

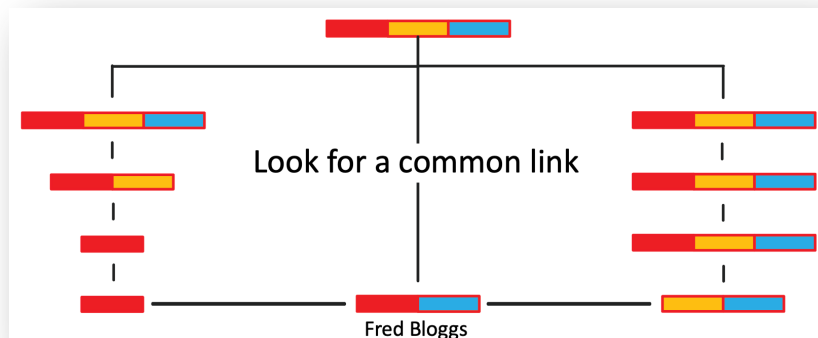
DNA Exploring Your Test Results

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1 We are cousins, we must match with DNA?



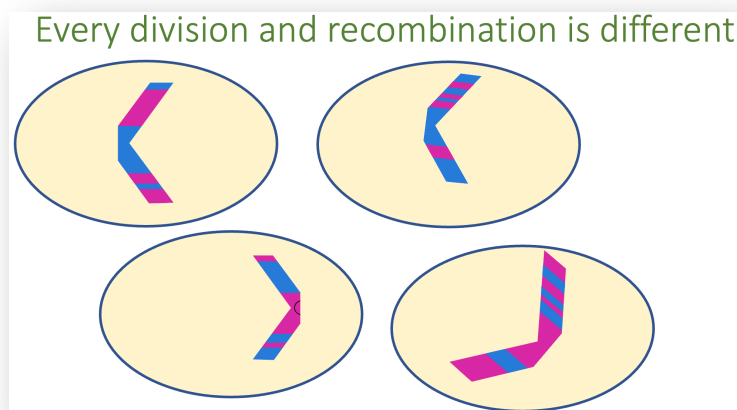
This diagram shows the parent at the top, this is the Common Ancestor. Using the colours to suggest different sections of the Common Ancestor's DNA, it is evident that, after four generations, the third cousins at the bottom of the chart have inherited different sections of that DNA. The 'red' DNA does not match 'yellow' and 'blue' DNA, so the testing companies would not match these two cousins. The cousins are, of course, still related to each other as they are both descended from the same Common Ancestor. In reality, both cousins might share some DNA, but the amount would be too small for Ancestry to consider it with enough certainty.



In this chart, the two third cousins have found that they both match with "Fred Bloggs", who is another third cousin. Fred Bloggs has not inherited any "yellow" DNA from their Common Ancestor, but he has some "red" DNA and some "blue" DNA and therefore matches with both of the other third cousins. The logical explanation is that all three third cousins descend from the same Common Ancestor. Fred Bloggs becomes a Common Link which should be confirmed (or disproved) with the usual research and paper trail. It is usually necessary for two cousins to work with each other to compare DNA matches to find these Common Links.

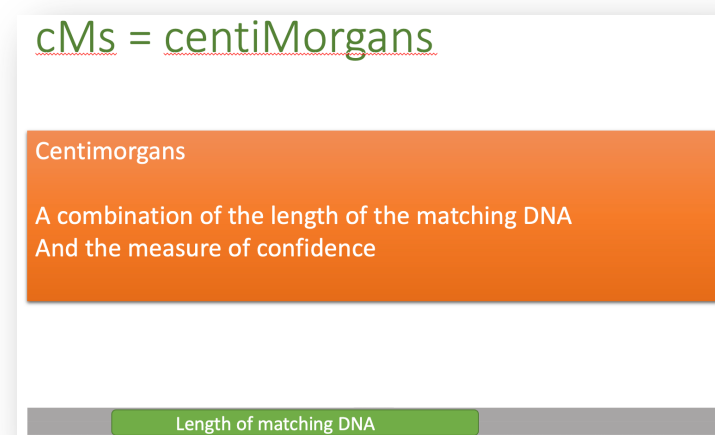
2 The Chromosomes

We have 22 pairs of autosomal chromosomes, which are used for testing our DNA, and one pair of sex chromosomes. That is a total of 46 chromosomes in every cell. Children get 50% of their mother's DNA and 50% of their father's DNA, all of which recombines in random ways to create the chromosomes that the children inherit. The next image shows how recombination combines the "blue" and the "pink" randomly so that each child will have a different combination of DNA segments and may therefore probably differ in appearance and in character whilst still looking "like your mother" or "just like your father".



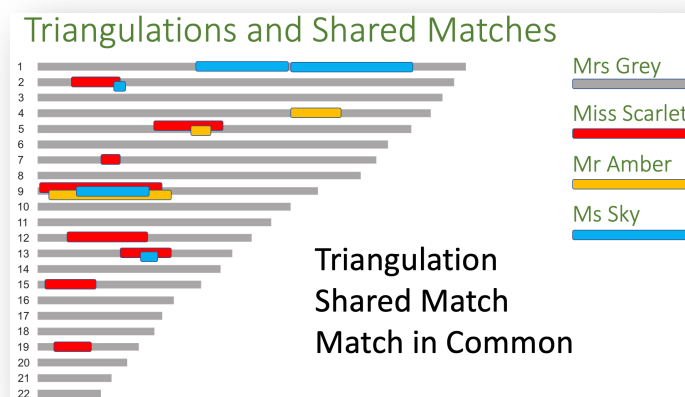
3 What are cMs, centiMorgans?

CentiMorgans are a measure of the length of a segment of DNA and also a measure of certainty (although Ancestry says that its DNA measurements are unweighted). This chart represents one of your chromosomes with a grey line over which is a green representation of Mr Green's match with you on that chromosome. The chart shows one segment of DNA overlaid on "your" grey chromosome.



4 22 Pairs of Chromosomes

Ancestry does not show the chromosome chart, but most of the other DNA testing companies do have these charts which show exactly how you and a DNA cousin match. The 22 grey lines represent your 22 chromosomes and your DNA. The different colours represent three of your matches. All three matches overlap on chromosome 9; this means that you and all three DNA cousins match you and each other on that specific segment of DNA. This is known variously on the different sites as triangulation, shared matches or matches in common.



5 Shared matches and creating groups

If this is your first attempt at creating groups, start with your best DNA matches but choose one that you can identify and which, if possible, has been uploaded by someone who is on your Family Tree. Create a group and a colour for this person (the green dot). You will also know which part of your family tree is involved, so create a group that identifies that part of your tree – probably a surname or the surnames of a husband and wife that make it easy for you to work with (the orange dot). Then look at the shared matches for this person and add all of them to the two groups that you have just made. Now choose another match that you can identify and create more groups as you need. There is no need to set up groups for every great grandparent, just makes groups that best suit your research.

Add a Group

Shared DNA: 34 cM across 2 segs

+ Add to group
+ Add note

Create custom group

Group Name (24 of 24)
Type group name

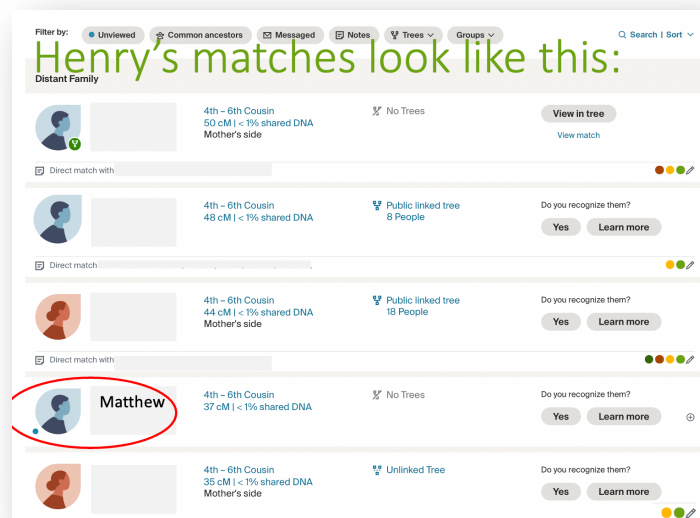
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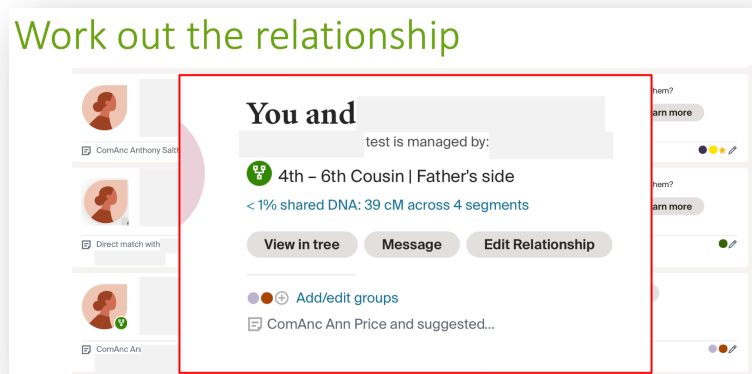
6 Looking at shared matches

Our fictitious 'Henry' has shared matches (triangulations, shared matches, matches in common) and the next chart shows a selection of those matches. Note that one match has a blue dot next to his profile image. This is an unviewed match that appeared just before I screen clipped this selection. Look at the coloured dots for the groups. The new match needs to be added to the green and orange groups, but the other matches have been around for a while and were already added to other groups, especially groups made for locations, villages of importance. You can see how the groups show clusters forming.



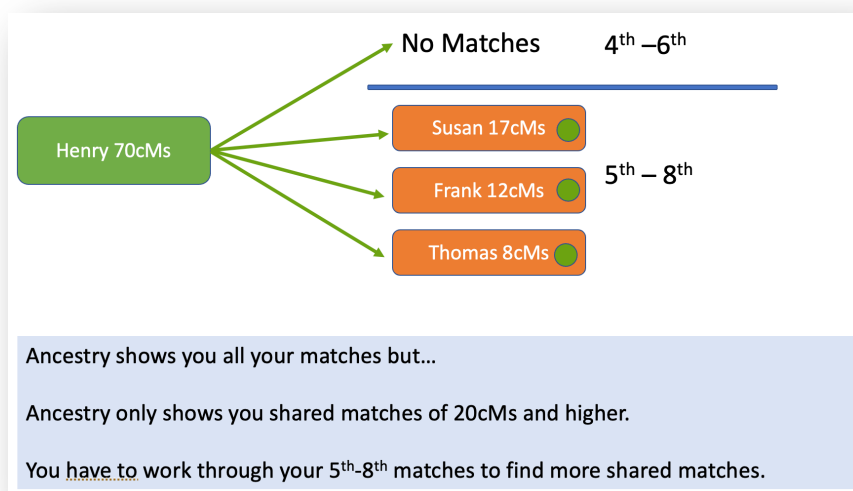
6 Assign Relationships

On the screen clip above that you are asked "do you recognise them?". If you recognise the shared match, click on 'Yes' and choose 'Edit Relationship'. The details can always be altered later. Some of the shared matches in the screen clips have already been allocated to "Mother's side". Ancestry is rolling out a new feature called Side View which will try to allocate your matches to Parent 1 or Parent 2. You can rename the two groups as 'Mother' and 'Father' later. Side View was not available when this handout was written.



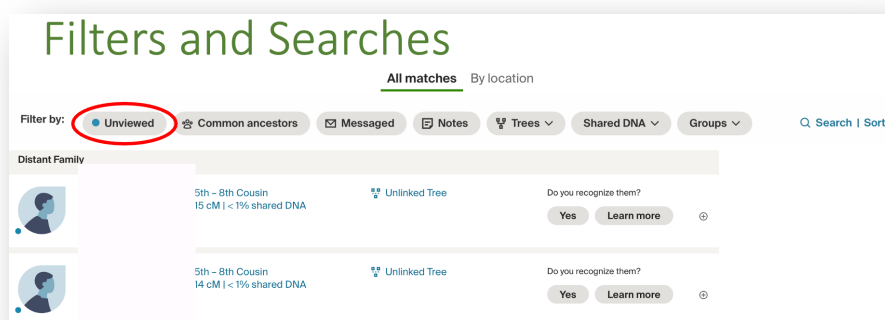
7 The 20cM cut-off for shared matches.

Ancestry (and some other sites) only shows shared matches above 20cMs. Smaller matches are considered not to be very reliable but any experienced researcher will have some excellent matches at perhaps 12cMs. An excellent match might be a distant cousin with a perfect tree, a family Bible from 1646 that records all the BMDs and who is willing to talk! The next image illustrates the value of searching all your matches to find more shared connections. Henry has no shared matches – but that only means that he has no shared matches larger than 20cM. By searching for Henry's unusual surname we have found three matches for Henry but, because they are all smaller than 20cM, they don't show in Henry's shared matches. Assign these matches to groups (in our case they would go into the green and orange groups that we created when looking at Henry's matches).



8 Refine with Filters and Searches

Please check your Common Ancestors and your New Matches every day (within reason). A new entry in the list of Common Ancestors could be a new match or, as happens frequently, an 'old' shared match might have just been updated with a linked tree for the first time after being a member of Ancestry for two years. It happens. Here are some screen shots:

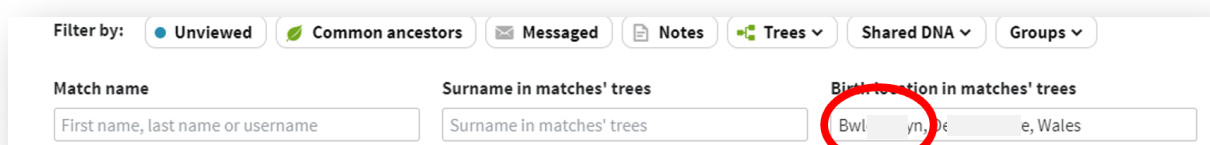
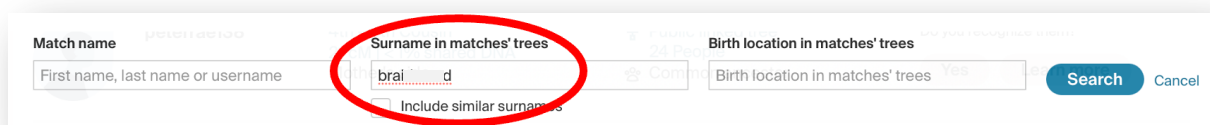
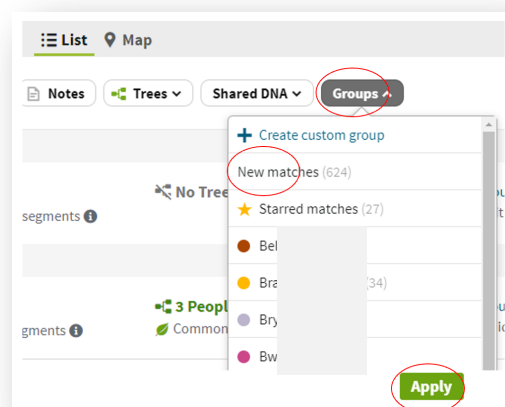
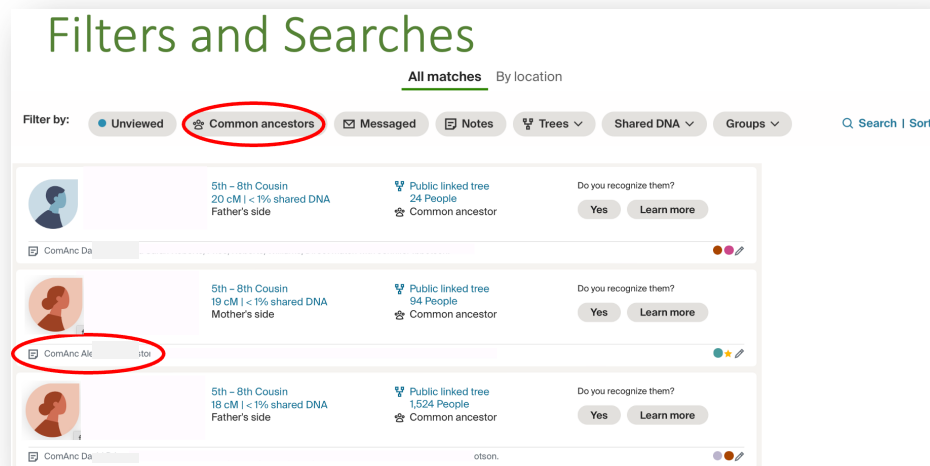


Common Ancestors: devise a system that suits you. I note matches with a ComAnc and a name...

ComAnc Walter Smith and Lucy Brand

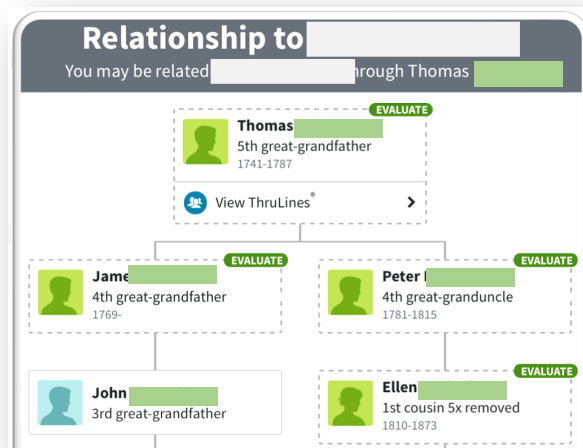
ComAnc David McFey and Isabella Johnson

Why? Because it makes it easier to scroll through the list of Common Ancestors and spot any new entries. Sometimes these will be ThruLines suggesting Common Ancestors.



9 ThruLines – suggested Common Ancestors for you to evaluate

ThruLines are suggestions, created by algorithms checking millions of matches and trees, that might take your tree further back in time. Every ThruLine suggestion has either 'EVALUATE' or 'POTENTIAL' attached to it (depending on the screen view). Always research these suggestions before making changes to your tree. The green images are the ThruLines.



10 Protecting your research; copyright

At the foot of your Ancestry DNA home page you will find Ancestry's Terms and Condition. Other companies are likely to have similar Terms and Conditions. Please read them carefully as this talk can only summarise the main points.

In general terms, when you upload your DNA to Ancestry you give the company full rights to use your tree, the information it contains and the documents, as they wish. You also agree that you will not upload to Ancestry any documents for which you do not have the right to share (typically documents only available to subscribers). An Ancestry tree is safe if you only use it as designed, i.e. for researching on the Ancestry site and for linking (and downloading) documents on Ancestry which are available to you as a subscriber or as a public document.

To get the most out of Ancestry DNA it is recommended that you link your family tree to your DNA results but it does not have to be your fully researched tree, it could be a slimmed-down version, or you could make your researched tree private and add a public 'bare bones' unlinked tree for others to view. Please read the Terms and Conditions.

