



Giffnock Primary School

There is a difference between not knowing and not knowing yet!



Core Numeracy Skills Progression Framework For Parents and Carers

Working hard having fun, that's the way we get things done



Core Numeracy Skills and Strategies

Dear Parents and Carers,

In response to parents' requests for more information to support their children's learning, we have developed this booklet which summarises a range of core numeracy skills. Please note that, of course, our children also learn more widely about mathematics, however this document relates only to the numeracy aspect of their learning.

Core numeracy skills are fundamental to supporting children to be successful learners. This document details core numeracy skills and strategies, for each level, that we aim for every child to master. As children's learning progresses at different rates, some may master certain core skills earlier than others. Many children will achieve Early Level skills by the end of Primary 1, First Level skills by the end of Primary 4 and Second Level skills by the end of Primary 7, however for some this will happen sooner or later than these stages.

We are also developing maths videos that we hope will support our families to learn successfully together. These will cover aspects such as: addition, subtraction, multiplication and division. They can be accessed through our school website.

When supporting your child in developing these skills, please remember to focus on a Growth Mindset. Learning from mistakes and seeing them as part of the process is vital. We ought to praise our children's effort, determination, practise and perseverance.

We hope you find this information helpful in supporting your children's learning and continued success.

Giffnock Primary School

Getting things 'wrong' is just a step nearer towards getting them right



Article 29 -You have the right to education which develops your personality, respect for other's rights and the environment.



Early Level

- ✓ **Count on** when adding up to 10

($8 + 2 = ?$, start with 8 and count on 2)

- ✓ **Reorder** addition calculations to start with the larger number up to 10

($2 + 8 = 10$, so $8 + 2 = 10$)

- ✓ **Count back** when subtracting up to 10

($6 - 3 = ?$, start with 6 and count back 3)

- ✓ Recall **doubles** up to 10

($3 + 3 = 6$, $5 + 5 = 10$)

- ✓ Link addition and subtraction **facts** up to 10

($7 + 3 = 10$, $3 + 7 = 10$) links to ($10 - 7 = 3$, $10 - 3 = 7$)

- ✓ **Rapid recall** of number bonds to 10

($6 + 3 = 9$, $8 + 1 = 9$, $7 - 3 = 4$, $5 - 3 = 2$)

- ✓ **Rapid recall** of two numbers which total 10

($6 + 4 = 10$, $9 + 1 = 10$)

- ✓ **Skip count** in 2

(2, 4, 6, 8, 10)

Mistakes are proof that you are trying





First Level

- ✓ When adding three numbers, **reorder** the calculation to find number bonds we know
(In $7 + 5 + 3$, $7 + 3$ total 10. Reorder to $7 + 3 + 5 = 10 + 5 = 15$)
- ✓ **Round** numbers to the nearest 10
(To round to the nearest 10 look at the units digit. If it is 1-4, round down. If it is 5-9, round up. For example, 13 rounds to 10, 16 rounds to 20)
- ✓ Recall **doubles** up to 20
(For example, $5 + 5$, $7 + 7$, $6 + 6$, etc.)
- ✓ Know to use their knowledge of doubles to calculate **near double** calculations up to 20
(Because $5 + 5 = 10$, $5 + 6 = 11$)
- ✓ Find the difference between two numbers by counting on from the smaller number up to 20
(For $17 - 14$, start at 14 and count on to 17)
- ✓ **Halve** even numbers up to 10
($1/2$ of 4 = 2, $1/2$ of 6 = 3)
- ✓ Partition a number within 100 into tens and units
($56 = 5$ tens and 6 units)
- ✓ **Add 10** to one and two digit numbers
($21 + 10 = 31$)



First Level

- ✓ When adding and subtracting, be able to **bridge** through ten, up to 20
In $7 + 5$, split 5 into 3 and 2, so you can add 3 to 7 to make 10. Then add 2 to make 12.
- ✓ **Rapid recall** of number bonds up to 20
($5 + 7 = 12$, $4 + 12 = 16$ etc.)
- ✓ **Skip count** in 2s, 5s and 10s

(2, 4, 6, 8, 10 / 5, 10, 15, 20, 25...../ 10, 20, 30, 40, 50, 60)
- ✓ **Multiplication facts** for 2, 5 and 10 x multiplication tables

($2 \times 3 = 6$, $5 \times 4 = 20$, $10 \times 7 = 70$)
- ✓ Calculate multiplication calculations through **repeated addition** (5x, 10x)

($5 \times 4 = 5 + 5 + 5 + 5 = 20$)
- ✓ Recall **doubles** up to 30

($12 + 12 = 24$, $14 + 14 = 28$)
- ✓ Know to use their knowledge of doubles to calculate **near doubles** up to 30

(Because $13 + 13 = 26$, $13 + 14 = 27$)
- ✓ **Halve** even numbers up to 20

($1/2$ of 14 = 7, $1/2$ of 18 = 9, $1/2$ of 20 = 10)



First Level

- ✓ **Partition** two numbers up to 100 into tens and units and add/subtract them

$$(43 + 21 = 40 + 3 + 20 + 1 = 64)$$

- ✓ **Add multiples of 10** to one and two digit numbers

$$(54 + 20 = 74)$$

- ✓ **Add 9** to one and two digit numbers by adding 10 and subtracting 1, up to 100

$$(43 + 9 = 43 + 10 - 1 = 52)$$

- ✓ **Subtract 9** from two digit numbers by subtracting ten and adding 1, up to 100

$$(43 - 9 = 43 - 10 + 1 = 34)$$

- ✓ **Add 11** to one and two digit numbers by adding 10 and adding 1, up to 100

$$(43 + 11 = 43 + 10 + 1 = 54)$$

- ✓ **Subtract 11** from two digit numbers by subtracting 10 then subtracting one, up to 100

$$(43 - 11 = 43 - 10 - 1 = 32)$$

- ✓ **Rapid recall** of the 2, 3, 4, 5 and 10 multiplication tables

$$(2 \times 4 = 8, 3 \times 8 = 24, 5 \times 3 = 15, 10 \times 2 = 20)$$



First Level

- ✓ **Rapid recall** of division facts for the 2, 5 and 10 multiplication tables

($20 \div 4 = 5$, $24 \div 8 = 3$, $15 \div 5 = 3$, $20 \div 10 = 2$)

- ✓ Link multiplication and division facts for 2, 5 and 10 multiplication tables

($2 \times 5 = 10$ so $10 \div 5 = 2$)

- ✓ Calculate multiplication calculations through repeated addition (3x, 4x)

($3 \times 4 = 3 + 3 + 3 + 3 = 12$)

- ✓ **Skip count** in 3s and 4s

(3, 6, 9, 12 / 4, 8, 12, 16 ...)

- ✓ **Halve** multiples of 10 up to 100

($1/2$ of 30 = 15, $1/2$ of 50 = 25)

- ✓ **Round** numbers to the nearest 100

(To round to the nearest 100, look at the tens digit. If it is 1 - 4, round down. If it is 5 - 9 round up. For example 123 rounds to 100, 167 rounds to 200)

- ✓ Recall **doubles** up to 50

($22 + 22 = 44$)



First Level

- ✓ Know to use their knowledge of doubles to calculate **near doubles** up to 50
(If $22 + 22 = 44$ then $22 + 23 = 45$)
- ✓ **Double** multiples of 5 up to 100
(Double 20 = 40)
- ✓ **Order/ sequence** 4 digit numbers
(5632, 5634, 5636, 5638)
- ✓ **Partition** a three digit number into hundreds, tens and units
($363 = 300 + 60 + 3$)
- ✓ Partition two numbers within 1000 into hundreds, tens and units and add/subtract them
($234 + 123 = 200 + 30 + 4 + 100 + 20 + 3 = 357$)
- ✓ Try to find a quarter, **halve and halve** again
($1/4$ of 4 is $1/2$ of 4 = 2 then $1/2$ of 2 = 1)



First Level

- ✓ **Rapid recall** of the 2, 3, 4, 5, 6, 7, 8, 9 and 10 multiplication tables

($2 \times 6 = 12$, $3 \times 9 = 27$, $4 \times 2 = 8$ etc.)

- ✓ **Rapid recall** of division facts for the 2, 3, 4, 5 and 10 multiplication tables

($10 \div 2 = 5$, $32 \div 4 = 8$)

- ✓ **Link** multiplication and division **facts** for the 2, 3, 4, 5 and 10 multiplication tables

($3 \times 9 = 27$, $27 \div 3 = 9$)

- ✓ Calculate multiplication calculations through **repeated addition**

(6x, 7x, 8x, 9x)

($6 \times 6 = 6 + 6 + 6 + 6 + 6 + 6 = 36$)

- ✓ Skip count in 6s, 7s, 8s and 9s

(6, 12, 18 .../ 7, 14, 21 .../ 8, 16, 24 .../ 9, 18, 27 ...)

Praise perseverance, effort and determination





Second Level

- ✓ **Round** numbers to nearest 1000.

(To round to the nearest 1000, look at the hundreds digit. If it is 1-4, round down. If it is 5-9 round up. For example 1233 rounds to 1000, 1067 rounds to 2000)

- ✓ **Partition** 4 digit numbers into thousands, hundreds, tens and units.

$$(8947 = 8000 + 900 + 40 + 7)$$

- ✓ Use **partitioning** when adding and subtracting 2 or 3 digit numbers

$$(267 + 123 = 200 + 60 + 7 + 100 + 20 + 3 = 390)$$

- ✓ Use **factors** to multiply and divide

$$(15 \times 6 = (15 \times 2) \times 3)$$

- ✓ **Rapid recall** of **doubling** 2 digit numbers and **halving** 2 digit even numbers up to 100

$$(\text{Double } 42 = 84, \text{ } 1/2 \text{ of } 62 = 31)$$

- ✓ Know to use their knowledge of **doubles** to calculate **near double** calculations of 2 digit numbers up to 100

$$(\text{If double } 46 = 92 \text{ then } 46 + 47 = 93)$$



Second Level

- ✓ When adding several small numbers or multiples of 10 **reorder** the calculation to find **friendly numbers**

(In $20 + 50 + 80$, 20 and 80 are friendly numbers as they add to make 100.
Reorder to $80 + 20 + 50 = 100 + 50 = 150$)

- ✓ Find a small difference between a pair of numbers through addition by 'counting on' from the smaller number

(In $76 - 73$, count on from 73 to 76 to give the answer 3)

- ✓ **Compensation** – add or subtract 9, 19 or 29 to/from any 2 digit number by adding or subtracting 10, 20 or 30 and adjusting by 1

($36 + 19 = 36 + 20 - 1 = 55$)

- ✓ **Compensation** – add or subtract 11, 21, 31 to/from any digit number by adding or subtracting 10, 20, 30 and adjusting by 1

($36 + 21 = 36 + 20 + 1 = 57$)

- ✓ **Multiply** and **divide** 2 digit numbers by 10

($65 \times 10 = 650$, $65 \div 10 = 6.5$)



Second Level

- ✓ Use knowledge **of linked addition and subtraction facts** to solve more complex calculations

$$(70 + 90 = 160 \text{ so } 160 - 90 + 70)$$

- ✓ Identify quickly **2 digit pairs** that total 100

$$(80 + 20, 60 + 40 \text{ etc.})$$

- ✓ **Rapid recall** of all multiplication tables up to 10 and linked division facts

$$(9 \times 8 = 72 \text{ so } 72 \div 8 = 9)$$

- ✓ **Multiply** a 3 digit number by a single digit, multiplying hundreds first

$$(6 \times 125 = (6 \times 100) + (6 \times 20) + (6 \times 5) = 600 + 120 + 30 = 750)$$

- ✓ Use **factors** to multiply two 2 digit numbers

$$(35 \times 18 = (35 \times 6) \times 3)$$

- ✓ Use knowledge of the **pattern of number** to solve calculations

$$(700 + 400 = 1100 \text{ because you recall } 7 + 4 = 11)$$

- ✓ **Add** and **subtract** a single digit to or from a 3 digit number, crossing the tens boundary

$$(378 + 7 = 378 + 2 + 5 = 385, 495 - 9 = 495 - 5 - 4 = 486)$$



Second Level

- ✓ **Add** and **subtract** 10 to or from any 2 then 3 digit number and explain the method
($96 + 10$, $408 - 10$)
- ✓ **Add** and **subtract** 100 to or from any 3 digit number and explain the method
($124 + 100 = 224$, $786 - 100 = 686$)
- ✓ **Multiply** and **divide** 3 digit numbers by 10
($343 \times 10 = 3430$, $480 \div 10 = 48$)
- ✓ **Link** multiplication and division **facts** to fractions and fractions of quantities
(If $32 \div 4 = 8$ then $1/4$ of 32 is 8)
- ✓ Calculate **halves** and **doubles** of 2 digit numbers up to 100
(Double $47 = 94$, $1/2$ of $47 = 23.5$)
- ✓ **Partition** a 6 digit number into hundreds of thousands, tens of thousands, thousands, hundreds, tens and units
($198,947 = 100000 + 90000 + 8000 + 900 + 40 + 7$)
- ✓ Identify quickly **pairs** of multiples of 50 that total 1000
($250 + 750$, $150 + 850$)



Second Level

- ✓ Know by heart all **pairs** of multiples of 100 that total 1000
(700 + 300, 800 + 200 etc.)
- ✓ Identify quickly **doubles** of multiples of 10
(10 + 10 to 1000 + 1000)
- ✓ **Rapid recall** of all multiplication and linked division facts for 2,3,4,5,6,7,8,9 and 10 x tables
(4 x 8 = 32 so 32 ÷ 4 = 8, 9 x 9 = 81 so 81 ÷ 9 = 9 etc.)
- ✓ **Rapid recall** 11 and 12 multiplication tables
(11 x 3 = 33, 12 x 2 = 24)
- ✓ **Count on** and backwards to 1 000 000 and beyond
(900 000, 900 001....999 998, 999 999, 1 000 000, 1 000 001 ...)
- ✓ Have **recall** of addition and subtraction facts to 100 and beyond
(32 + 45 = 77, 123 + 45 = 168, 103 – 7 = 96, 216 – 102 = 114)
- ✓ **Add** and **subtract** a multiple of 10 to or from a 2 digit number, up to and beyond 100, and explain method
(52 + 60 = 112, 82 – 30 = 52)



Second Level

- ✓ **Add** a 2 digit number to multiple of 100 and explain method

$$(400 + 18 = 418)$$

- ✓ Find what must be added to a 3 digit multiple of 10 to make the **next higher multiple** of 100 explaining method

(What must be added to 730 to make 800?)

- ✓ Identify quickly **tenths** with a **total of one/ a whole**

$$(0.7 + 0.3 = 10, 8.2 + 1.8 = 10)$$

- ✓ Identify quickly **tenths** with a **total of ten**

$$(3.7 + 6.3 = 10, 8.2 + 1.8 = 10)$$

- ✓ **Double** any multiple of 5 up to 500

$$(250 + 250 = 500)$$

- ✓ **Halve** any 2 or 3 digit multiple of 10, 100 or 1000

$$(1/2 \text{ of } 70 = 35, 1/2 \text{ of } 300 = 150)$$

- ✓ **Multiply** and **divide** by a multiple of 10, 100 or 1000

$$(400 \div 20 = 20)$$

- ✓ **Rapid recall** of all multiplication tables up to 12 and linked division facts

$$(11 \times 3 = 33 \text{ and } 33 \div 11 = 3)$$

Praise perseverance effort and determination





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Giffnock Primary School

Academy Road
Giffnock
East Renfrewshire
G46 6JL

Telephone: 0141 570 7180
Fax: 0141 570 7181
Head Teacher: Mr. Rob Lawson
Email: schoolmail@giffnock.e-renfrew.sch.uk
Website: <http://blogs.glowscotland.org.uk/er/Giffnock/>
Twitter School: <https://twitter.com/giffnockprimary>
Twitter Nursery: <https://twitter.com/GiffnockNursery>