"DNA Toolbox 2022" Handout
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Introduction
- DNA companies and their capabilities change so rapidly that it is important to stay current regarding the best tools and best companies to use for our specific needs.
- DNA results are much more valuable than they have been in the past, due to the fact that the database of total matches has grown so much – 30 million people have taken the autosomal tests.
- DNA features have improved markedly over the past 3 years. Different companies have new and outstanding offerings.

Different Companies and Their Offerings.
- There are 6 different companies and 3 different types of DNA tests, so it is easy to get confused about which tools and which companies to use.
- Does "One Size Fits All" apply to DNA tools? NO. NO. NO.
- Different types of users need to use different tools.

Different Types of Users
A. **Surname People**. They are interested in their researching own surname and focus on the Y-Test. Today we are going to spend the time on autosomal tests so won't say anything about this group.
B. **Health People**. They are interested in finding out what DNA can tell them about their inherited physical conditions. While this is useful DNA data, it is not in the genealogy mainstream so we won't deal with that today.
C. **Adopted People**. They want to find their biological family and build a family tree..
D. **The Big Picture People**. They are interested in their general ancestral background, including their ethnicity results.
E. **New Genealogists and Small Tree People**. They need to focus on tools that will help them get started on building a family tree, and work on 2nd or 3rd cousins.
F. **Large Tree People**. They need to work on tools that will deal with lower scoring matches because they are working on 4th, 5th, or 6th cousins. Most long-time genealogists probably fit in this group.

The Different Companies and the Different Types of Users
A. **Adopted People**. They will benefit most from matches with the higher scores, especially on Ancestry, but also on the other company sites. The huge number of DNA users has now made it likely that adopted people should have some success in finding close relatives.
B. **Big Picture People**. They will be most concerned with ethnicity results, using the data on each of the company sites. This is a large group comprising perhaps 85% of all the DNA users. The DNA results should be useful for these people.
C. **Small Tree People**. They need to focus most on the higher cM scores, especially on Ancestry, but also on the other sites. The increased size of the DNA user data pool should make for success for this group of users.
D. **Large Tree People**. They need to focus most on lower cM scores, especially on Ancestry but on the other sites as well.

- *Sign up for DNA results on each of the company sites.*
- *The best plan is to buy the Ancestry test, and then FOR FREE, transfer your data to each of the other sites*
- *Using GEDCOM files, post your data on each DNA site.*

Ancestry DNA and its Tools

A. Big Picture Tools
These are the tools that show the DNA Story, the Ethnicity data, and the map data that shows where your matches live.

- To get good coverage on this topic, you need to be able to look at the ethnicity scores on each of the sites. These results will be variable, but you will get a much better picture of your likely ethnicity if you can look at the different DNA sites; there should be a common thread among those different results.
- Obviously, because the ethnicity results will be different, they cannot all be correct, but a common picture should emerge.
- These tools will be the bread and butter for the Big Picture people, but will also be a great help to Adopted people and Small Tree people.

B. Individual Match Data Scores and Related Data
These tools are common to each DNA site. They each list the scores from top to bottom.

- **The cM scores** themselves are important. You need to get an understanding of how the scores translate to specific relationships.
- The higher scores are most important for the Adopted and Small Tree people because they are more interested in finding closer relatives, say down to the 2nd cousins.
- The lower scores, from about 40 on down to 8, are the most valuable scores for the Big Tree people, because they are looking more for 4th, 5th, and 6th cousins.
- **POSTED TREES** are the 3rd most valuable tool in all of DNA analysis. When you find a number of people who match you and they are all in the same family branch you can learn a lot about that group, enough perhaps to break through brick walls.
- Posted trees are valuable for all categories of DNA users.
- However, only about 40% of the matches post a tree, so you still need to deal with the majority of your matches who didn't post a tree.
- **SHARED MATCHES** are the 2nd most valuable tool in all DNA analysis. All the DNA sites use this concept.
- A shared match is defined as a match that is common to both you and the match you are analyzing. Higher scoring matches will have many shared matches, maybe 50 or more; even lower scoring matches will have some shared matches.
- These shared matches are not random. For any individual match, these shared matches will congregate in a specific family branch, so they will be useful in building a cluster of matches within a family branch.
- This shared match concept works so well that you will be able to define the placement in your family tree of all these many matches, so you won't even need a person's posted tree to tell where to place these individual matches.

C. Ancestry's Helping Tools
Thru Lines, Common Ancestors, and the Ancestry Public Trees offer a combination of helping tools that are superb and which are relatively new to Ancestry.

- **THRU LINES** is the most useful tool in the entire world of DNA analysis. To give you your Thru Lines data, Ancestry compares your posted tree to the data in all of your

different matches' trees, and also draws from its stockpile of Public Tree data. The result is that they will find numerous matches for you where you and your match both have a Common Ancestor. They name that ancestor and tell you the exact relationship between you and the pertinent match.

- Ancestry found over 800 Thru Lines matches for me. What a boon that would be for someone just starting his DNA analysis.
- Remember, *you must post a tree for this to happen*.

D. Collaboration Tools
Ancestry provides ways for you to work with other researchers. They have a feature called "View Another Test" and also will serve as a go-between if you want to send messages to your matches.

- Some of your matches may have data that you don't have and it is helpful to have that data. Also, some of your matches may have 4th or 5th cousin matches that you don't have in certain family branches.

E. Ancestry's Search Tools
Ancestry offers different ways for you to search for different types of matches that may be useful.

- With the Search option, you can search for anyone in your match list with a specific name.
- With the Surname Selection option, you can go a step further and ask Ancestry to find any match who has any person with a certain surname in their entire set of family trees.
- With the Geographic option, you can ask Ancestry to find any of your matches who have included any data about a specific location. Each of these options can be highly valuable as you focus your research on a specific family branch.
- Also, consider using "mix and match" combo searching strategies. For example, you might want to select a color-coded group and then select the geographic option for that group; for example, select one family branch (purple) and then select Tennessee. Or, you might select a color coded group along with a range of scores.

F. Organizing Tools
With thousands of matches, you need some methods for organizing them. There is no index, so you need to help facilitate this process yourself, but Ancestry offers useful tools to help.

- They offer you the option to "Add Relationship" for each match. And, they permit you to "Add Group" to each match. The Add Group option is especially useful because they provide a choice of 16 different colors so you can color code each match by identifying the pertinent family sub-group for each match. Examples were shown of the effectiveness of this tool.

"Other Company" Features
Each of these companies has a great similarity to Ancestry: they each provide match scores, posted trees, shared matches, and also a chromosome browser which Ancestry does not have.

A. <u>My Heritage</u>
Three distinctive tools stand out for My Heritage: the Cluster Finder, the Segment Analysis tool, and the Chromosome Browser.

- The Cluster Finder groups the different shared match groups who score over 30 into clusters. This is a task that we have probably done manually in Ancestry, but this time the work is done for you, so you have a head start in defining your different family branches. My Heritage started me off with 18 clusters, a really good start.

- The Chromosome Browser is user-friendly and permits quick comparisons among a group of matches. Detailed scores are provided throughout so you know exactly the amount of DNA material is common to different matches, and on which chromosome.
- The Segment Analysis tool provides the means to do detailed analysis of the scores and different matches on specific segments of each chromosome.

B. **GEDMATCH**

This is a 3rd party company that takes your raw data that you had with another DNA company but processes it differently.

- GEDMATCH has a dozen or so key features in their Free area and another dozen in their "For Pay" area.
- Their data is arranged in a user-friendly way; they give you your top 3000 matches.
- They have a highly useful approach to showing your shared matches with each individual so that you know the exact score for each pair of matches, and with their 3-D browser you can see exactly where the matching occurs.
- New features are being added all the time; In 2022, GEDMATCH added several new features.

C. **FTDNA**

This company is the pioneer in the business. And this is the only company that offers the Y-test and the mitochondrial test. In connection with the Y-test, they have over 8,000 surname projects. For the autosomal test, they have the usual capabilities as well as a good browser.

D. **23 and Me**

This company has a history of trying to focus their DNA efforts on health issues, so they have more of a health clientele than our usual genealogy clientele. They only give you your top 1500 scores, so your lower scores will be missing. For me, my lowest score there was 33, so they are not giving me much help with my 4th or 5th cousins.

E. **Other DNA Companies and Capabilities**

Living DNA is a new company and is too new to have enough matches to be useful. It is owned by Find My Past so may have a strong British component. There are other people and other capabilities out there as well. For example, Jonny Perl has done a great job promoting DNA Painter and What Are the Odds.

DNA Learning Tools

- DNA is still an alien world to most people, even those who have taken the DNA test. To get a good start, you would be well advised to get some "one-on-one" help from someone, perhaps at a Family Search Center or at a workshop in a local genealogy society.
- DNA capabilities are changing rapidly; this class would have been taught very differently 3 years ago: no Thru Lines, no Cluster Finder, and no Segment Analyzer.
- The Webinar World. The good news is that there are numerous DNA classes available. Legacy Family Tree is the best place; they have 227 DNA classes, about 60 minutes each. Their list of classes includes Jonny Perl with his DNA Painter class as well as his What Are the Odds.
- Also, other groups have classes and webinars as well. Roots Tech, Family Search, and You Tube are a few.