coins, children work out the value of the coins and say how much more is needed to make a pound.

Playing cards:
Remove picture cards from the pack. Pick a card, state the multiplication and division fact that the child is working on.
e.g. Pick the '8' card
so 4 x 8 = 32 and 32 divided by4 is 8

Dominoes:
Pick a domino
This domino could represent 0.52 or 5.2 or 52. Use any of these numbers to double or halve

Songs and rhymes
As well as commercial CDs children enjoy inventing their own clapping games and chants linked to the times tables

Timed Games:
How well are you doing? How many questions can you answer in 2 minutes. Can you beat your own record?

Key Instant Recall Facts

This half term your child is working towards achieving knowledge of KIRFs, indicated below.
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Know doubles and halves of: **All whole numbers to 20** **All multiples of 10 to 500** **All multiples of 100 to 5000**	Know doubles and halves of: All whole numbers to 50 All multiples of 5 to 1000 All multiples of 50 to 5000	Know doubles and halves of: All whole numbers to 100 All multiples of 10 to 1000 All multiples of 100 to 10,000	**Know the doubles and halves of all multiples of 10 to 10000**	**Know the doubles and halves of all multiples of 1000 to 100000**

If there are 18 pencils in a pack, how many pencils will there be in 2 packs?

36 pencils!

Well done, that was quick!

Example of doubles and halves of multiples of 5 to 1000:

Doubles:
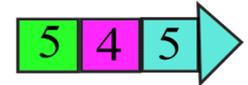25 → 50, so
250 → 500
37 → 74, so
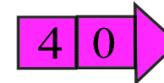370 → 740
Halves:
70 → 35, so
700 → 350
43 → 21.5, so
430 → 215

What is half of 545?

5 4 5

5 0 0   1/2 of 500 = 250

4 0   1/2 of 40 = 20

5   1/2 of 5 = $2\frac{1}{2}$

So half of 545 must be $272\frac{1}{2}$ or 272.5

Helpful hints for parents

- When children are confident with doubles ask them to find the corresponding halves
- Practise halving at least as often as doubling. This will help children with subtraction at a later date
- Children will often find numbers such as 35 harder to halve, so practise halving these numbers more often, encourage your child to give the answer using a fraction (17 $\frac{1}{2}$) and/or a decimal (17.5)

Key vocabulary

Double   near double   twice   2 lots of   2 times   half   halved   divided by 2   shared between 2
group in pairs

Make it real!

In a sponsored swim, Paul swam 75 lengths of the pool, his sister swam twice as far. How many lengths did she swim?

150 lengths
Can you tell me why?
Because double 75 is 150.

If two children have £27 to share equally between them, how much do they have each?

£13.50 each!
How do you know?
Because half of £20 is £10 and half of £7 is £3.50 which is £13.50 altogether!

Jenny walks 1250 metres to school each day, she meets Kate half way; how far does Kate walk?

625 metres!
Tell me how you worked it out.
Well, I know that half of 1200 metres is 600 metres
and half of 50 metres is 25 metres.

Encourage children to partition the numbers when doubling and halving 2- or 3-digit numbers e.g. 1/2 of 240 is 1/2 of 200 and then 1/2 of 40

Make it fun!

Call out!
Play number ping pong!
Start of saying 'ping', child replies with 'pong'.
Repeat and then convert to numbers i.e. say '12' and they reply '24' (doubles to 20) Or say, '36' and they say '18'

Playing cards:
Pick 3 cards, the first one to represent the thousands, the second one to represent the hundreds and the third one to represent the tens, so that your number is always a multiple of 10. How quickly can you double AND halve this number? E.g. Cards show 8150

Playing darts
Use a magnetic dartboard. Create a game involving doubling and halving. To extend, change the numbers to multiples of 10 e.g. 13 becomes 130

Top Trump Cards:
Pick a Top Trump card. Choose any category and see how quickly you can halve AND double this number.

Challenge;
Choose any even 4 digit number, halve it:
if the answer is even halve again, if it's odd add 1 then halve again. How far can you go?

Timed Games:
How well are you doing? How many questions can you answer in 2 minutes. Can you beat your own record?

Key Instant Recall Facts

This half term your child is working towards achieving knowledge of KIRFs, indicated below.
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Know all addition and subtraction facts for: Multiples of 100 to 1000 Multiples of 5 with a total of 100 Number pairs that total 100	Know all pairs of multiples of 50 with a total of 1000	Know all pairs of factors of numbers up to 100	Know the tests for divisibility for 4 and 6	Know the decimal and percentage equivalents of the fractions ½, ¼, ¾, ⅓, ⅔, tenths and fifths

Example of addition and subtraction facts for multiples of 100 to 1000:

If I have 700 ml of orange juice and I pour 300ml into a glass how much is left in the jug?

400ml are left!

Well done, that was quick!

Factors of 24

1 X 24

4 X 6   24   3 X 8

2 X 12

so there are 8 factors of 24....
1,2,3,4,6,8,12,24

RULE: A whole number is divisible by 4 if the last two digits are divisible by 4.
Let's try ...
2437 ... no, because 37 isn't divisible by 4
1748... yes, because 48 is divisible by 4

RULE: A whole number is divisible by 6 if it is even and is also divisible by 3
REMEMBER!
A whole number is divisible by 3 if the sum of its digits is divisible by 3
Let's try...
8431 ... no because it's odd
5462 ...no because the digits total 17 (5+4+6+2)
7314 ...yes because 7+3+1+4= 15, which is divisible by 3

Helpful hints for parents

- *List pairs of numbers*
- *Jot the opposite statements alongside e.g. 850 + 150   150 + 850*
- *Practise with the numbers in order and chosen randomly - remember the aim is for the child to be able to respond immediately.*

Key vocabulary

How many more to make..?, altogether, make, sum, total, how much more is…than…, …difference between Divisible by, factor, shared, divided by, groups of

Make it real!

A packet of popcorn cost 74p. How much change will I have from a pound?

26p!
Why?
The difference between 74 and 100 is 26.

Dad measures 350g of sugar from a kilogram bag of sugar to bake a cake. How much sugar is left in the bag?

650g!
How do you know?
Because 350 and 650 total 1000.

A farmer has 126 eggs and puts them into boxes of 6. Will there be any eggs left over?

No!
Are you sure?
Yes, because it is even and the sum of the digits is in the three times table

A baker cooks a batch of 245 muffins and puts them into packs of 4. Will there be any left on the tray?

Yes!
Can you explain?
45 is not divisible by 4, so neither is 245

Make it fun!

Call out!
Play number ping pong! Start of saying 'ping', child replies with 'pong'.
Repeat and then convert to numbers i.e. say '73' and they reply '27' (number pairs that total 100) or' 550' and they reply '450'.

What's hidden?
Have a bag of twenty 5p pieces - child can select a random number and quickly call out the change from a pound which is hidden in the bag.

Cards:
Make cards with multiples of 50 on them (e.g. 50, 100, 150 etc)
•child can select one at random a quickly calls out how many more are needed to make 1000
•ask children to sort them into pairs that total 1000 - how quickly can they do it? Can they beat their last time?

Dice:
Roll a dice and generate a two-digit, three-digit or four-digit number. Children discuss whether the number is divisible by 4 or 6.

Timed Games:
How well are you doing? How many questions can you answer in 2 minutes. Can you beat your own record?

Key Instant Recall Facts

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| Know all multiplication and division facts for 3x, 6x and 9x table	Know all multiplication and division facts for all tables up to 10 x 10	Know the tests for divisibility for 2,3,5,9 and 10	Know square numbers to 12 x 12	Know the square roots of square numbers to 15 x 15

If you can cut a cake into 6 slices, how many cakes would you need to buy if there were 18 people coming to the party?

3 cakes!

Well done, that was quick!

7 X 3 = 21

3 X 7 = 21

21 ÷ 7 = 3

21 ÷ 3 = 7
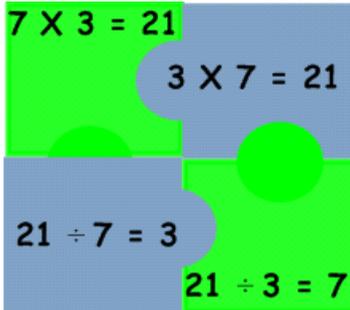
Remember,
when you know 1 fact,
you also know 3 more!

RULE: A whole number is divisible by 2 if the last digit is 0, 2, 4 6 or 8.

RULE: A whole number is divisible by 3 if the sum of its digits is divisible by 3
Let's try!
7314 ...yes because 7+3+1+4= 15, which is divisible by 3

RULE: A whole number is divisible by 5 if the last digit is 0 or 5

RULE: A whole number is divisible by 9 if the sum of its digits is divisible by 9
Let's try ...
437 ... no, because 4 + 3 + 7 = 14 which isn't divisible by 9
738... yes, because 7 + 3 + 8 = 18 which is divisible by 9

RULE: A whole number is divisible by 10 if the last digit is 0

Helpful hints for parents

- *Encourage children to use doubling to link tables such as 2s, 4s, and 8s*
- *Look for patterns in the tables, for example in the 9 times table the digit sum is always 9!*
- *Chanting tables really does help. Make it fun by adding actions too or singing!*
- *Don't forget to chant those division facts too, they are often much harder to recall*

Key vocabulary   times   multiplied by   lots of   groups of   multiple of   divided by   shared   product   divisible by   factor   square number   quotient

Make it real!

A back yard is 8 metres long and 4 metres wide. What is the total area?

32 metres squared!
How do you know?
Because 4 multiplied by 8 is 32.

A recipe for a cake requires three tablespoons of honey. If I make 6 cakes for a school fete, how many tablespoons will I need?

18 tablespoons!
Why?
The product of 3 and 6 is 18.

We go on holiday in 7 weeks time. How many days are left until we go? How many school days are left?

49 days and 35 school days!
Why?
There are 7 days in a week so 7 times 7 is 49.
We only go to school for 5 days, so five seven's are 35.

Remember to work out a tricky multiplucation use what you already know! So to work out 6 x 8:
"we might know 6 x 4 = 24 and then double it to make 48"

Make it fun!

Call out!
Play 'Beat the calculator'. One person works out the answer to a multiplication or division question (similar to those above) with a calculator and one person works them out in their head. Who is the quicker?

Dice?
Roll a dice and generate a two-digit, three-digit or four-digit number. Children discuss whether the number
is divisible by 2, 3, 5, 9 or 10.

Playing cards:
Remove picture cards from the pack. Pick a card and state the multiplication and division fact that the child is working on.
eg Pick the '9' card; so 9 x 7 = 63 and 63 divided by 7 = 9

Dominoes:
To practice the 8 times table, for example, pick a domino and add the dots. The child multiplies the total by 8. The child should also give the associated division fact.

Songs and rhymes
There are lots of CDs available with musical tables. Great fun to sing along to on long car journeys!

Timed Games:
How well are you doing? How many questions can you answer in 2 minutes. Can you beat your own record?