

## How Many Ancestors?

by Kate Montessor

Going back a few generations, you can quickly accumulate ancestors. Each person has two parents, each parent has two parents, and so on. The number of ancestors doubles with each generation.

The following table shows the potential number of ancestors you could have by generation. Add them all up, and after 20 generations, you will have over 2 million ancestors!

If we traced our roots back 1000 years, there would be over 280 TRILLION people living at one time. Realistically, we know this is not so—not that many people lived on the planet back then. Many marriages were between cousins, especially in past generations when the pool of potential mates was smaller and many communities were isolated. And many times, people (usually men) would marry multiple times, but the spouse might have only married once (because they died). And then there were the Mormons.

This chart shows how many ancestors you would have at a specific generation, and how many total ancestors, if everyone equally married someone else.

Generation	Number of Ancestors	Total	Generation	Number of Ancestors	Total
1	2	2	11	2,048	4,094
2	4	6	12	4,096	8,190
3	8	14	13	8,192	16,382
4	16	30	14	16,384	32,766
5	32	62	15	32,768	65,534
6	64	126	16	65,536	131,070
7	128	254	17	131,072	262,142
8	256	510	18	262,144	524,286
9	512	1,022	19	524,288	1,048,574
10	1,024	2,046	20	1,572,864	2,097,150

2,0957,150 Total Ancestors in 20 generations

Generation	Number of Ancestors	Total
21	2,097,152	4,194,302
22	4,194,304	8,388,606
23	8,388,608	16,777,214
24	16,777,216	33,554,430
25	33,554,432	67,108,862
26	67,108,864	134,217,726
27	134,217,728	268,435,454
28	268,435,456	536,870,910
29	536,870,912	1,073,741,822
30	1,073,741,824	2,147,483,646
31	2,147,483,648	4,294,967,294
32	4,294,967,296	8,589,934,590
33	8,589,934,592	17,179,869,182
34	17,179,869,184	34,359,738,366
35	34,359,738,368	68,719,476,734

68,719,476,734 Total Ancestors in 35 generations

Sixty-eight billion, seven hundred and nineteen million, four hundred and seventy-six thousand, seven hundred and thirty-six total ancestors after 35 generations, assuming no inter-marriages or multiple marriages.

Or  $2^{36}$ .