

Counting in Binary:

Binary				Decimal Representation								
2^3	2^2	2^1	2^0	8	4	2	1					
0	0	0	0	0	+	0	+	0	+	0	=	0
0	0	0	1	0	+	0	+	0	+	1	=	1
0	0	1	0	0	+	0	+	2	+	0	=	2
0	0	1	1	0	+	0	+	2	+	1	=	3
0	1	0	0	0	+	4	+	0	+	0	=	4
0	1	0	1	0	+	4	+	0	+	1	=	5
0	1	1	0	0	+	4	+	2	+	0	=	6
0	1	1	1	0	+	4	+	2	+	1	=	7
1	0	0	0	8	+	0	+	0	+	0	=	8
1	0	0	1	8	+	0	+	0	+	1	=	9
1	0	1	0	8	+	0	+	2	+	0	=	10
1	0	1	1	8	+	0	+	2	+	1	=	11
1	1	0	0	8	+	4	+	0	+	0	=	12
1	1	0	1	8	+	4	+	0	+	1	=	13
1	1	1	0	8	+	4	+	2	+	0	=	14
1	1	1	1	8	+	4	+	2	+	1	=	15

(the math behind the scenes)