

SMIRF'S
Space Mission Instant
Recall Facts

Information for parents
Years 1 -4

October 2018



Instant Recall Mission

Instant recall is a key part of learning mathematics. It gives children a bank of knowledge from which they can draw to help them when working with maths in a range of situations.

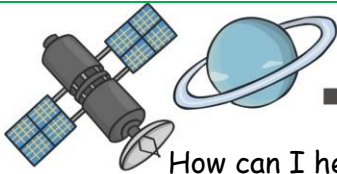
What are SMIRF's?

Our SMIRF'S are an 11 stage instant recall system which have between 6 and 9 targets within each stage. The targets are all aspects that should be being taught regularly in school anyway so do not form new content. The system is about a rigorous and systematic approach to making sure that ALL children have good instant recall. The stages are not linked to year groups as the progression is about building each child's instant recall at their pace.

The stages are as follows ...

1. Astronaut Selection
2. Launch Pad
3. Mercury
4. Venus
5. Earth
6. Mars
7. Jupiter
8. Saturn
9. Uranus
10. Neptune
11. The Milky Way

After initial assessment, each child is started on the system at an appropriate stage. They have their own record and work through the system at their own pace. They do not move onto the next stage until they have completed all of the targets within each stage. Your child will be tested on their target regularly.



How can I help my child with their SMIRF's?

There are lots of fun ways to help your child to a fast recall level.



Games



There are lots of different games you can play to help your child practise their target. Dice, dominoes and playing cards can be used in a variety of ways to create simple games.

For example ...



Dice

'Know all multiplication and division facts for 2 up to 12x2' (Venus)

Roll two die. Add them together then multiply by two. Now can you work out the division fact?



Dominoes

'Knows number bonds to 10' (Astronaut Selection)

Pick up a domino. Choose one side. Can you find another domino to make a pair which makes ten?



Playing cards

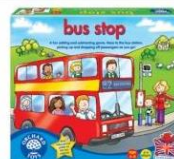
'Knows by heart all multiplication and division facts up to 12x12' (Mercury)

Remove the picture cards. Choose a number card and multiply it by the fact your child is working on.

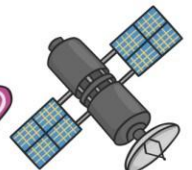
Eg.  $\times 8 = 56$

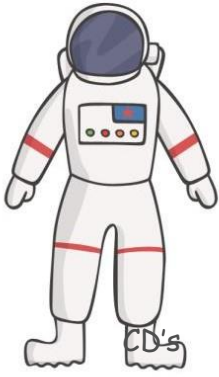
$56 \div$  $= 8$

For younger children, Orchard Toys have produced some fantastic maths games which each have a specific focus stated on the box.



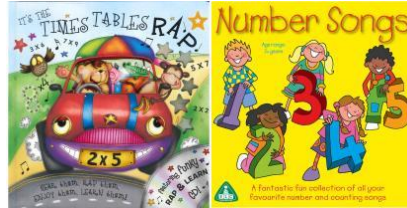
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Songs

Singing is a fantastic way to help things stick. There are lots of available, covering a wide variety of maths topics.



Technology

There are many fantastic opportunities to use technology to help our children learn. Below is a list of apps and websites which you may find useful.

Apps

Doodle Maths	Eggs on Legs
Little Digits	Number Run
Pop Maths	Squeebles
Sumdog	

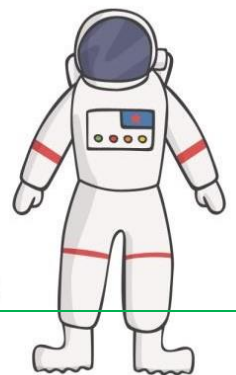
Websites

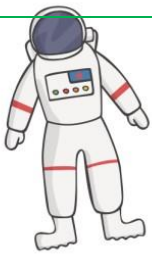
Sumdog - We use Sumdog in school to reinforce maths learning in a fun and exciting way. It is a fantastic motivational tool from which children can really grow in confidence. www.sumdog.com

ICT games - ICT games is a collection of games all linked to areas of maths. We do use this site in school but there are so many fantastic games on here to play. www.ictgames.com

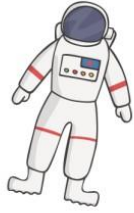
Woodlands Junior School, Kent - This is a fantastic site which has some amazing resources for each area in maths. They can be used for SMIRF's practise but also for reinforcing learning in school.

<http://www.primaryhomeworkhelp.co.uk/maths/>





SMIRF's Progression



1. Astronaut selection

Recites numbers in order to 10

Recognises numerals 1 to 5

Counts up to three or four objects by saying one number name for each of them

Counts out up to six objects from a larger group

Selects the correct number to represent 1 to 5

Selects the correct number to represent 1 to 10

Counts objects to 10

Count beyond 10

2. Launch Pad

Say the numbers 0-20 accurately

Read the numbers 1 to 20 in numerals

Say 1 more than any number between 0-20

Say 1 less than any number between 0-20

Say 1 more and 1 less than any two digit number

To count in twos 2, 4, 6, 8, 10...

To count in fives 5, 10, 15, 20, 25, 30, 35...

To count in tens 10, 20, 30, 40, 50, 60, 70...

3. Mercury

Know by heart all number bonds to 10, so $2 + 8$, $1 + 9$, $5 + 5$ etc

Know the days of the week, months of the year and seasons

To know by heart all addition and subtraction facts for each number up to 5, so $5 + 0$, $3 - 2$, $1 + 4$ etc

Recall the doubles of all numbers to 10, so double 6 = 12, double 9 = 18 etc

Know by heart all number bonds that total 20

Know by heart all addition and subtraction facts for each number up to 10

4. Venus

Know by heart all bonds of multiples of 10 to 100

Know by heart doubles and halves of all numbers to 20

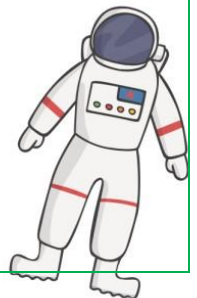
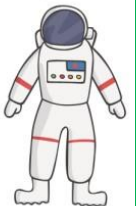
Count in tens from any number, forward or backward

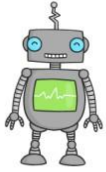
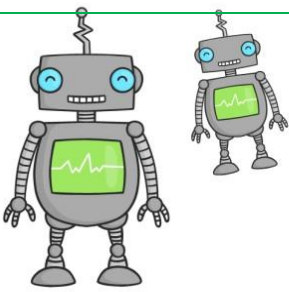
Know by heart addition and subtraction facts for each number up to 20

Know by heart all multiplication facts, and division facts, for 2, up to 2×12

Know by heart all multiplication facts, and division facts, for 5, up to 5×12

Know by heart all multiplication facts, and division facts, for 10, up to 10×12





5. Earth

Know by heart all sums and differences of multiples of 10 up to 100

Know by heart all number bonds that total 100

Know by heart all doubles of multiples of 5 up to 100 so double 35, double 75

Know by heart all doubles of multiples of 10 up to 100 so double 60, double 30

Know by heart all halves of all multiples of 10 up to 100 so halve 70, halve 40

Know by heart all multiplication facts, and division facts, for 3, up to 3×12

Know by heart all multiplication facts, and division facts, for 6, up to 6×12

Know by heart all multiplication facts, and division facts, for 4, up to 4×12

6. Mars

Know the number of seconds in a minute, minutes in an hour and hours in a day

Know the number of days in a week, month and year, including leap years

Know the number of g in kg, ml in l, mm in cm, cm in m and m in km

Count from zero in steps of 4

Count from zero in steps of 8

Count from zero in steps of 50

Count from zero in steps of 100

7. Jupiter

Recognise multiples of 2, 5, 10 up to 1000

Double any 2 digit number so double 38, double 43, double 97

Halve any 2 digit number so halve 36, halve 67, halve 72

Know by heart all multiplication facts for 7, up to 7×12

Know by heart all division facts, for 7, up to 7×12

Know by heart all multiplication facts for 8, up to 8×12

Know by heart all division facts for 8 up to 8×12

Know by heart all multiplication facts for 9, up to 9×12

Know by heart all division facts, for 9, up to 9×12

8. Saturn

Count from any number in steps of 6

Count from any number in steps of 7

Count from any number in steps of 9

Count from zero in steps of 25

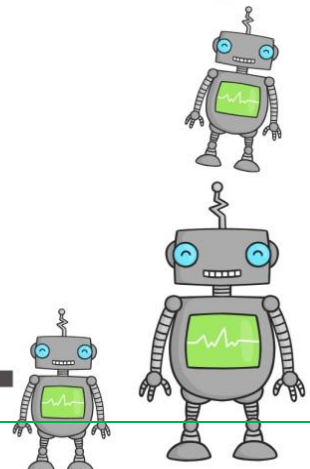
Count from zero in steps of 1000

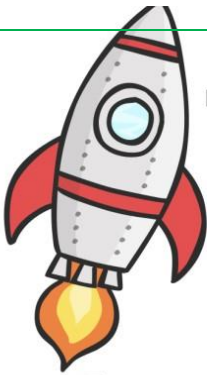
Know by heart all multiplication facts for 11, up to 11×12

Know by heart all division facts for 11 up to 11×12

Know by heart all multiplication facts for 12, up to 12×12

Know by heart all division facts, for 12, up to 12×12





9. Uranus

Use knowledge of time facts to write equivalent times to multiples of $\frac{1}{4}$ of a unit e.g. 2.5 hours = 2 hours 30 mins, 180 seconds = 3 minutes, $5\frac{1}{4}$ hours = 5 hours 15 mins

Use knowledge of mass and weight facts to write equivalent measures e.g. $3.75\text{kg} = 3750\text{g}$, $5678\text{g} = 5.678\text{kg}$

Use knowledge of volume and capacity facts to write equivalent measures e.g. $7.45\text{l} = 7450\text{ml}$, $3278\text{ml} = 3.278\text{l}$

Use knowledge of length facts to write equivalent measures e.g. $5.2\text{km} = 5200\text{m}$, $22\text{mm} = 2.2\text{cm}$

Count up and down in tenths from any given number

Know by heart 1 tenth more of any given number

Know by heart 1 tenth less than any given number

10. Neptune

Add and subtract 2 fractions with the same denominator within one whole

Add and subtract 2 fractions with the same denominator

Starting at any given number count forwards and backwards in steps of any number, including through zero to include negative numbers

Double any number with up to 1 decimal place

Halve any number with up to 1 decimal place

Recall quickly multiplication facts up to 12×12 and use them to multiply pairs of multiples of 10 and 100, for example 30×70 , 40×200

Recall quickly division facts of all tables up to 12×12 and use them to divide pairs of multiples of 10 and 100, for example $240 \div 40 = 60$

11. The Milky Way

Identify pairs of factors for all 2 digit whole numbers

Know by heart all the squares of numbers up to 12×12

Know by heart all the cubes numbers up to 12^3

Recognise and recall factors of numbers up to 100 and corresponding multiples of 100

Use knowledge of place value and \times facts to 12×12 to derive related multiplication and division facts involving decimals... $0.6 \times 8 = 4.8$

Know by heart tests of divisibility for multiples of 2, 3, 4, 5, 6, 9 and 10

