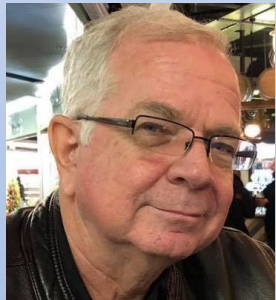


Intro to DNA and Genetic Genealogy

Dec 2022



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@familytreeaz

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Illustrations of.com #60477

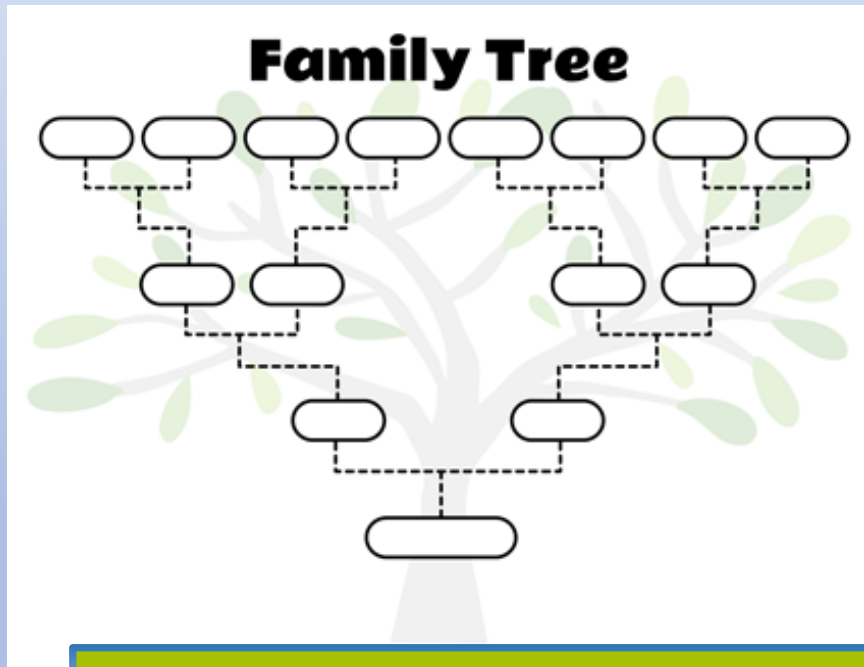
All slides and handouts can be found at:

<http://www.familytreeaz.com/Presentations/>



QR Code: take photo to
open to presentations

What is genetic genealogy?



Combined Together --- A greater chance of success to solve your family tree mysteries.

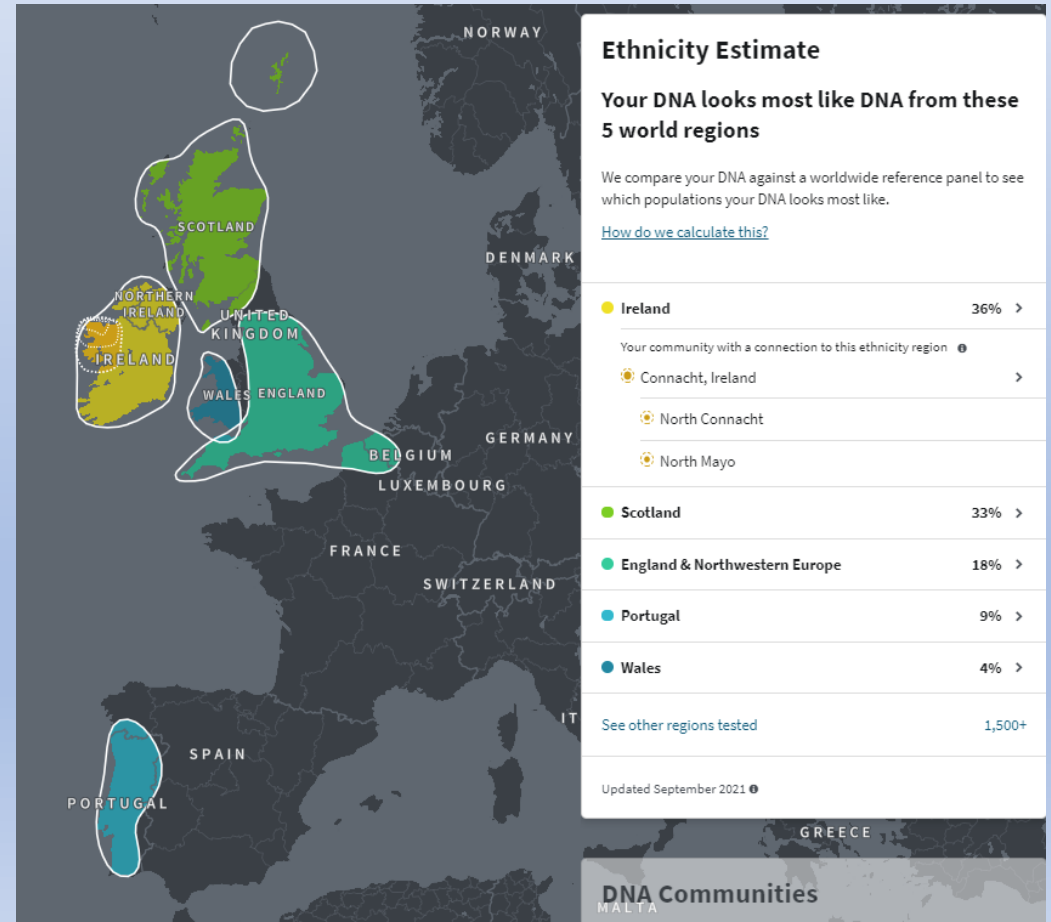
First step: answer some questions

- 1 Why am I interested in taking a DNA test?
- 2 What do I hope to get out of it? (any very specific goals?)
- 3 Do I understand there could be unsettling discoveries that come out?
- 4 Do I have the time and interest to pursue the genealogy aspect?

Why do we take DNA tests??

1. Curious about ethnicity

E.g., Am I part Native American?



Why do we take DNA tests??

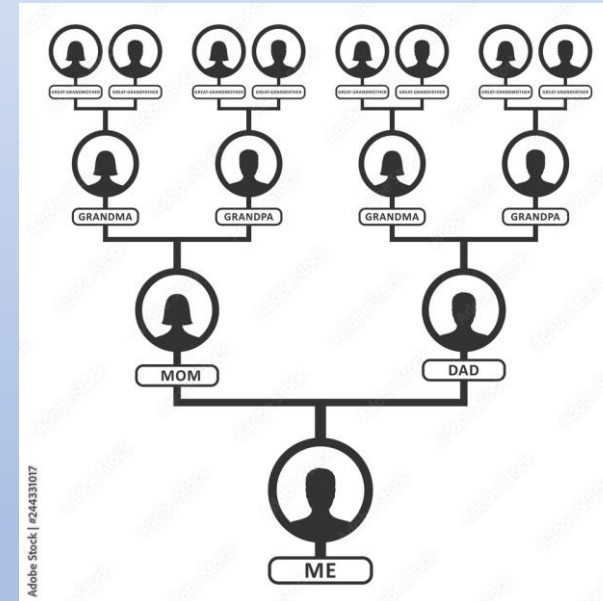
2. Curious about health aspects
E.g., Do I carry the BRCA gene?



Why do we take DNA tests??

3. Curious about relationships, i.e., Genealogy

- Unknown parentage (adoption, misattributed parentage, donor conceived)
- Find living cousins
- Help fill in (or confirm) family tree



Assuming it's to learn about family history or solve unknown parentage case...

- What it WILL do:
 - Confirm close relative relationships (e.g., parent/child, full vs. half sibling, etc.) if both individuals take test
 - Introduce you to an amazingly long list of potential cousins (especially for those with strong North American origins such as colonial roots)
 - For unknown parentage cases it's likely to provide valuable hints to help solve the mystery



Assuming it's to learn about family history or solve unknown parentage case...

- What it MAY do:
 - **WARNING!!!!**
 - Uncover dark secret(s) that may or may not greatly upset your family



Assuming it's to learn about family history or solve unknown parentage case...

- What it will NOT do:
 - Absolutely confirm ethnic relationships except in perhaps limited circumstances
 - Fill in all the missing persons (brick walls, etc.) in your family tree



The Time Aspect

- It's fine to take a test just out of curiosity – no real time commitment
 - Might answer a few basic questions for you
 - It really helps others who are using DNA to solve family tree mysteries
- Once you explore the results you just might get *hooked* !!!
 - Can often encourage you to spend more time exploring, especially in identifying those DNA matches and how that can help fill in your tree
- All in all, DNA testing is a wonderful tool to complement your family tree research



<https://giphy.com/explore/wonder>

Basics --- What You Need to Know About DNA

3 Types of DNA

- Autosomal

Most DNA tests are autosomal

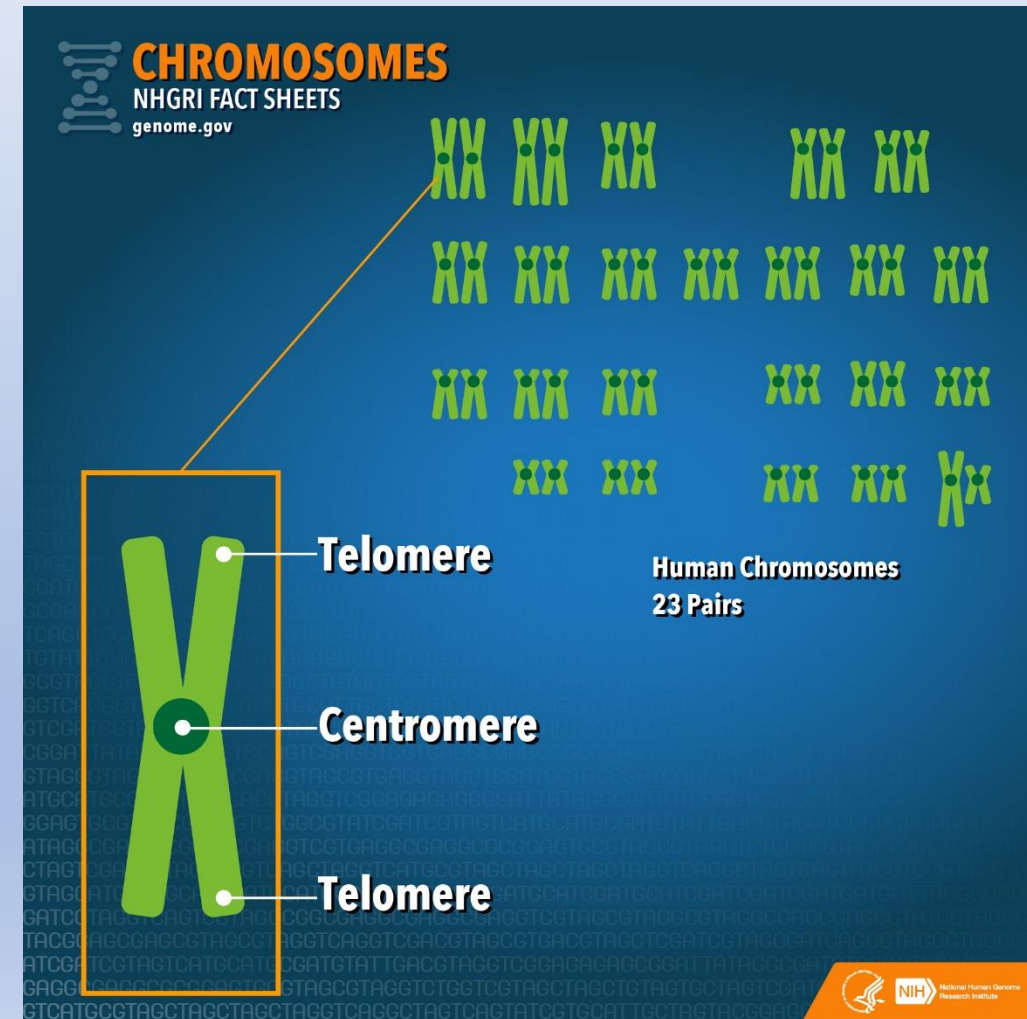
- 22 chromosomes
- + 1 sex chromosome “X”

- Y-DNA

- Mitochondrial DNA (mtDNA)

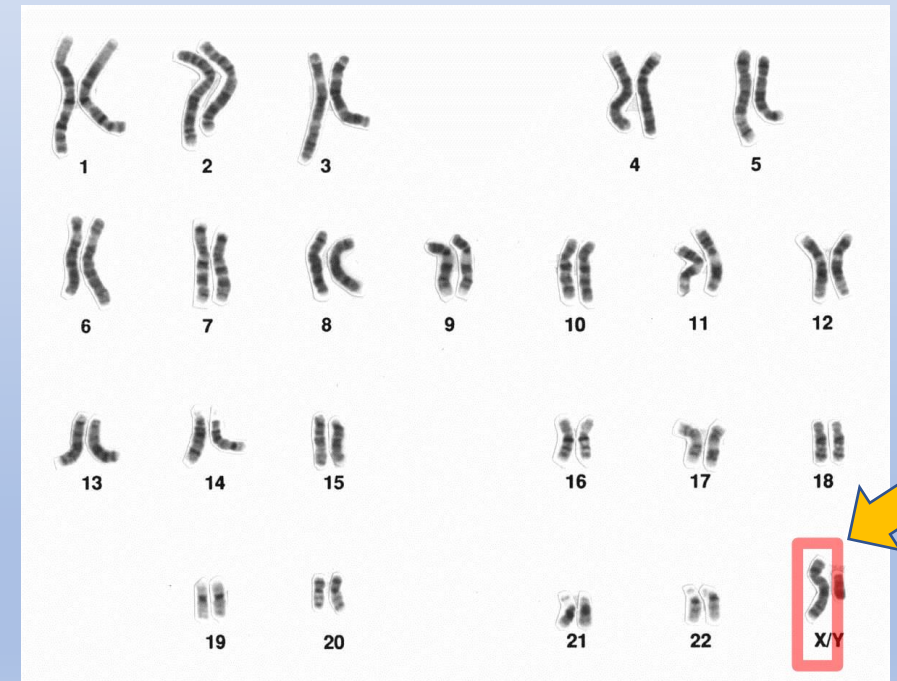
What is DNA? -- chromosomes

- We all have 23 pairs of chromosomes
 - The last pair, 23rd, chromosome is considered the sex chromosome
 - Women have two “X” chromosomes for this whereas men have one “X” and one “Y”
 - Chromosomes 1 through 22 are known as autosomes
 - Foundation of autosomal DNA, or “atDNA” which is the primary DNA used now by DNA testing services



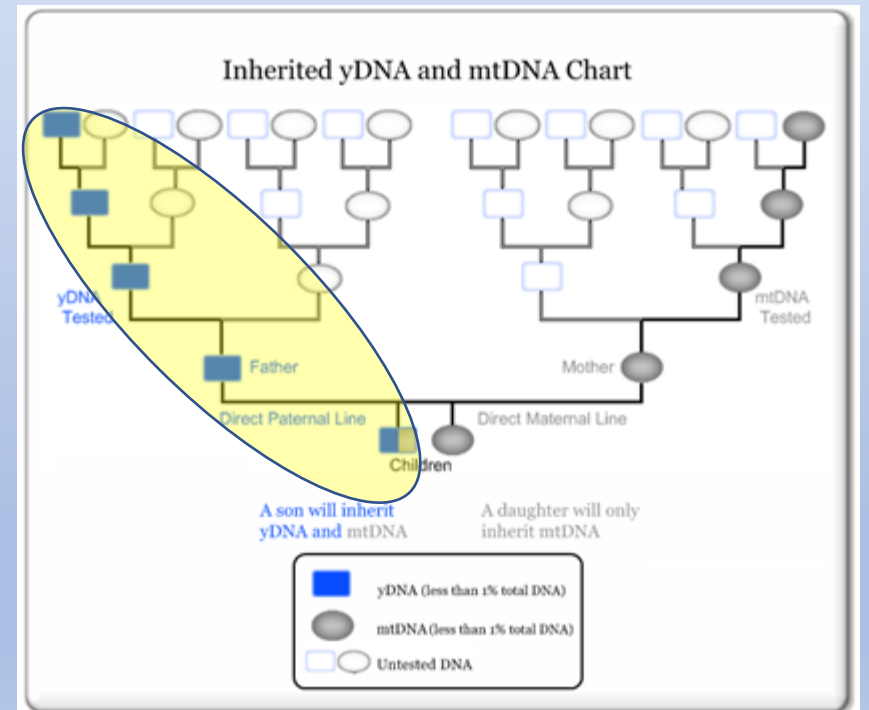
What is X-DNA?

- We all have 22 pairs of autosomal chromosomes
- One additional, the 23rd chromosome, is known as the "sex" chromosome and can at times be useful in evaluating a match.
- Females have two 'X' chromosomes (XX)
- Males have one 'X' chromosome (from mother) and one 'Y' chromosome (from father) (XY)
- **Important Note:** not all testing companies report X-DNA matches



What is DNA? – Y-DNA

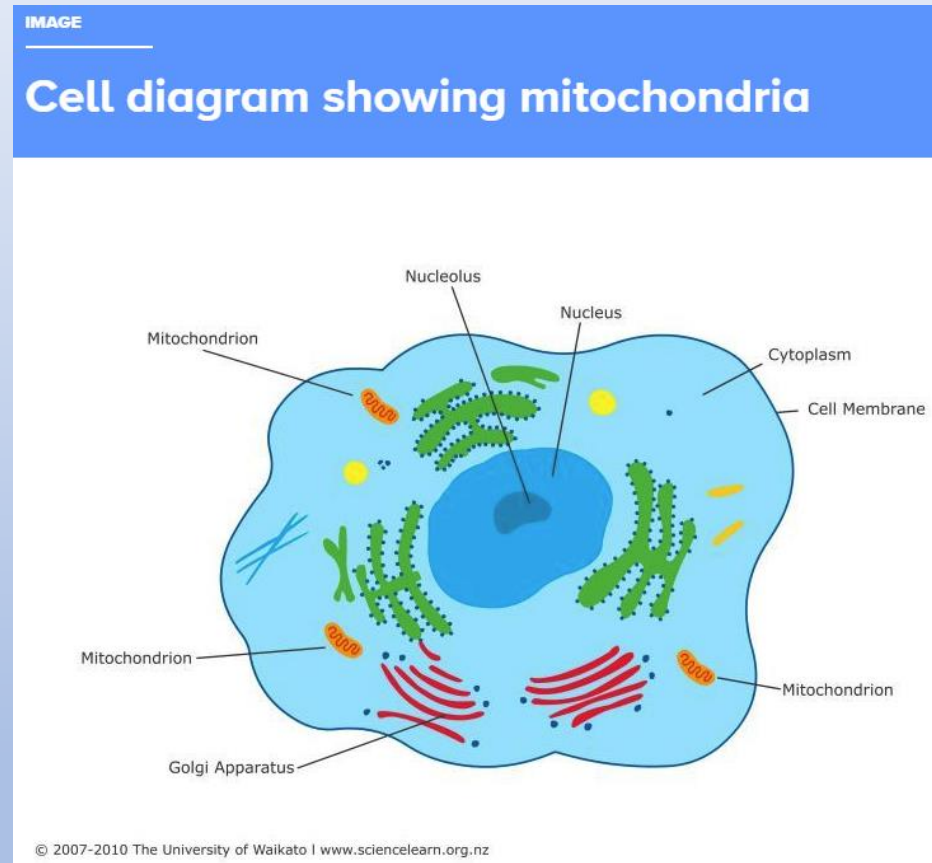
- ***ONLY*** found in males
- Only passed along the patrilineal line
 - Father's father's father's....[etc.]
- Females wanting to test Y-DNA should find a male in the line that they want to test (e.g., an uncle, brother, father, 1st cousin)



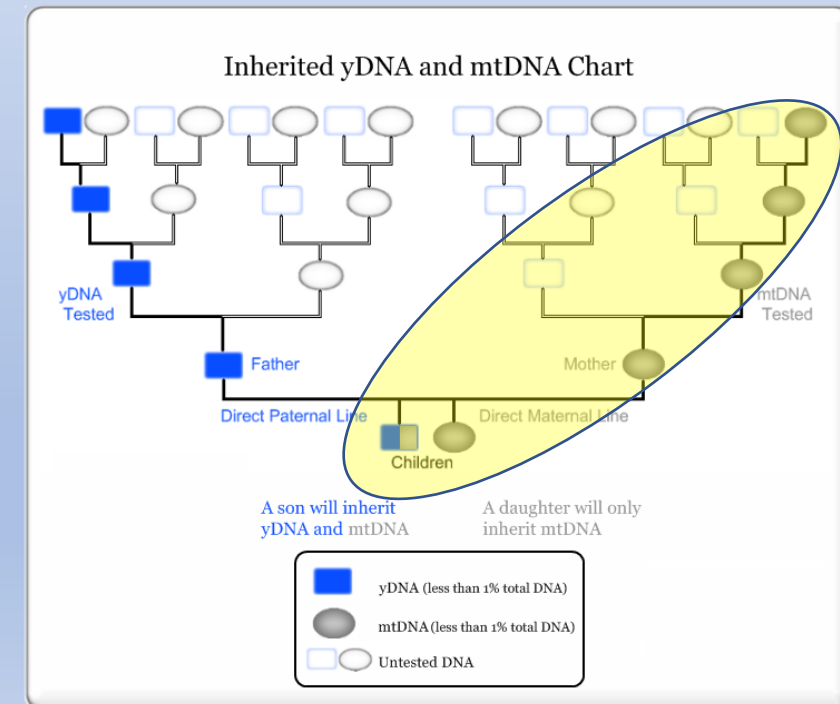
Source: <https://phillipsdnaproject.com/faq-sections/304-ancestor-dna-chart>

What is DNA? -- mitochondrial

- Located outside the nucleus of cells as part of mitochondria
- Males and Females both have
- Has unique characteristic of carrying deep ancestral heritage of matrilineal line
 - Mother's mother's mother's.....[etc.]



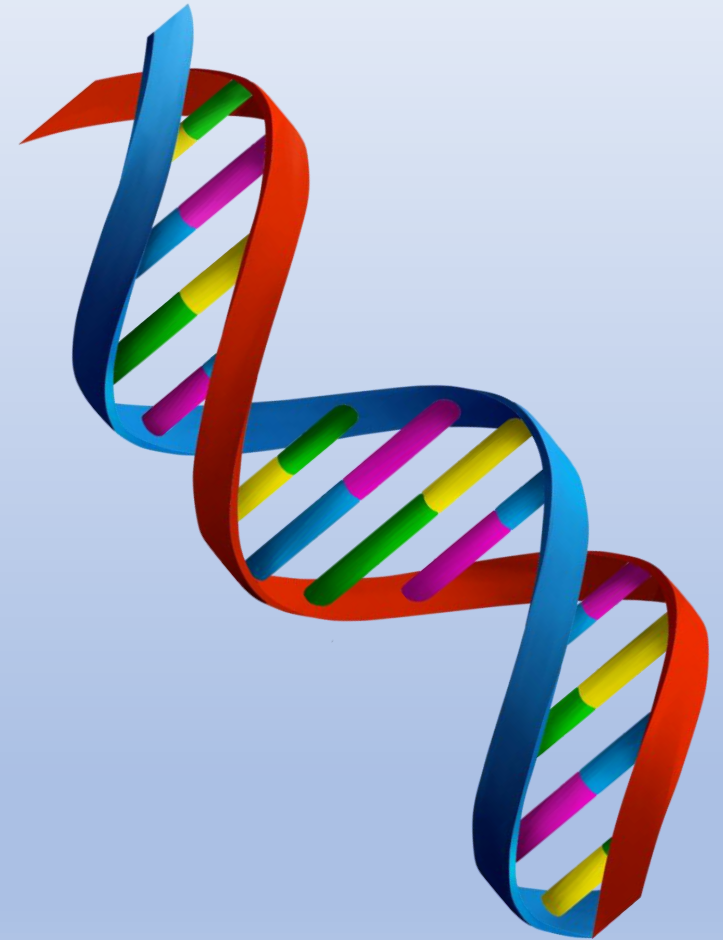
Tip: Mitochondrial DNA is often abbreviated to mtDNA



Testing Companies

Types of DNA tests

- Autosomal
 - The vast majority of DNA tests are this type
 - Relatively inexpensive (\$49-\$99)
 - **FOCUS of this presentation is on Autosomal**
- Y-DNA
 - Only used for male subjects and can find matches along the same patrilineal line
 - Can be expensive (up to \$300 for more precision/markers)
- mtDNA (Mitochondrial)
 - Can be used to solve matrilineal line questions
 - Expensive (~ \$200)
- Full Genome Sequencing (FGS)
 - New kid on the block!
 - More expensive (~\$1000) but cost is going down



Testing company options -- Autosomal

- There are 4 known, reputable, and trusted companies at this time:
 - Ancestry
 - Family Tree DNA
 - MyHeritage
 - 23andMe
- One more: Living DNA (**not recommended** at this time)
- There are others out there but not recommended for a variety of reasons



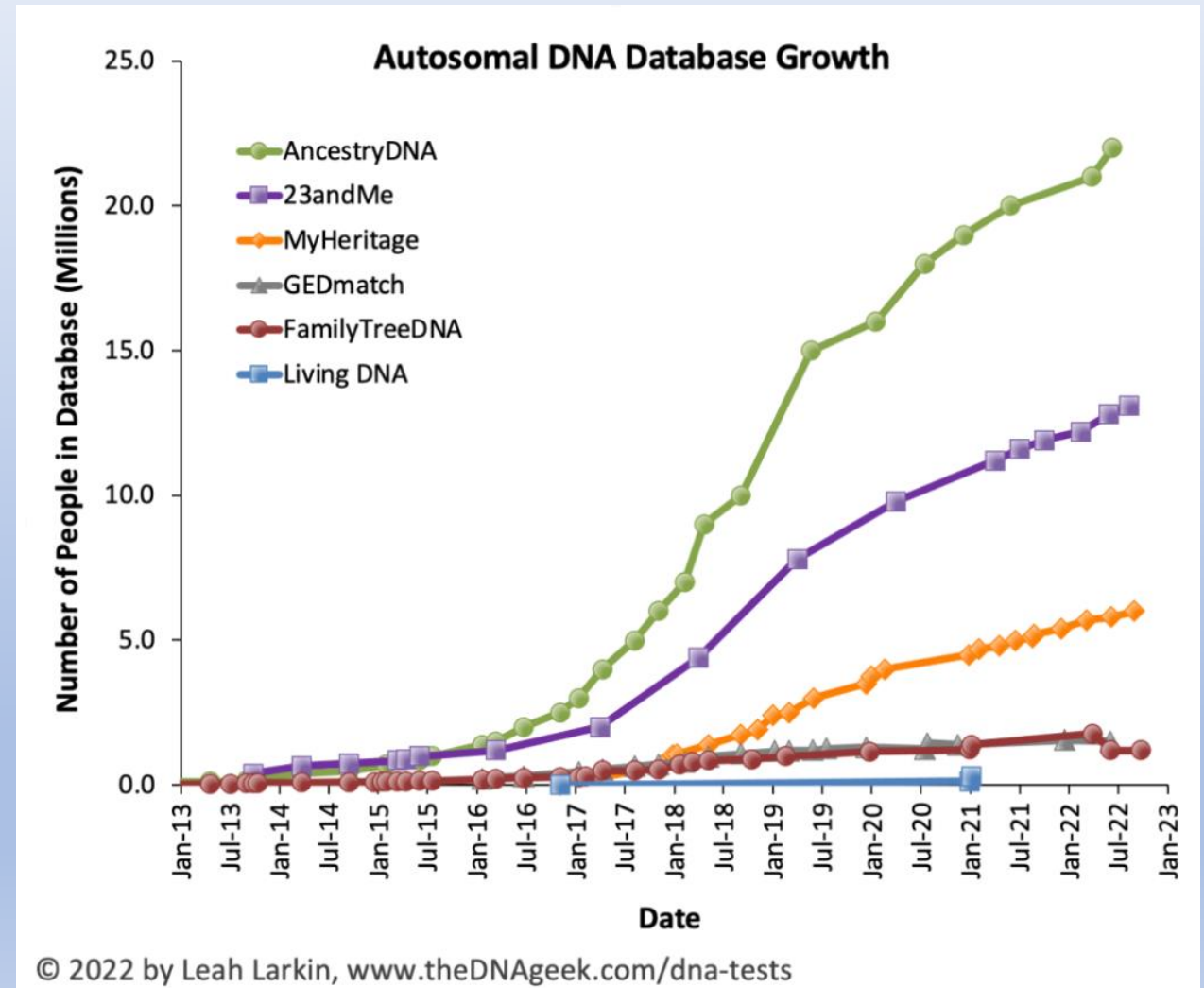
What to look for with testing companies

- What all 4 companies have:
 - Provide ethnicity estimates (emphasis on "estimates")
 - Provide a list of others who match the tester's DNA
 - Ability to download raw DNA data file
 - Test autosomal chromosomes (1-22)
- What some of them have:
 - Provide family trees for your matches
 - Provide health information
 - Ability to group matches that are common to each other
 - Ability to upload raw DNA data file from other companies
 - Test other aspects of DNA such as X-DNA, Y-DNA, and mitochondrial (mtDNA)

Comparative Database Sizes (autosomal kits)

- This chart shows the change over time of the number of DNA kits with each service
- The top 2 services do **not** allow uploads of kits from the other companies

TIP: your chances of finding matches will increase with companies that have more matches



Deeper Dive into the Testing Companies

For each company I will highlight pros and cons including one primary pro and con for each company

Aspects of Each Testing Company

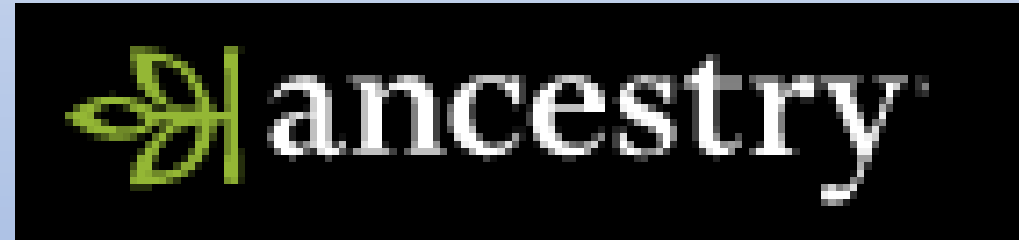
- Ancestry

- Pluses:

- **Largest database of testers**
 - Excellent linkage to a wide array of family trees
 - Useful common ancestor hints
 - Good tools for sorting matches and viewing shared matches
 - Good detailed ethnicity estimates for some

- Negatives:

- **No chromosome browser for advanced work**
 - No display of X-DNA matches
 - Will not accept DNA kits from other companies
 - Tester database is mostly composed of U.S. and Canada test-takers



Aspects of Each Testing Company

- 23andMe
 - Pluses:
 - **Large database of testers, many not available at other testing companies**
 - Chromosome browser
 - Upgrade to health aspects for those interested
 - Negatives:
 - **Complicated process to share data with DNA matches**
 - No genealogy research database
 - Will not accept DNA kits from other companies



Aspects of Each Testing Company

- FamilyTreeDNA

- Pluses:

- **Ability to re-use DNA sample on other types of test**
 - Rich, long history of working with DNA
 - The “go to” site for testing Y-DNA and mtDNA
 - Chromosome browser
 - Allows uploads from other testing companies

- Negatives:

- **Relatively small database**
 - No genealogy research facilities
 - No capability to manage more than one kit in a single account



Aspects of Each Testing Company

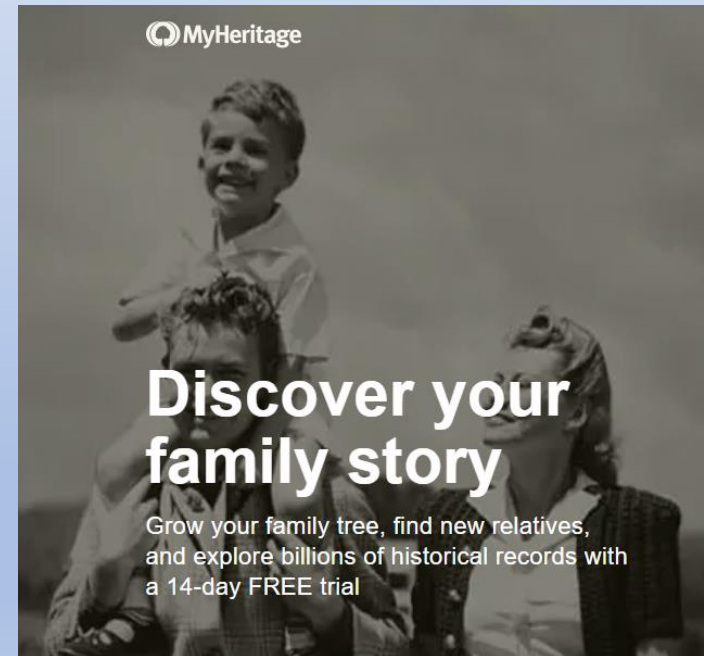
- MyHeritage

- Pluses:

- **Powerful shared matches capabilities**
 - Best chance to find European DNA test takers
 - Robust tools such as auto-cluster available with upgrade
 - Excellent Chromosome browser
 - Genealogy research facilities
 - Allows uploads from other testing companies

- Negatives:

- **Smaller database compared to Ancestry and 23andMe**



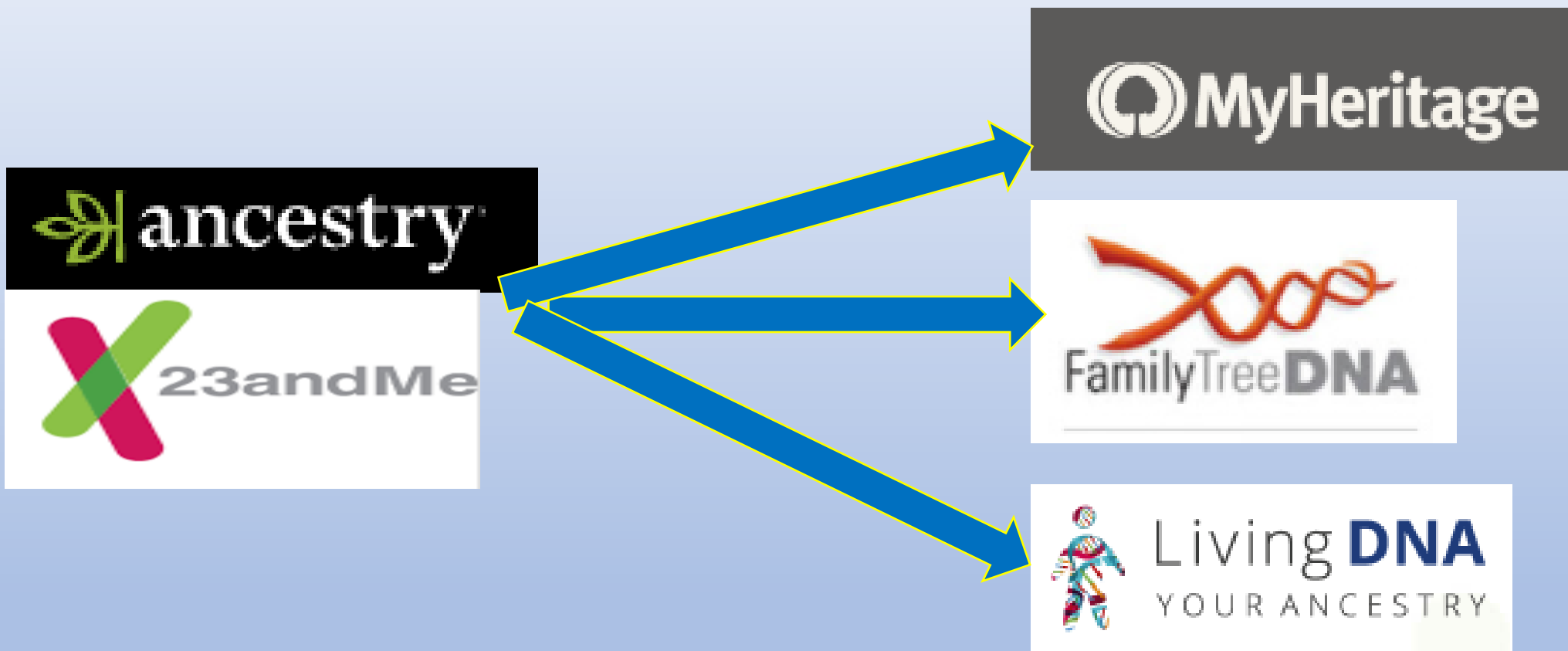
Aspects of Each Testing Company

- LivingDNA
 - Pluses:
 - **Some emphasis on British Isles**
 - 3-in-1, single kit includes Y-DNA and mtDNA
 - Allows uploads from other testing companies
 - Negatives:
 - **Very, very small database**
 - No family trees
 - No chromosome browser
 - No research database
 - Wacky ethnicity estimates
 - Worst analysis tools of all the companies
 - No matching of Y-DNA or mtDNA



NOTE: I no longer recommend testing with Living DNA due to a lack of tools and matches. If you're interested in trying them then you may want to just try a free upload of your DNA

3 of the 5 testing companies allow uploading

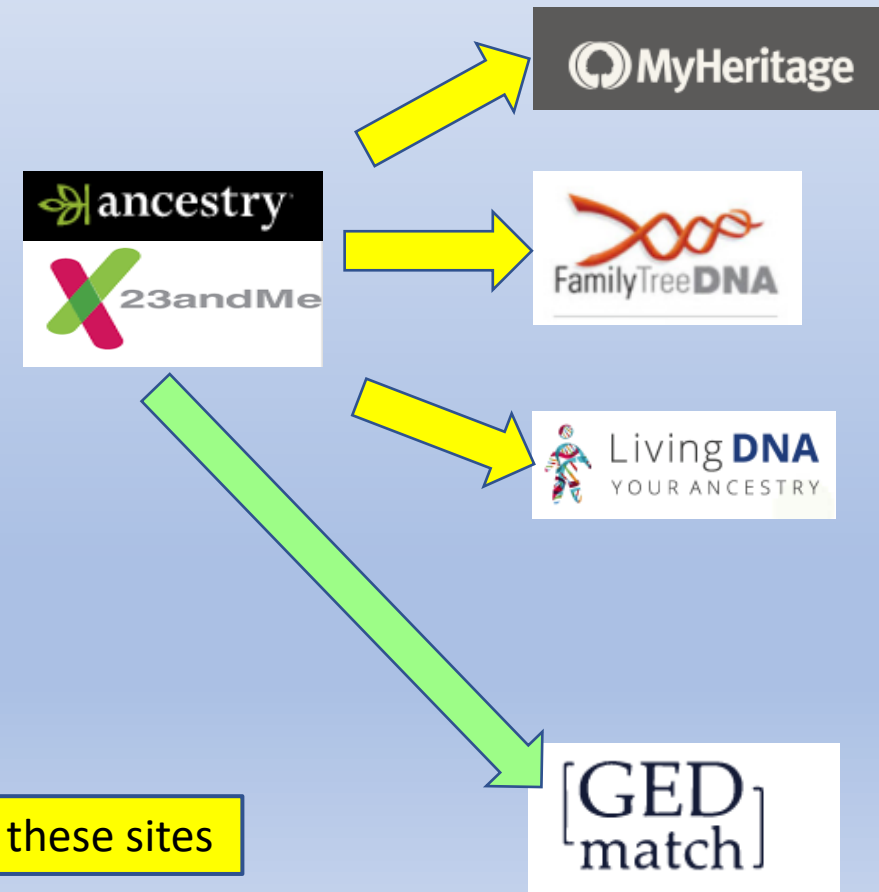


Allows you to use test results from one company to compare to other databases --- more matches!

FREE to upload (nominal cost to use extra analysis tools)

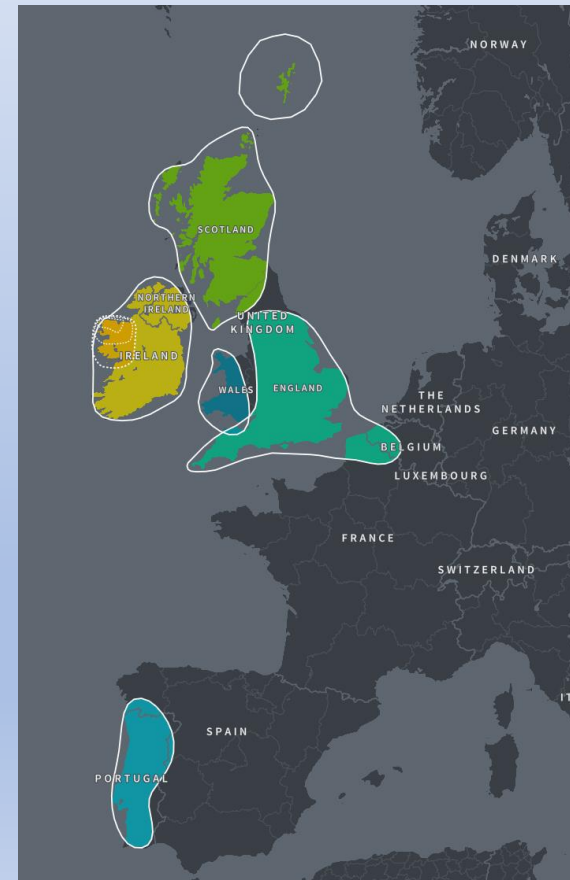
Recommended Strategy

- Test with Ancestry first (largest database, excellent family tree tools)
- After Ancestry, test with 23andMe
- Download your DNA from either Ancestry or 23andMe
- Upload to:
 - My Heritage
 - Family Tree DNA
 - Living DNA
 - GEDMatch (not a testing company)
- The key here is to have your DNA in all 5 testing companies plus GEDMatch



What About Ethnicity Estimates?

- These are purely estimates and should not be relied on to any great extent
- May be interesting to view but of little use for genealogy
- **Wide** variation between companies
- Frequent updates can lead to confusing results



What About Ethnicity Estimates?

MyHeritage

EUROPE	
● Irish, Scottish, and Welsh	55.6%
● UK and Ireland	
● Iberian	25.9%
● Scandinavian	18.5%

Nice sub-county detail!



Ancestry

● Ireland	36%
Your community with a connection to this ethnicity region	
● Connacht, Ireland	
● North Connacht	
● North Mayo	
● Scotland	33%
● England & Northwestern Europe	18%
● Portugal	9%
● Wales	4%

LivingDNA

● Europe (North and West)	62.8%
● France	56.9%
● South Germanic	5.9%
● Great Britain and Ireland	30.9%
● Ireland	9.2%
● Devon	6.6%
● South Central England	4.5%
● Northern Ireland and Southwest Scotland	3.2%
● Southeast England	2.3%
● South Wales Border	1.5%
● Aberdeenshire	1.3%
● Northwest England	1.2%
● Cornwall	1.1%
● Europe (South)	6.3%
● West Iberia	6.3%

French??!!

23andMe

European		99.7%
● Northwestern European	85.1%	
● British & Irish	85.1%	
County Mayo, Ireland		
Greater London, United Kingdom		
+18 regions		
● Southern European	14.5%	
● Spanish & Portuguese	13.7%	
Azores, Portugal		
+3 regions		
● Sardinian	0.6%	
● Broadly Southern European	0.2%	
● Broadly European	0.1%	
Trace Ancestry	0.3%	

FTDNA

Europe	97%
Western Europe	
● England, Wales, and Scotland	50%
● Ireland	41%
Eastern Europe	
● West Slavic	3%
Southern Europe	
● Iberian Peninsula	3%
Middle East & North Africa	
Middle East	
● Sephardic Jewish	<3%

These are the ethnicity estimates for me as collected, March 16, 2022

Sales!

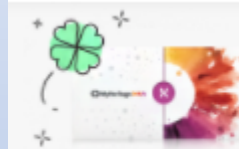
- Try to take advantage of frequent sales with the testing companies
- Typical regular price is \$99 often discounted to \$59, \$49, even \$39
- For example:
 - DNA Day
 - St Patrick's Day
 - Fathers Day
 - Mothers Day
 - Thanksgiving
 - Black Friday
 - Christmas

HOLIDAY SALE \$30 off Family Finder Ancestry Testing Service

Discover your origins and connect with your autosomal DNA relatives.

ONLY \$49 USD
Save \$30 (was \$79)

[Learn more](#)



St. Patrick's Day DNA Sale

Ends tomorrow

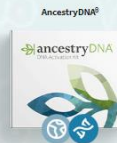
Only \$59 ~~\$89~~

Free standard shipping on 2+ kits.

[Order Now](#)

Save up to \$50 on a DNA gift for family.

Surprise them with something truly unique.



Only \$59* ~~\$89~~

[Buy now](#)



Only \$69* ~~\$119~~

[Buy now](#)



In this order

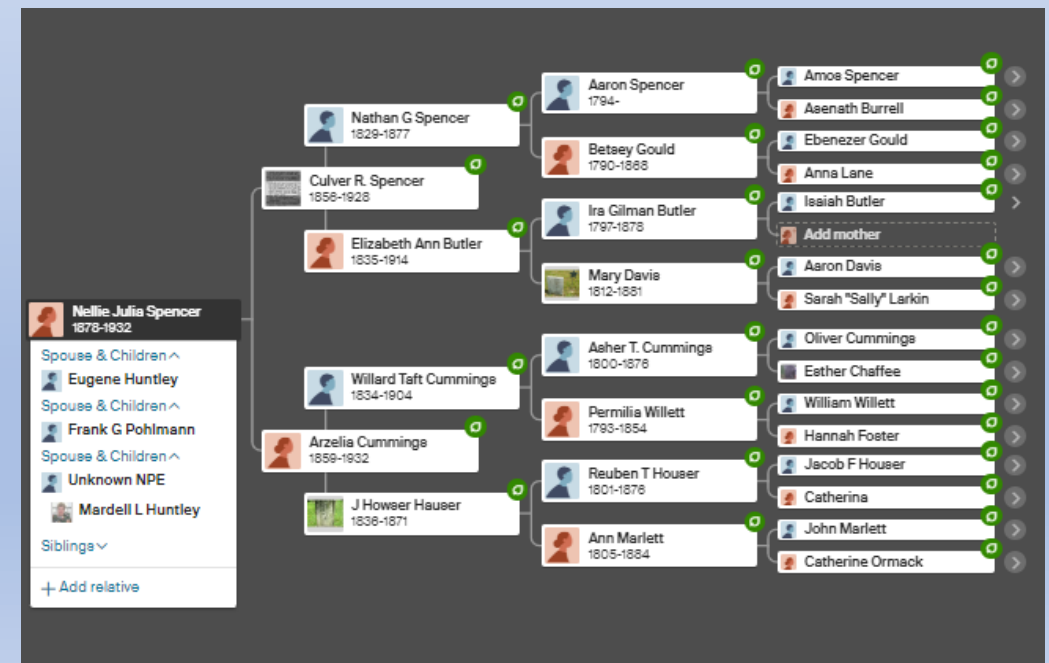
Price

Ancestry + Traits
[REMOVE](#)

~~\$99.00~~ \$79.00
Holiday Offer

DNA kits and Family Trees

- Most powerful way to match other test-takers and know how you are related is through the use of trees
- 4 of the companies (Ancestry, FTDNA, MyHeritage, 23andMe) have capability to store trees
- 1 company (23andMe) can link to FamilySearch tree
- Ancestry has arguably the best provision for family trees



My Suggestions for Family Trees

- For the Family Tree to link to your DNA account I strongly encourage:
 - Make sure it's a PUBLIC tree and searchable
 - Keep it relatively small (50-1,000 people)
 - TIP: It's fine to have large trees but well-advised to use smaller trees for attaching to your DNA kit
 - Focus on direct ancestors
 - Include Birth-Marriage-Death information
 - Try to go back 5-7 generations (remember autosomal only goes back this far)
 - Use maiden names
 - Use biological lines (not adoptee)
 - If you don't know the identity of an ancestor then don't enter anything for that person

Public linked tree
88,935 People

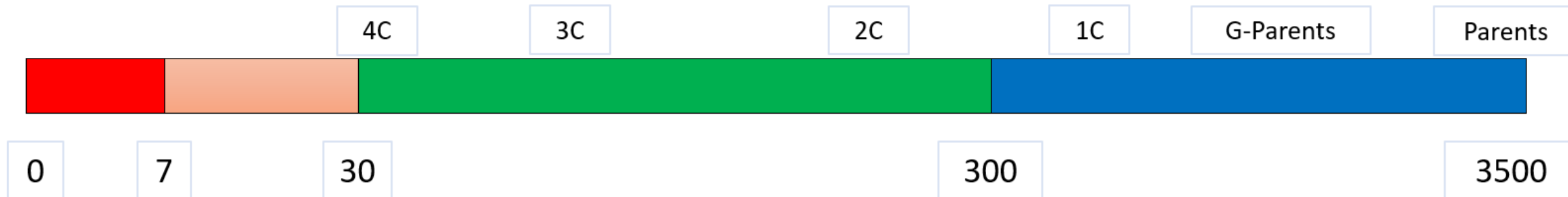


DNA Test Interpretation

First of all --- What is a “CentiMorgan”??

- Numeric measure of “relatedness”
- From 0 to 3500
- 3500 indicates parent/child
- 0 indicates no DNA shared

TIP: Just because you may not share any DNA with someone does not necessarily mean you are not related



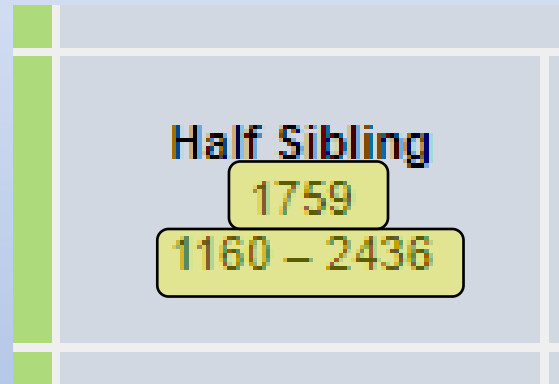
Concept of “relatedness”

- Shared cM Project table showing possible DNA shared values

- Higher numbers indicate closer relationships

- Top number in each box is average (mean)

- Bottom is range of numbers that could exist for that relationship



								Great-Great-Grandparent	GGGG Aunt / Uncle		
								Great-Great-Grandparent	GGG Aunt / Uncle		
Half GG-Aunt / Uncle 187 12 – 383	Great-Grandparent 881 464 – 1486						Great-Great-Aunt / Uncle 427 191 – 885				
Other Relationships											
	Half Great-Aunt / Uncle 432 125 – 765	Grandparent 1766 1156 – 2311					Great-Aunt / Uncle 914 251 – 2108				6C 21 0 – 86
		Half Aunt / Uncle 891 500 – 1446		Parent 3487 3330 – 3720		Aunt / Uncle 1750 1349 – 2175				6C1R 16 0 – 72	
Half 3C 61 0 – 178	Half 2C 117 9 – 397	Half 1C 457 137 – 856	Half Sibling 1783 1317 – 2312	Sibling 2629 2209 – 3384	SELF	1C 874 553 – 1225	2C 233 46 – 515	3C 74 0 – 217	4C 35 0 – 127	5C 25 0 – 94	6C2R 17 0 – 75
Half 3C1R 42 0 – 165	Half 2C1R 73 0 – 341	Half 1C1R 226 57 – 530	Half Niece / Nephew 891 500 – 1446	Niece / Nephew 1750 1349 – 2175	Child 3487 3330 – 3720	1C1R 439 141 – 851	2C1R 123 0 – 316	3C1R 48 0 – 173	4C1R 28 0 – 117	5C1R 21 0 – 79	7C 13 0 – 57
Half 3C2R 34 0 – 96	Half 2C2R 61 0 – 353	Half 1C2R 145 37 – 360	Half Great-Niece / Nephew 432 125 – 765	Great-Niece / Nephew 910 251 – 2108	Grandchild 1766 1156 – 2311	1C2R 229 43 – 531	2C2R 74 0 – 261	3C2R 35 0 – 116	4C2R 22 0 – 109	5C2R 17 0 – 43	7C1R 13 0 – 53
Half 3C3R	Half 2C3R	Half 1C3R 87 0 – 191	Half GG-Niece / Nephew 187 12 – 383	Great-Great-Niece / Nephew 427 191 – 885	Great-Grandchild 881 464 – 1486	1C3R 123 0 – 283	2C3R 57 0 – 139	3C3R 22 0 – 69	4C3R 29 0 – 82	5C3R 11 0 – 44	8C 12 0 – 50

<https://dnainter.com/tools/sharedcmv4>

What is a Chromosome Browser?

- Comparison of 2 DNA kits showing shared DNA by chromosome
- Available on:
 - Family Tree DNA
 - My Heritage DNA
 - 23 and Me
 - GEDMatch

Example of my DNA compared to a 1st cousin once removed showing shared segments

TIP: chromosome browsers can be useful for more advanced and detailed comparisons of DNA matches



First steps

- Review your matches, strongest (highest centimorgans) first
- Try to identify the closest matches
 - Do you know them?
 - How are you related to them?
- Enter notes about what you know about them
- Use Tag Groups (available on Ancestry and My Heritage) to identify them

Kenneth Richard Waters's DNA Matches

Filter by: Unviewed Common ancestors Messaged Notes Trees Shared DNA Groups Search | Settings

Parent/Child

- Joan Anita Craddock Parent/Child Shared DNA: 3,474 cM across 46 segments 1,797 People Common ancestor Add/edit groups Mother, 3474/46.
- Parent/Child Shared DNA: 3,470 cM across 60 segments 2,185 People Common ancestor Mother's Side Add/edit groups Daughter, 3470/60.
- Parent/Child Shared DNA: 3,466 cM across 62 segments 2,185 People Common ancestor Mother's Side Add/edit groups Son, 3466/62.

Full Sibling

- Brother Shared DNA: 2,491 cM across 63 segments 2,185 People Common ancestor Mother's Side Add/edit groups Brother, 2491/63.

Close Family

- Ernest Howard Waters Close Family--1st Cousin Shared DNA: 1,583 cM across 41 segments 2,185 People Common ancestor Add/edit groups Paternal Uncle, 1583/41.

1st Cousin

- 1st-2nd Cousin Shared DNA: 941 cM across 36 segments 5 People Common ancestor Add/edit groups
- 1st-2nd Cousin Shared DNA: 716 cM across 23 segments 2,185 People Common ancestor Add/edit groups 1st cousin, son of paternal uncle Ernie. 716/23.

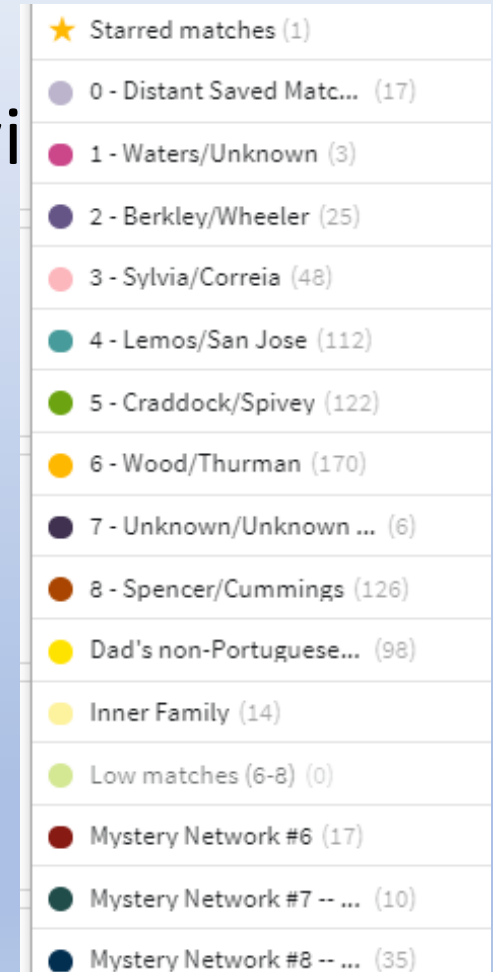
2nd Cousin

+ Create custom group

- Stated matches
- 1 - Waters/Unknown
- 2 - Berkeley/Wheeler
- 3 - Sylvia/Correia
- 4 - Lemos/San Jose
- 5 - Craddock/Spivey
- 6 - Wood/Thurman
- 7 - Unknown/Unknown MYSTERY
- 8 - Spencer/Cummings
- Dad's non-Portuguese side (...)
- Inner Family
- Mystery Network #8
- Mystery Network #8 -- Engli...

Divide and conquer

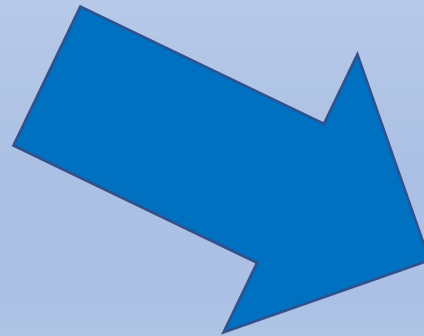
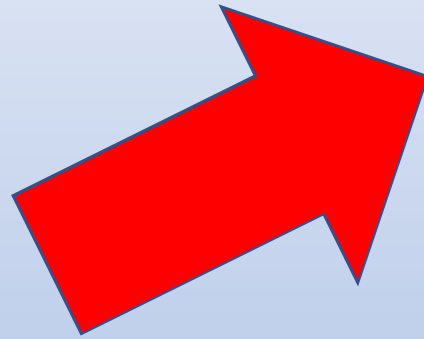
- On Ancestry, Using Tag Groups in combination with Shared Matches:
 - Group your matches by dividing them
 - First, Paternal vs. Maternal side
 - Then, work on Grandparents
 - Continue to divide matches



A screenshot of the AncestryDNA interface showing a list of match tag groups. Each group is represented by a colored circle followed by the tag name and the number of matches in parentheses. The groups are listed from top to bottom: Starred matches (1), 0 - Distant Saved Matc... (17), 1 - Waters/Unknown (3), 2 - Berkley/Wheeler (25), 3 - Sylvia/Correia (48), 4 - Lemos/San Jose (112), 5 - Craddock/Spivey (122), 6 - Wood/Thurman (170), 7 - Unknown/Unknown ... (6), 8 - Spencer/Cummings (126), Dad's non-Portuguese... (98), Inner Family (14), Low matches (6-8) (0), Mystery Network #6 (17), Mystery Network #7 -- ... (10), and Mystery Network #8 -- ... (35).

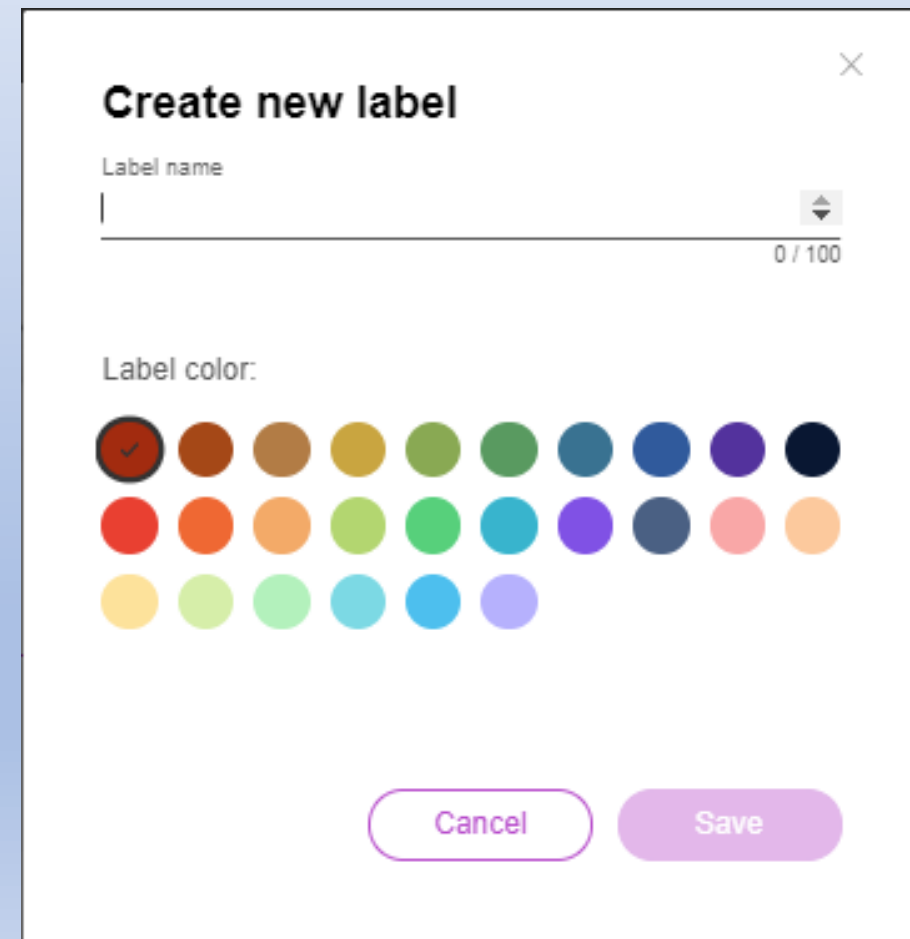
★ Starred matches (1)
0 - Distant Saved Matc... (17)
1 - Waters/Unknown (3)
2 - Berkley/Wheeler (25)
3 - Sylvia/Correia (48)
4 - Lemos/San Jose (112)
5 - Craddock/Spivey (122)
6 - Wood/Thurman (170)
7 - Unknown/Unknown ... (6)
8 - Spencer/Cummings (126)
Dad's non-Portuguese... (98)
Inner Family (14)
Low matches (6-8) (0)
Mystery Network #6 (17)
Mystery Network #7 -- ... (10)
Mystery Network #8 -- ... (35)

The goal: sort your matches into common groups



My Heritage Labels

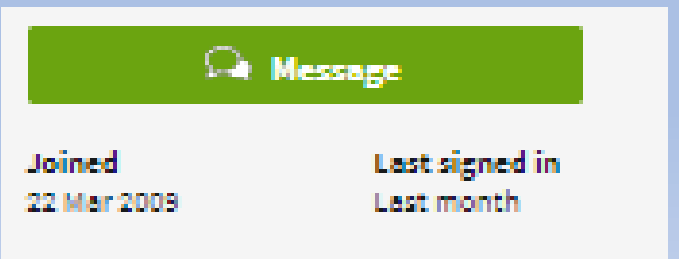
- My Heritage also has feature similar to Ancestry Tag Groups
- 30 “dots” versus 24 on Ancestry



The screenshot shows a 'Create new label' dialog box with a close button (X) in the top right corner. Below the title is a text input field for the 'Label name' with a character count of '0 / 100' and a dropdown arrow on the right. Underneath is a 'Label color:' section featuring a grid of 30 colored circles. The first circle in the top row is selected with a checkmark. At the bottom of the dialog are two buttons: 'Cancel' and 'Save'.

Next steps

- Build your online tree
 - Increases chances to match other test takers---remember, keep it lean
- Upload to other services including GedMatch (basic services are free)
- Start going through your matches, one-by-one
 - “Divide and Conquer” --- sort your matches into the bins of your family tree (start with dividing mother vs. father matches then build back up the tree)
- Communicate with your matches --- email, messaging --- there’s power in sharing
- Learn more
 - Free classes, online and at the library
 - Facebook Groups – Genetic Techniques



It's not genetic genealogy---without the genealogy

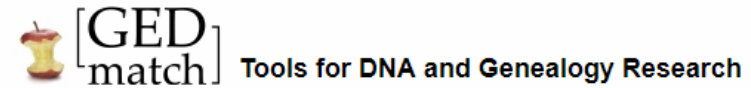
- DNA comparisons are great but mean nothing without genealogical context
- This means:
 - FAMILY TREES!
- Suggestions:
 - Be sure to always have a good tree, 5+ generations if possible
 - Keep it public and attached to your DNA kit (you can always have other trees private)
 - Backup your tree (store on local software)
 - Export your tree in GEDCOM format Upload your tree (GEDCOM file) to GedMatch and WikiTree



Other Useful Tools

GEDmatch

- A mostly-free public website which accepts DNA data from all 5 testing companies
- <http://gedmatch.com>
- Has more DNA match analytical tools than any of the 5 testing companies
 - Including triangulation
 - Auto-clustering



Welcome to GEDmatch. If you are already registered, just enter your login ID and password in the place provided below.

If you are not previously registered, click on the registration link near the bottom of this page. You will be asked to provide a valid email address and a password. After you are registered, you will be required to accept the GEDmatch Terms of Service. You can read the Terms of Service before you register by clicking on the link at the bottom of this page.

GEDmatch provides applications for comparing your DNA test results with other people. There are also applications for estimating your ancestry. Some applications are free. More advanced applications require membership in the GEDmatch Tier1 program at \$10 per month.

If you have any questions or comments, you can reach us at GEDmatch@Gmail.com

Log In

Email Address:
Password:

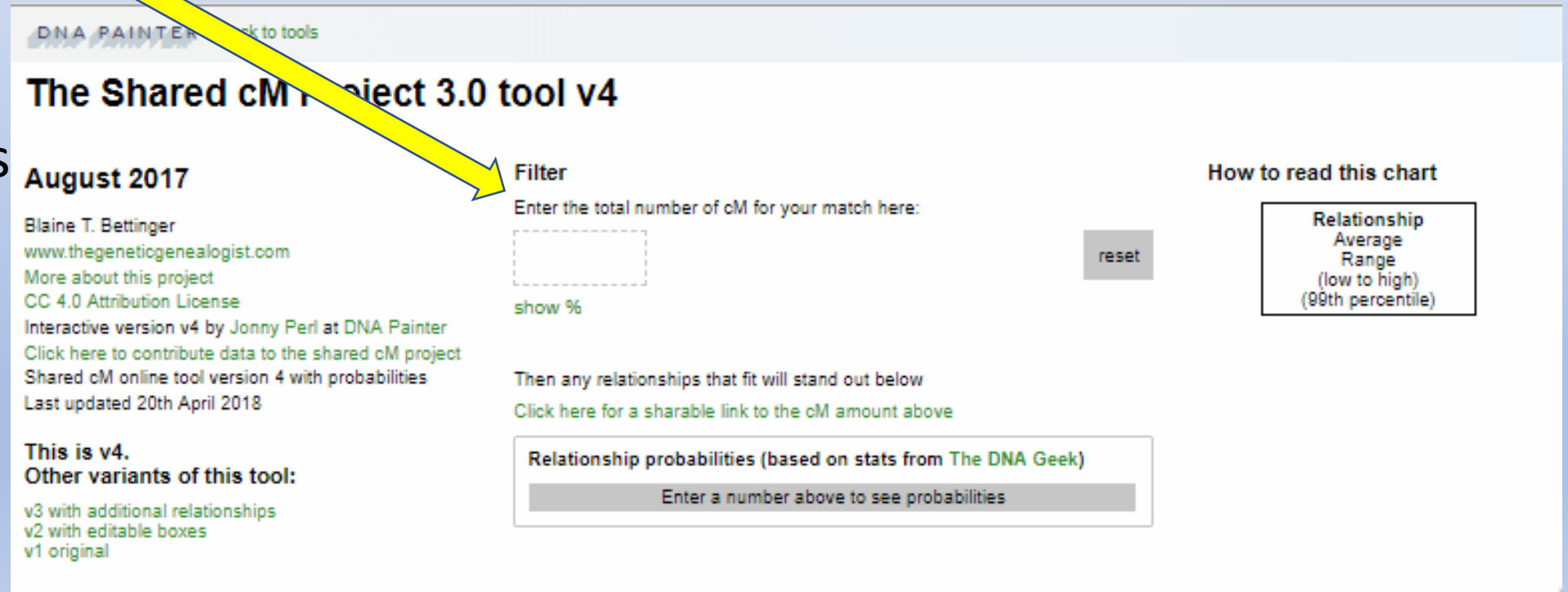
Not Registered? Click [HERE](#) to register at the main site - when registered return to this page to access genesis.gedmatch.com

Forgot your password or wish to change your password? Click [HERE](#) to recover your password at the main site - when recovered return to this page to access genesis.gedmatch.com

Site policy: Click [HERE](#)

Dnapainter's shared cm project

- Enter cM value
- See all the possibilities



DNA PAINTER [link to tools](#)

The Shared cM Project 3.0 tool v4

August 2017

Blaine T. Bettinger
www.thegeneticgenealogist.com
[More about this project](#)
[CC 4.0 Attribution License](#)
[Interactive version v4 by Jonny Perl at DNA Painter](#)
[Click here to contribute data to the shared cM project](#)
[Shared cM online tool version 4 with probabilities](#)
Last updated 20th April 2018

This is v4.
Other variants of this tool:
[v3 with additional relationships](#)
[v2 with editable boxes](#)
[v1 original](#)

Filter
Enter the total number of cM for your match here:

[show %](#)

Then any relationships that fit will stand out below
[Click here for a sharable link to the cM amount above](#)

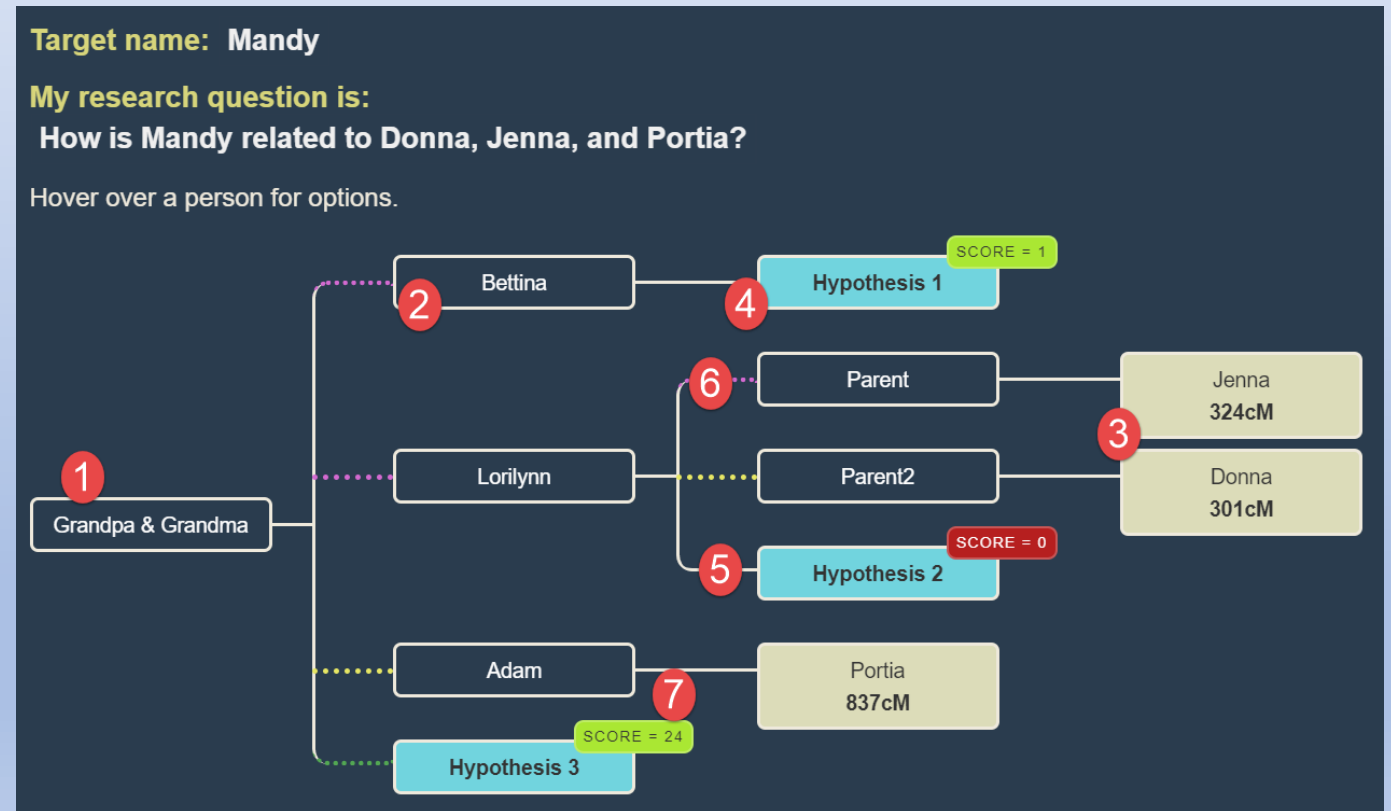
Relationship probabilities (based on stats from [The DNA Geek](#))

How to read this chart

Relationship Average Range (low to high) (99th percentile)
--

DNAPainters “WATO” Tool

- WATO=What Are The Odds?
- Test hypotheses using DNA test strength levels (measured in cMs)



Get what you can get from shared matches


- In this case due to good sampling of shared matches I was able to isolate the match to my maternal grandfather
- Some of these are 1st and 2nd cousins to Joan and use the cM values for each match help narrow down the precise line

How are you and [redacted] related?


Common Ancestors

According to Ancestry member trees, these are the common ancestors that connect you and [redacted]. View a common ancestor to see the relationship path that connects you.

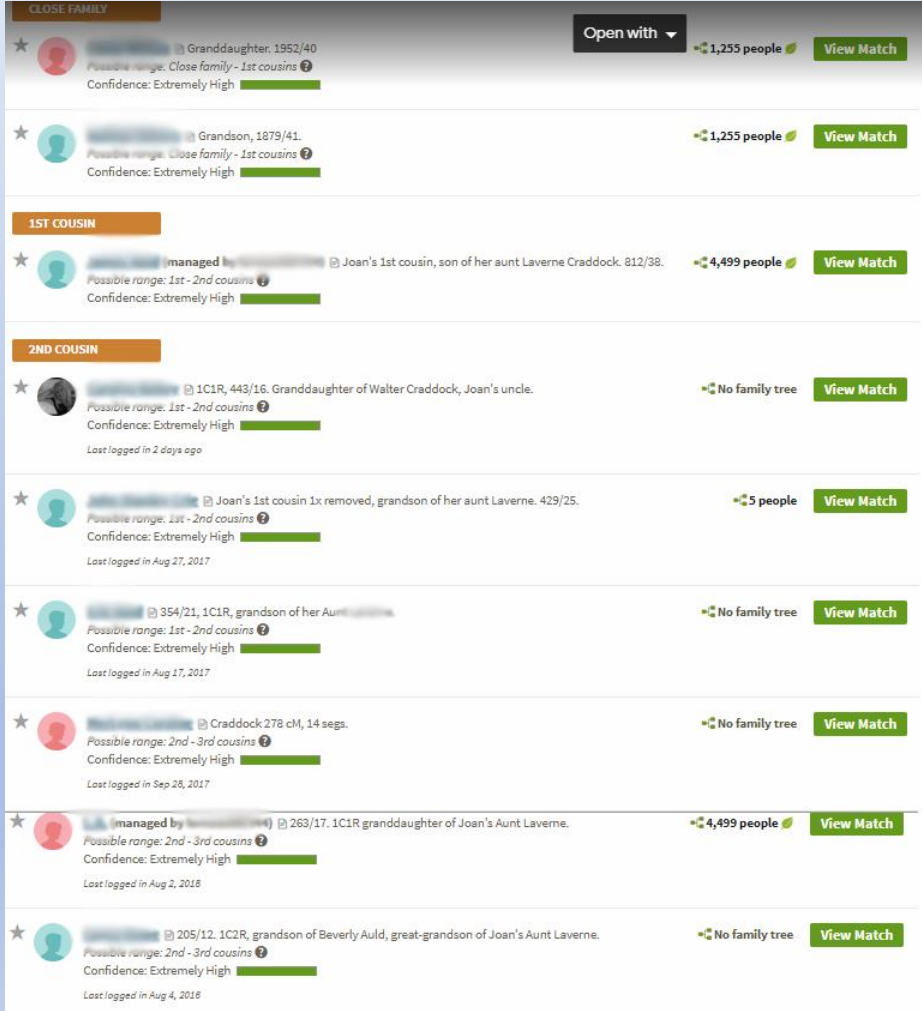
[redacted] could be your 1st cousin 1x removed through:



Charles Noble Craddock
Great-grandfather
1868-1950
[View Relationship](#)



Mary Ellen "Molly" Wood
Great-grandmother
1870-1930
[View Relationship](#)



The screenshot shows a list of shared matches on AncestryDNA. The matches are categorized into 'CLOSE FAMILY', '1ST COUSIN', and '2ND COUSIN'. Each match entry includes a profile picture, a star icon, a name and birth/death dates, a 'Possible range' of relationships, a 'Confidence' level (Extremely High), the number of other people who match both, and a 'View Match' button. The matches listed include:

- CLOSE FAMILY:**
 - Granddaughter, 1952/40. Possible range: Close family - 1st cousins. Confidence: Extremely High. 1,255 people.
 - Grandson, 1879/41. Possible range: Close family - 1st cousins. Confidence: Extremely High. 1,255 people.
- 1ST COUSIN:**
 - Joan's 1st cousin, son of her aunt Laverne Craddock. 812/38. Possible range: 1st - 2nd cousins. Confidence: Extremely High. 4,499 people.
- 2ND COUSIN:**
 - 1C1R, 443/16. Granddaughter of Walter Craddock, Joan's uncle. Possible range: 1st - 2nd cousins. Confidence: Extremely High. No family tree.
 - Joan's 1st cousin 1x removed, grandson of her aunt Laverne. 429/25. Possible range: 1st - 2nd cousins. Confidence: Extremely High. 5 people.
 - 354/21, 1C1R, grandson of her Aunt Laverne. Possible range: 1st - 2nd cousins. Confidence: Extremely High. No family tree.
 - Craddock 278 cM, 14 segs. Possible range: 2nd - 3rd cousins. Confidence: Extremely High. No family tree.
 - (managed by [redacted]) 263/17. 1C1R granddaughter of Joan's Aunt Laverne. Possible range: 2nd - 3rd cousins. Confidence: Extremely High. 4,499 people.
 - 205/12. 1C2R, grandson of Beverly Auld, great-grandson of Joan's Aunt Laverne. Possible range: 2nd - 3rd cousins. Confidence: Extremely High. No family tree.

My Top 10 DNA Tips

My top 10 tips

- #1: Test only with the 4 trusted companies (Ancestry, 23andMe, FTDNA, MyHeritage)




My top 10 tips

- #2: Download the DNA data and upload it to as many sites as you can

Actions

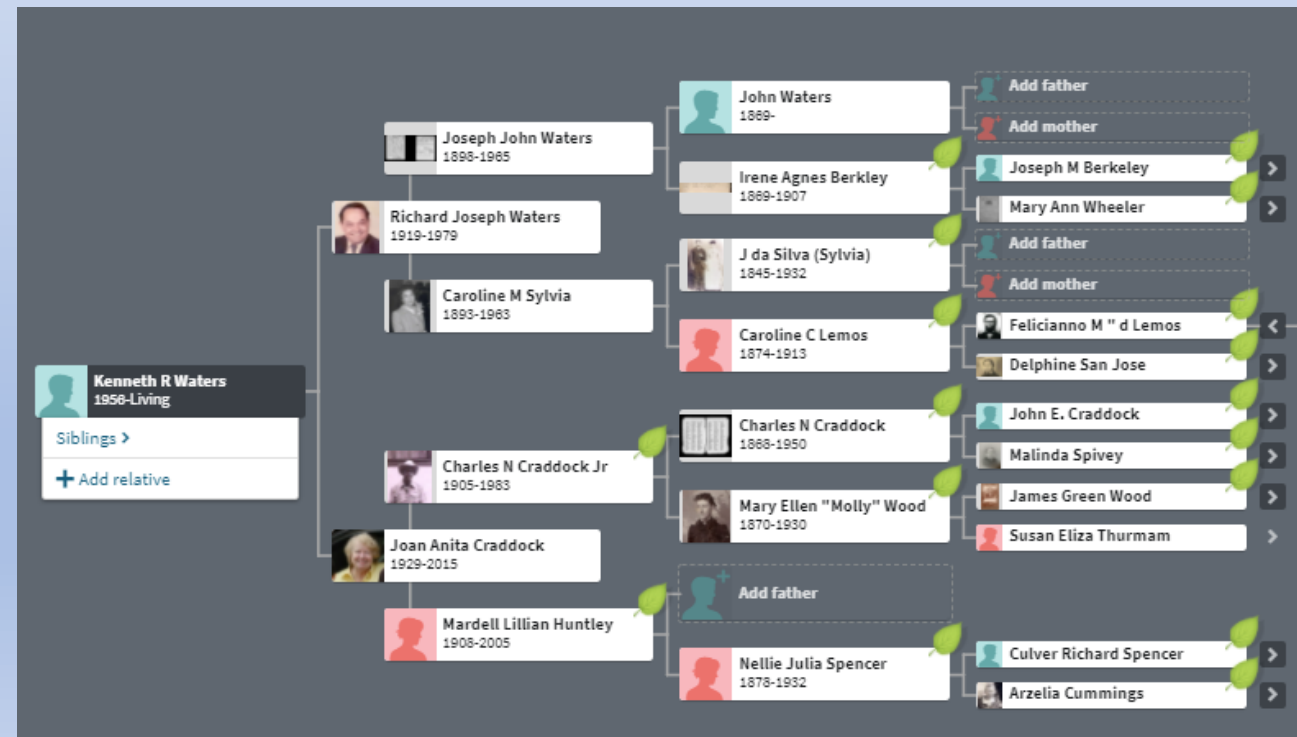
Download DNA Data Download ▾
Download a .zip file of your DNA data.
[What is DNA Data?](#)

FAMILY FINDER - DOWNLOADS

Download Your Data 
Raw Data

My top 10 tips

- #3: Build a single family tree that is accurate and supportable with good-quality records and keep that family tree PUBLIC (!) and make sure it's attached to your DNA record (aim for QUALITY, not QUANTITY)



My top 10 tips

- #4: Build private trees for all your hypothesis tests (“what if”) to see what hints can be found to help solve mysteries and build your public tree up

Save Your Tree ✕

Name Your Tree *

Allow others to view this tree (people marked "living" are hidden). [How does this help me?](#) ▾

Save tree Cancel

We value your privacy. [Read our privacy policy](#)

Private Tree

This setting allows you to keep your tree "private" so that other users cannot view the contents of your tree.

What does "private" mean?

Limited information about deceased individuals in your tree (name, birth year, and birthplace) will still appear in Ancestry search results. However, no one can view your actual tree without your permission. If another member wants to view your tree, they can contact you anonymously through our Connection Service to request more information. Keep in mind that these individuals may also have helpful information to share with you.

Also prevent your tree from being found in searches.

Note: Although your privacy setting will change immediately to public or private, it usually takes about a month for this update to be reflected in the search index.

My top 10 tips

- #5: Learn to use useful tools such as DNAPainter and its relationship estimator (Shared cM Project)

The screenshot shows the DNA Painter website homepage. At the top, there is a navigation bar with 'DNA PAINTER', 'Tools', 'Help', 'Subscribe', and 'Blog'. Below this is a main header with the text 'DNA Painter is an award-winning website that can help demystify your DNA results'. To the right of this text is an image of a balance scale with several small portraits on it. Below the header, there is a search bar with the text 'Search the site' and a 'Go' button. To the right of the search bar is a purple button that says 'Register for a free account'. Below the search bar and register button is a section titled 'WHAT YOU CAN DO AT DNA PAINTER'. This section contains four cards, each with an icon and a title. The first card is 'Visualize your direct line' with an icon of a family tree. The second card is 'Map segments of DNA to ancestors' with an icon of a chromosome. The third card is 'Figure out how you're related to a DNA match' with an icon of a pie chart. The fourth card is 'Use matches to identify an unknown ancestor' with an icon of a family tree. Each card has a brief description and a 'More info' link.

The Shared cM Project 4.0 tool v4

[Read more about the tool and this update](#)

March 2020

Blaine T. Bettinger

www.thegeneticgenealogist.com

[More about this project](#)

[CC 4.0 Attribution License](#)

Interactive version v4 by [Jonny Perl at DNA Painter](#)

[Click here to contribute data to the shared cM project](#)

Last updated 26th March 2020

Filter

Enter the total number of cM for your match here:

reset

or enter %

Then any relationships that fit will stand out below

New [Click on any relationship to view a histogram](#)

[Read more about cousin relationships](#)

Other versions

My top 10 tips

- #6: Be prepared to deal with unexpected surprises!

The image is a screenshot of a news article from NBC 10 Philadelphia. The page has a dark blue header with the station's logo and navigation links for WEATHER, LOCAL, SPORTS, ENTERTAINMENT, INVESTIGATORS, VIDEOS, and NEWSLETTERS. Below the header, the article is categorized under 'DNA TESTING'. The main headline reads: "'I Was Numb': Family Secrets Come to Light as DNA Testing Gains Popularity". A sub-headline states: "Two families with lifelong secrets unearthed because of home DNA test kits are now dealing with the truth. Here's what their stories tell us about the shock that can come from new ancestry technology, and how to deal with it." The byline is "By Jim Rosenfield and NBC10 Investigators • Published on November 4, 2019 at 12:47 pm". There are social media icons for Facebook, Twitter, and Email. Below the text is a video player showing a news anchor in a suit standing in a studio. A large graphic behind him says "FAMILY SECRETS EXPOSED" next to a DNA double helix. The video player includes a timestamp of 11:13, a temperature of 54°, and the NBC 10 logo. At the bottom of the page, there is a news ticker with the text: "PHILADELPHIA CITY COUNCIL - FIRST DISTRICT 51% 83% MARK SQUILLA (D) 17% DANIEL ORSINO (R)".

<https://www.nbcphiladelphia.com/investigators/i-was-numb-family-secrets-come-to-light-as-dna-testing-gains-popularity/2117880/>

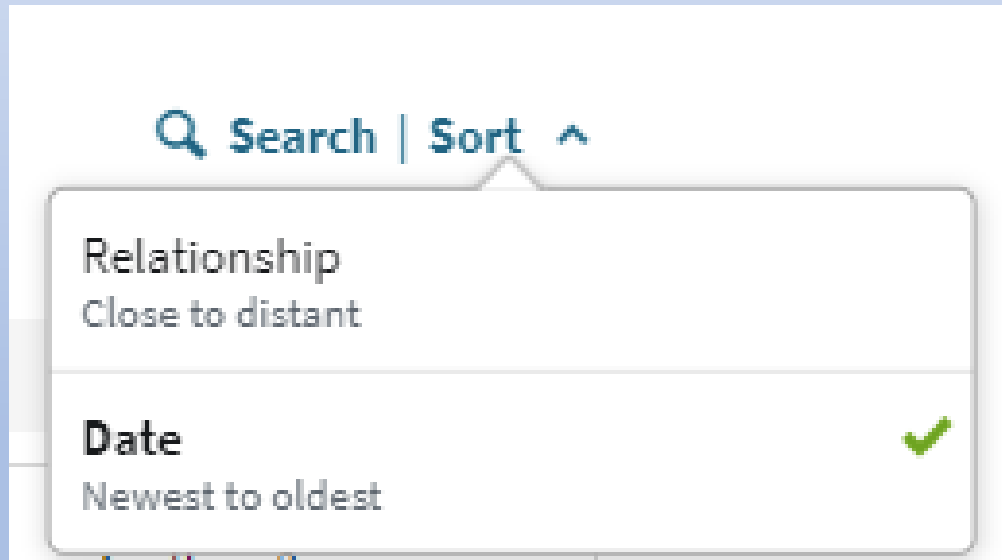
My top 10 tips

- #7: Use well-crafted, well-thought out messaging to DNA matches to share information and test your hypotheses

Hi Elaine, my name is Ken Waters. I'm writing to you due to research I'm doing on [REDACTED] DNA as well as her aunt. You match [REDACTED] who is my [REDACTED]. It appears very likely that you share a common ancestor with her on the [REDACTED] line. I viewed your tree with [REDACTED] in it and was wondering if you have any information on any other [REDACTED]'s in your line? Thank you! My email is ken@familytreeaz.com. --Ken

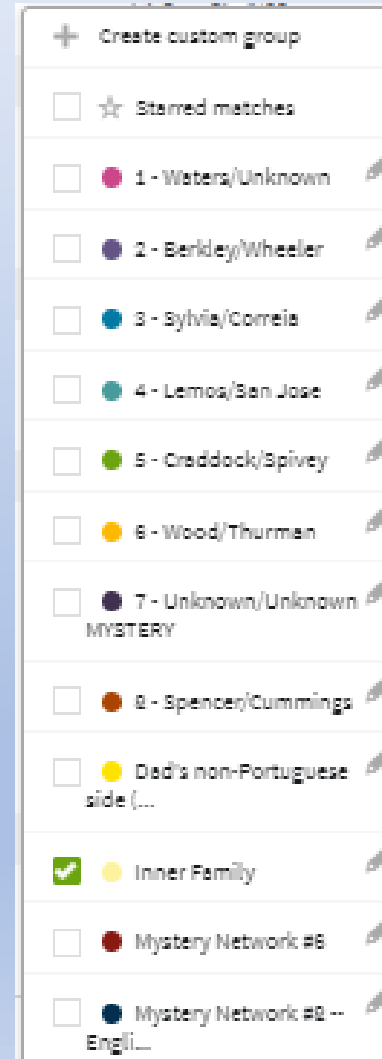
My top 10 tips

- #8: Regularly check for new matches



My top 10 tips

- #9: Sort your matches (starting at the top) into family groups
 - I like to use Ancestry's Tag feature to sort into my 8 great-grandparent lines



My top 10 tips

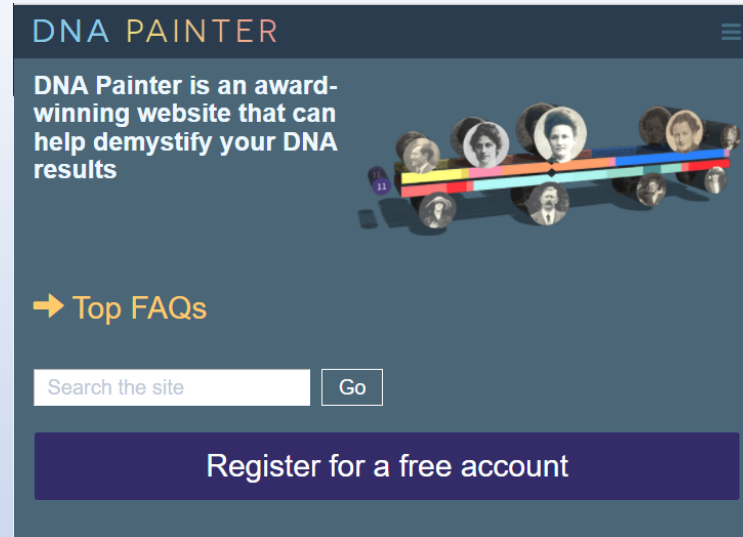
- #10: Learn more (go to conferences, attend local meetings (e.g., East Valley DNA SIG), watch videos, take classes [like mine!])



**Phoenix East Valley DNA Special
Interest Group**

Resources

- GEDMatch.com
- DNAPainter.com
- DNAGedcom
- Familysearch.com (to research sources)
- Legacy Family Tree webinars (free for 7 days)
- FindAGrave.com
- ISOGG.org Wiki
- WikiTree.com
- Facebook Group: Genetic Genealogy Tips & Techniques
- Local groups: (for example) Phoenix East Valley DNA Group [on Facebook]



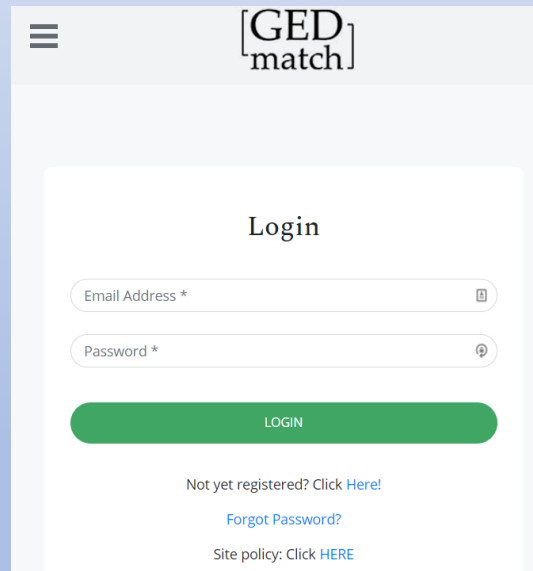
DNA PAINTER

DNA Painter is an award-winning website that can help demystify your DNA results

→ Top FAQs

Search the site

[Register for a free account](#)



GEDmatch

Login

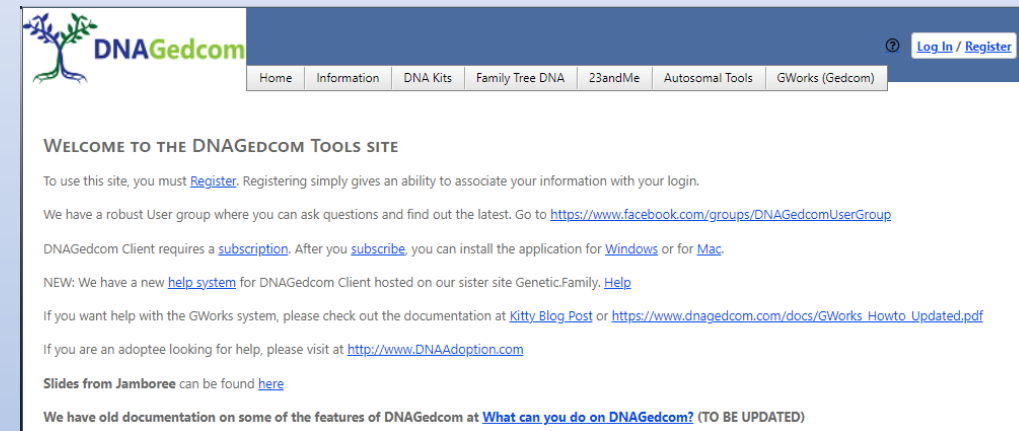
Email Address *

Password *

Not yet registered? [Click Here!](#)

[Forgot Password?](#)

Site policy: [Click HERE](#)



DNAGedcom [Log In / Register](#)

Home Information DNA Kits Family Tree DNA 23andMe Autosomal Tools GWorks (Gedcom)

WELCOME TO THE DNAGEDCOM TOOLS SITE

To use this site, you must [Register](#). Registering simply gives an ability to associate your information with your login.

We have a robust User group where you can ask questions and find out the latest. Go to <https://www.facebook.com/groups/DNAGedcomUserGroup>

DNAGedcom Client requires a [subscription](#). After you [subscribe](#), you can install the application for [Windows](#) or for [Mac](#).

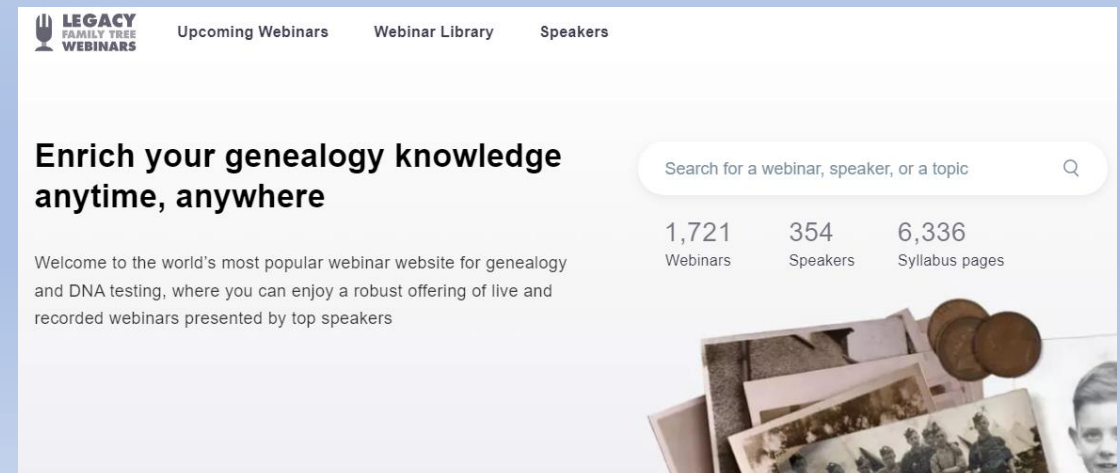
NEW: We have a new [help system](#) for DNAGedcom Client hosted on our sister site Genetic.Family. [Help](#)

If you want help with the GWorks system, please check out the documentation at [Kitty Blog Post](#) or https://www.dnagedcom.com/docs/GWorks_Howto_Updated.pdf

If you are an adoptee looking for help, please visit at <http://www.DNAAdoption.com>

Slides from Jamboree can be found [here](#)

We have old documentation on some of the features of DNAGedcom at [What can you do on DNAGedcom?](#) (TO BE UPDATED)




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Much More to All This!

- Identifying DNA Matches (without contacting them)
- Genetic Triangulation
- Advanced shared match grouping and sorting
- Building private trees to test hypotheses
- Auto-clusters
- Solving unknown parentage cases
- Targeted testing strategies
- Combining autosomal tests with Y-DNA and mtDNA tests

Quote of the Day

“DNA doesn't lie. But it sure can be misinterpreted.”

– Ken Waters

Upcoming Classes/Presentations

Sat, Dec 10, 1 pm – 2 pm

Title: A Unified Process for Working with Ancestry DNA Matches

Description: We will discuss a useful methodology for working your DNA matches starting with the basics and then digging deeper into ways to improve your Ancestry DNA efforts. This will include using Tag Groups, shared matches, and identifying those matches in order to add to your family tree.

Sat, Jan 14, 2 pm

Topic: Identifying Your DNA Matches

Description: One of the primary steps in working with your DNA match list is identifying the matches so that you can work them into your family tree. Sometimes it's easy or you can communicate with the match. But, more often, that is not the case and so a series of steps may be required in order to identify them

Wed, Feb 1, 7 pm (Private Group—contact Ken for information)

Topic: Working with DNA Matches

All library classes (highlighted blue) are free to attend and require no registration. Classes are held at the Red Mountain Mesa Public Library at 635 N Power Rd in Mesa (unless otherwise noted above).



FamilyTreeAZ.com



Presentations:

<http://familytreeaz.com/Presentations>



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Google Voice Phone: (480) 331-5889

