

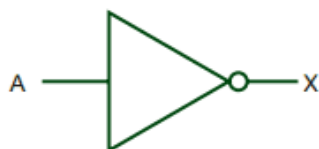


Year 7 Computing – Spring 1 Computational thinking – Binary and Logic Gates

	Key term	Definition
1	Binary	The data which a computer uses (Base 2)
2	Denary	Our standard number system (Base 10)
3	Logic gate	Special circuits built into computer chips
4	Operator	Is symbol that carries out a particular function
5	Boolean	A data type in computing which only has two possible values, true or false
6	Truth Table	These show all possible input combinations
7	NOT gate	Takes a single input and give a single output
8	AND gate	Takes two inputs and gives one output
9	OR gate	Takes two inputs and gives one output
10	Logic circuit	Where multiple logic gates are combined

There are **three** main types of logic gates:

NOT Gate



INPUT A	OUTPUT X
0	1
1	0

AND Gate



INPUT A	INPUT B	OUTPUT X
0	0	0
0	1	0
1	0	0
1	1	1

OR Gate



INPUT A	INPUT B	OUTPUT X
0	0	0
0	1	1
1	0	1
1	1	1

0 to 15 in Binary

Conversion of numbers from 0 to 15 in the Binary system.

Decimal	Binary
0	0
1	1
2	10
3	11
4	100
5	101
6	110
7	111
8	1000
9	1001
10	1010
11	1011
12	1100
13	1101
14	1110
15	1111

A [bit](#) (short for binary digit) is the smallest unit of data on a computer; each bit has a single value of either 1 or 0.

Computers use logic gates to carry out operations. Each logic gate represents a Boolean Operator – NOT, AND, and OR. A gate takes binary data and then outputs the result of the operation.