

About DNA Testing

Three principal types of genealogical DNA tests are available, with each looking at a different part of the genome and being useful for different types of genealogical research: autosomal (atDNA), mitochondrial (mtDNA), and Y-chromosome (Y-DNA).

Family Tree Big Y 700 DNA Test: I took the 700 marker Y-Chromosome STR tests.

- STR (short tandem repeats) offered is limited, and results have been used for personal identification, paternity cases, and inter-population studies.

Autosomal DNA Test: they are a number of markers, one of two or more known variants in the genome at a particular location – known as Single-nucleotide polymorphisms or SNPs.

- SNPs are inherited from a specific ancestor decreases by about half with each successive generation; that is, an individual receives half of their markers from each parent, about a quarter of those markers from each grandparent; about an eighth of those markers from each great-grandparent, etc. Inheritance is more random and unequal from more distant ancestors. Generally, a genealogical DNA test might test about 700,000 SNPs (specific points in the genome).

The unit for segments of DNA is the centimorgan (cM). For comparison, a full human genome is about 6500 cM. The shorter the length of a match, the greater are the chances that a match is spurious. An important statistic for subsequent interpretation is the length of the shared DNA (or the percentage of the genome that is shared).

- From the number of cMs and segments, the relationship between the two individuals can be estimated; however, due to the random nature of DNA inheritance, relationship estimates, especially for distant relatives, are only approximate

Ancestry DNA matches uses cMs to match you with relationships, cousins, where you you're your DNA match share a common ancestor. Examples:

My Aunt: My dad's sister, who at the time of this writing is 90 years old. Aunt Pat Napoli is a match to me. Her cM is 1,732.

1st Cousins: Aunt Pat's son, Lou Napoli is 887 cM. Another of my father's sister, Aunt Sally Rosenberger, her daughter Sherri Minich is 1,107 cM.

2nd Cousins: They can be anywhere from 220 to 300 cMs.

2nd to 3rd Cousins: They can be 100 to 220 cMs.

So, If I'm looking for a 3rd to 5th Cousin relationship to my great grandfather William Graham.

- Based on the Age of a Person, That Can Includes These Generations:
 - Generation 1: Great-Great Grandparents
 - Generation 2: Great Grand Uncle or Aunt
 - Generation 3: 1st Cousin Twice Removed
 - Generation 4: 2nd Cousin Once Removed
 - Generation 5: 3rd Cousin
 - Generation 6: 3rd Cousin Once Removed
 - Generation 7: 3rd Cousin Twice Removed

- Based on My Age (70), I am a 5th Generation...3rd Cousin
 - However Other People I Match to Could Be:
 - Older – Generation 4
 - Younger – Generation 6: 3rd Cousin Once Removed
 - Younger – Generation 7: 3rd Cousin Twice Removed

- 3rd Cousin: Third cousins share a set of great-great-grandparents, but they do not have the same great-grandparents. Third cousins share roughly 98 centimorgans. ... Twice removed means that there is a two-generation difference between cousins.

- 3rd Cousin Twice Removed: The great-grandchild of your great-great-aunt or great-great-uncle.