# Mental Agility
# Securing Skills in Second Level

## Learning at Home Guide
Support your child in mental agility

<u>About this booklet</u>

This booklet is designed to help you to support your child in learning vital number skills.
Some children may find this trickier than others, while others may need to be challenged by using larger numbers.
In order to be secure at Second Level (by the end of P7 for most pupils or earlier for some) regular practice in mental agility is required. Please see suggested activities and websites at the end of this booklet.

**<u>Mental Agility Skills</u>**

Numbers

- Recognise numbers up to 1,000,000 (using a number line, writing numbers)
- Recognise and know numbers with decimals
- Identify fractions and mixed numbers
- Show how a number changes depending on its placing/ place value (eg the value of the 4 in 5416 is 4 hundreds)
- Split a number into parts (eg 923 = 900 + 20 + 3)
- Sequence numbers including negative numbers (eg -2, -1, 0, 1, 2)
- Estimate where a number falls on an empty number line, in-cluding decimals (e.g. estimate where 2.65 goes on an empty number line starting at 2 and ending at 3)
- Placing both positive and negative numbers on a number line, using real-life examples where possible (eg the temperature was -4 degrees)
- Rounding numbers to 1 decimal place

Counting

- Counting forwards & backwards in multiples of the times tables (count up in 7s, 8s, 9s)
- Count forwards & backwards in whole numbers and decimal tenths (e.g. 2.3, 2.4, 2.5, 2.6...)
- Count forwards & backwards in multiple tenths (e.g. 0.2, 0.4, 0.6...)
- Count forwards and backwards in simple fractional steps eg. Halves, quarters

Addition and Subtraction

- Add and subtract 2 and 3 digit numbers using written and mental methods.
- Add and subtract multiples of 10 and 100
- Identify number partners, including decimals (eg what goes with 0.3 to make 1)
- Add and subtract simple decimals (eg 2.7 – 1.2)
- Add and subtract money to £20
- Simple additions involving negative numbers
- Add & subtract simple fractions e.g. $\frac{1}{2} + \frac{1}{4}$

Multiplication and Division

- Count forwards and backwards in multiples beyond the times tables (in preparation for multiples and factors)
- Practice all tables to 10
- Know and use all times table facts and use them to solve appropriate problems
- Multiply and divide whole and decimal numbers by 10 and 100
- Share numbers and discuss remainders (e.g. 10 ÷ 3 = 3 r 1)
- Explore division with a decimal/fraction answer e.g. 7 ÷ 2 = 3.5 or 3 and a half
- Multiply and divide by 10, 100, 1000

- whole numbers (e.g. 73 x 10)
- decimals (e.g. 3.2 x 10)

- Multiply 2 and 3 digit numbers by a single digit

<u>Fractions, Decimals and Percentages</u>

- Find a simple fraction of a number (eg 1/6 of 24)
- Find more complicated fraction of a number e.g. ⅔ of 24
- Find percentages of amounts eg 25% of 80
- Make equivalent fractions for a common fraction (eg ½ = 4/8)
- Simplify common fractions (eg 3/9 = 1/3)
- Compare common fractions, saying which is larger or smaller
- Match fractions, decimals and percentages which are the same (eg ½ = 0.5 = 50%)
- Find percentages of quantities (eg 25% pf £24 = £6)

# Fun Activities to Help at Home

## Card game

Use a pack of playing cards.
Take out the jacks, queens and kings.
Take turns.
Take a card and roll a die.
Multiply the two numbers.
Write down the answer.
Keep a running total.
The first to go over 301 wins!

## Remainders

Draw a 6 x 6 grid like this.
Choose the 7, 8 or 9 times table.
Take turns.
Roll a dice.
Choose a number on the board, e.g. 59.
Divide it by the tables number, e.g. 7.
If the remainder for 59 ÷ 7 is the same as the dice number, you
Can cover the board number with a counter or coin.
The first to get four of their counters in a straight line wins!

## Doubles and trebles

Roll two dice.
Multiply the two numbers to get your score.
Roll one of the dice again. If it is an even number, double your score. If it is an odd number, treble your score.
Keep a running total of your score.

## Four in a line

Draw a 6 x 7 grid.
Fill it with numbers under 100.
Take turns.
Roll three dice, or roll one dice three times.
Use all three numbers to make a number on the grid.
You can add, subtract, multiply or divide the numbers,
e.g. if you roll 3, 4 and 5, you could make 3 x 4 – 5 = 7,
54 ÷ 3 = 18, (4 + 5) x 3 = 27, and so on.
Cover the number you make with a coin or counter.
The first to get four of their counters in a straight line wins.

Left Overs

Take turns to choose a two-digit number less than 80.
Write it down. Now count up to it in eights. What number is left over?
The number left is the number of points you score, e.g.
Choose 46.
Count: 8, 16, 24, 32, 40,
6 left over to get to 46.
So you score 6 points.
The first person to get 15 or more points wins.
Now try the same game counting in sevens, or in nines.

## Useful websites

http://www.sumdog.com/

http://www.topmarks.co.uk/maths-games/7-11-years/mental-maths

http://www.mathplayground.com/

https://corbettmathsprimary.com/

http://www.mathsisfun.com/numbers/math-trainer-multiply.html

https://www.bbc.co.uk/bitesize/subjects/znwqtfr

http://nrich.maths.org/primary

https://mathsbot.com/

https://www.iseemaths.com/early-number/

https://education.gov.scot/parentzone/learning-at-home/supporting-numeracy

| Top Marks Mental Maths Games and QR Codes | | |
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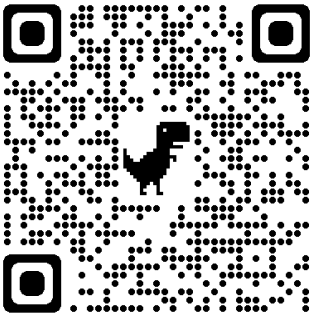
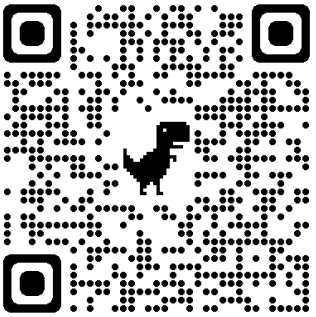
| **Hit the Button** | **Daily 10** | **Mental Maths Train** |
|  |  |  |