

## Types of number

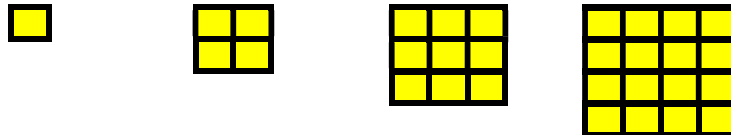
Natural or Counting numbers: 1 2 3 4 5 6 7 8 9 ...

Even numbers: 2 4 6 8 10 ... (Numbers are divisible by 2 with no remainder)

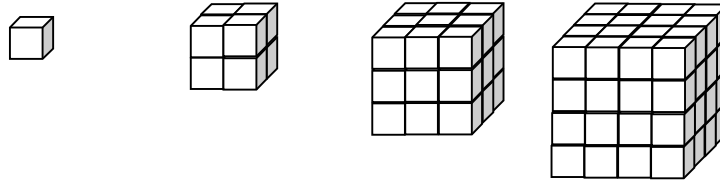
Odd numbers: 1 3 5 7 9 ... (Numbers do not divide exactly by 2)

Prime Numbers 2 3 5 7 11 ... (Only divisible by two numbers, one and itself)

Square numbers:  $1 \times 1$        $2 \times 2$        $3 \times 3$        $4 \times 4$   
 $1^2$                        $2^2$                        $3^2$                        $4^2$   
 1                              4                              9                              16



Cube Numbers:  $1 \times 1 \times 1$        $2 \times 2 \times 2$        $3 \times 3 \times 3$        $4 \times 4 \times 4$   
 $1^3$                                $2^3$                                $3^3$                                $4^3$   
 1                                      8                                      27                                      64



### Factors and Multiples

A **factor** is a number, which will divide into another whole number without a remainder  
 E.g. 1, 2, 3, 4, 6 and 12 are all factors of 12, they divide into 12 without any remainder.

A **multiple** is a number made by multiplying two other numbers together .

E.g.  $1 \times 3 = 3$   
 $2 \times 3 = 6$   
 $3 \times 3 = 9$   
 $4 \times 3 = 12$  } These are all multiples of 3

**BODMAS** (Brackets, powers Of, Division and Multiplication, Addition and Subtraction)  
 First                      Second                      Third                      Fourth

**First** calculate any number expression surrounded by brackets.  
**Secondly**, simplify any number that has been raised to a power of another number. ( $2^3$   $4^2$   $6^3$   $8^4$ )  
**Third**, carry out any division and multiplication. (working from left to right)  
**Fourth**, carry out any addition and subtraction. (working from left to right)

For example:

$$(2 + 4) + 2^2 \div 2 \times 5 + 2 - 1$$

$$(2 + 4) + 2^2 \div 2 \times 5 + 2 - 1$$

$$\text{becomes } 6 + 2^2 \div 2 \times 5 + 2 - 1$$

$$\text{becomes } 6 + 4 \div 2 \times 5 + 2 - 1$$

$$\text{becomes } 6 + 2 \times 5 + 2 - 1$$

$$\text{becomes } 6 + 10 + 2 - 1 = 17$$

$$4 \div 2 \times 3 + 6 \div 2 \times 10 \div 5$$

$$\text{becomes } 2 \times 3 + 6 \div 2 \times 10 \div 5$$

$$\text{becomes } 6 + 3 \times 10 \div 5$$

$$\text{becomes } 6 + 30 \div 5$$

$$\text{becomes } 6 + 6 = 12$$