## Year 3 - Multiplication and Division

| Key vocabulary |  |  |  | Multiplication Facts |  |  | Division Facts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Multiplication |  |  | Division | $3 \times$ Table | 4x Table | 8 x Table | 3 x Table | 4 x Table | 8x Table |
| Multiply |  |  | Divide | $0 \times 3=0$ | $0 \times 4=0$ | $0 \times 8=0$ | $0 \div 3=0$ | $0 \div 4=0$ | $0 \div 8=0$ |
| Commutative Law |  |  | Efficient | $1 \times 3=3$ | $1 \times 4=4$ | $1 \times 8=8$ | $3 \div 3=1$ | $4 \div 4=1$ | $8 \div 8=1$ |
|  |  |  | $2 \times 3=6$ | $2 \times 4=8$ | $2 \times 8=16$ | $6 \div 3=2$ | $8 \div 4=2$ | $16 \div 8=2$ |
| Commutative |  |  |  | Operation | $3 \times 3=9$ | $3 \times 4=12$ | $3 \times 8=24$ | $9 \div 3=3$ | $12 \div 4=3$ | $24 \div 8=3$ |
| Multiplication - Written Method |  |  |  | $4 \times 3=12$ | $4 \times 4=16$ | $4 \times 8=32$ | $12 \div 3=4$ | $16 \div 4=4$ | $32 \div 8=4$ |
|  |  |  |  | $5 \times 3=15$ | $5 \times 4=20$ | $5 \times 8=40$ | $15 \div 3=5$ | $20 \div 4=5$ | $40 \div 8=5$ |
|  |  |  | Using columns, begin with the ones column. $5 \times 7=35$. You exchange 30 ones for 3 tens and place this under the tens column and add this on your next calculation. | $6 \times 3=18$ | $6 \times 4=24$ | $6 \times 8=48$ | $18 \div 3=6$ | $24 \div 4=6$ | $48 \div 8=6$ |
|  | 3 | 7 |  | $7 \times 3=21$ | $7 \times 4=28$ | $7 \times 8=56$ | $21 \div 3=7$ | $28 \div 4=7$ | $56 \div 8=7$ |
|  |  | 5 |  | $8 \times 3=24$ | $8 \times 4=32$ | $8 \times 8=64$ | $24 \div 3=8$ | $32 \div 4=8$ | $64 \div 8=8$ |
| $\times$ |  |  |  | $9 \times 3=27$ | $9 \times 4=36$ | $9 \times 8=72$ | $27 \div 3=9$ | $36 \div 4=9$ | $72 \div 8=9$ |
| 1 | 8 | 5 |  | $10 \times 3=30$ | $10 \times 4=40$ | $10 \times 8=80$ | $30 \div 3=10$ | $40 \div 4=10$ | $80 \div 8=10$ |
|  | 3 |  |  | $11 \times 3=33$ | $11 \times 4=44$ | $11 \times 8=88$ | $33 \div 3=11$ | $44 \div 4=11$ | $88 \div 8=11$ |
|  |  |  |  | $12 \times 3=36$ | $12 \times 4=48$ | $12 \times 8=96$ | $36 \div 3=12$ | $48 \div 4=12$ | $96 \div 8=12$ |



You can use place value counters to calculate larger divisions.

When calculating $93 \div 3=31$, the tens and ones are divided into equal groups of 3.


Start by looking at how many groups of 4 will fit into the tens digit. There will be 2 tens, which makes 20 , so a 2 goes in the tens column. There is a remainder of 1 ten which is added to the ones column. Then you see how many groups of 4 fit into 16 which is 4 .

Using Known Facts
Sometimes, you need to use your times table facts to find out missing values.

## $? \times 3=21$

$21 \div 3=7$ so the missing value is 7 .

$$
8=? \div 4
$$

$8 \times 4=32$ so the missing value is 32.

## Efficient Methods

Because multiplication is commutative (can be completed in any order), you can use this to make calculations easier and complete them more efficiently. For example..

