



# Using GEDMatch

Ken Waters

Nov 17, 2022

Trilogy Genealogy Club



All slides and handouts can be found at:

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

Some Caveats...

# Common Misunderstanding

- GEDMatch vs GEDCOM
- **GEDMatch** is the service we are talking about today
- **GEDCOM** is a file format used to store family tree information
- The similarity between the two terms is unfortunate as they are two very different things

# Important to know.....

- Be aware that GEDMatch started as a simple site to compare DNA kits with others (basically, a hobbyist site)
- It \*HAS\* had some growing pains and numerous privacy concerns
- While it is powerful and useful:
  - Some may object to its history of privacy concerns
  - It still has a rather dated interface
  - It can be challenging at times to navigate and understand
- THAT SAID: it does have a lot of useful tools!

# In 2019 GEDMatch was bought by Verogen

MEGAN MOLteni

SCIENCE DEC 9, 2019 9:01 PM

## A DNA Firm That Caters to Police Just Bought a Genealogy Site

In 2018, GEDmatch played a key role in reopening the 40-year-old Golden State Killer case. Now a company that serves law enforcement is gobbling it up.



# What is GEDMatch?

- A web site that was created in 2010 for genealogists to allow matching of DNA kits from different testing companies
- Founded by Curtis Rogers and John Olson
- Free to create an account



Curtis Rogers enjoys helping people solve family history puzzles. He inadvertently created a database that can now identify 60 percent of Americans of Northern European ancestry.  
Scott McIntyre for The New York Times

Source: New York Times

# Primary Features

- Upload DNA kits from any of the testing companies
  - Ancestry, 23andMe, MyHeritage, FamilyTreeDNA, LivingDNA –and—More!
  - Look for matches with other uploaded DNA kits
- Ability to examine matches in greater detail using chromosome browser
  - Start/stop markers for shared segments
- A variety of admixture (ethnicity) tools
- Rudimentary family tree capability
- Numerous more advanced analysis tools



# Getting Started

- Create an account at:
- <https://app.gedmatch.com/register.php>



## Register

REGISTER

# Confirmation

- Check your email for confirmation code and enter it



An email has been sent to mymesaweather@gmail.com with a 'Registration Confirmation Code'. Please copy that code from your email, and paste it in the space below. Then, click on the 'Confirm' button below to complete the registration process.  
**NOTE: This Registration Confirmation Code is NOT your password.**  
**Do NOT close this page until you have completed that process, or you will have to start registration over.**

If you do not receive a confirmation email within a few minutes, click [HERE](#)



CONFIRM

## GEDmatch.Com Registration Confirmation Code Inbox x



**GEDmatch** <do\_not\_reply@gedmatch.com>  
to me ▾

Your registration confirmation code is: **23210031**

You should copy and paste this code in the place provided on the registration page.

If you did not register on GEDmatch.Com within the last hour, then you should disregard this notice, and do not need to make any response.

# Log back in to complete the process



 **Successfully Registered**

Congratulations you have successfully registered at GEDmatch!

After logging in on the login page you will be presented with the terms of service (TOS) to accept.

Click the button on the top right to return to login page to enter your email and password to login.

# Accept Terms

- Read the terms and accept them
  - Warning---the terms are very, very long
- Only real option here is to accept
- I will discuss more on some of this later in this presentation

## Option #1 - Accept

I have read the GEDmatch Terms of Service, and I agree to all terms. Click [HERE](#) to indicate that you accept all provisions described in GEDmatch Terms of Service.

---

## Option #2 - Reject

I do not wish to continue using GEDmatch.Com. Therefore, I want to delete my GEDmatch registration and remove all data from GEDmatch servers that I may have uploaded to the site.

Click [HERE](#) to permanently delete your registration, and remove all your data from GEDmatch servers. **This action cannot be undone.**

---

## Option #3 - Decide Later

I would like to think about this, and do not want to take any action at this time. Click [HERE](#) to return to the login page. Selecting this option will have no effect on data that you have uploaded to GEDmatch servers.

**You will not be allowed to enter the site until you have accepted the Terms of Service.**

## Welcome Jill Brown

Start your incredible DNA journey from here!

- ▶ New user? Watch "How To Use GEDmatch"
- ▶ GEDmatch and Law Enforcement Matching

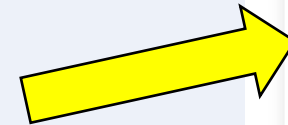
### Message of the Day


#### New Tool & New Integration

We have launched a standalone Relationship Probability Calculator in our Free tools and mitoYDNA in the [new GEDmatch design](#).

To learn more about these new features, read about our latest release notes [here](#).

- Profile is now set up
- Note you will have a “User Profile” number
  - That will be unique to you and should not be confused with any kit # codes (more on that later)
- No need to remember this number as it will not be used to log in



 Profile VIEW/EDIT

**User Profile** 1386811

Name Jill Brown

Email mymesaweather@gmail.com

Registered User

The number of online users is 77

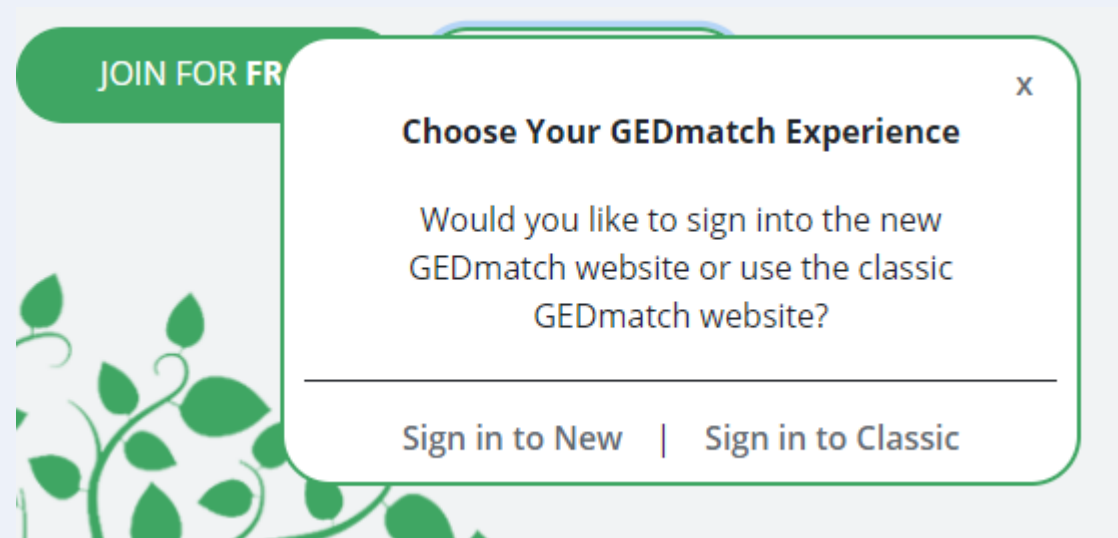
LEGEND

**You have not uploaded any DNA kits.**  
[Click here to upload your DNA data.](#)

**You have not uploaded any GEDCOM (family tree) resources.**  
[Click here to upload a GEDCOM.](#)

# One note about logging in

- When you first click login you'll get a choice to use the "New" website or the "Classic" website
- That's entirely your choice but I recommend to use the "New" one so that you don't have to readjust if/when the "Classic" one is removed



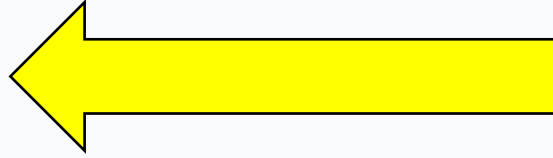
# A Look at the Main Page

4 sections to be aware of

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## Profile

VIEW/EDIT

User Profile **19110**  
 Name **Ken Waters**  
 Email **familytreeaz.gedmatch@gmail.com**  
**Tier 1 Member**  
**Tier 1 Paid Until 2022-05-09 16:23:09**

The number of online users is 103

## LEGEND

(Status indicators shown to the right of each kit below)

✓	Kit has completed all processing and has good status
✎	Click on pencil if you wish to EDIT or DELETE kit profile
2	Likely duplicate - may need to be deleted
R	Kit has completed all processing and has good status
?	Unknown Status

Click on blue kit number to go directly to one-to-many results

## Your DNA Resources

19110	19110	✎
19110	19110	✎
19110	19110	✎
19110	19110	✎
19110	19110	✎
19110	19110	✎
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19110	19110	✎



## Information

- User Lookup - Find information on your matches.
- How to use GEDmatch
- GEDmatch Terms of Service
- GEDmatch info about you
- GEDmatch Education **NEW**
- Support Request



## Upload Your DNA

Generic Uploads (23andme, FTDNA, AncestryDNA, most others)



## Free Tools

- One-To-Many - Limited Version
- Relationship Probability
- One-to-One Autosomal DNA Comparison
- One-to-One X-DNA Comparison
- Admixture (heritage)
- Admixture / Oracle with Population Search
- People who match both, = 5, = 6, 7 kits



# 1 - Help

- Some help here at the top left
- The 2<sup>nd</sup> link is solely concerning IGG (law enforcement matching)

## Welcome Ken Waters

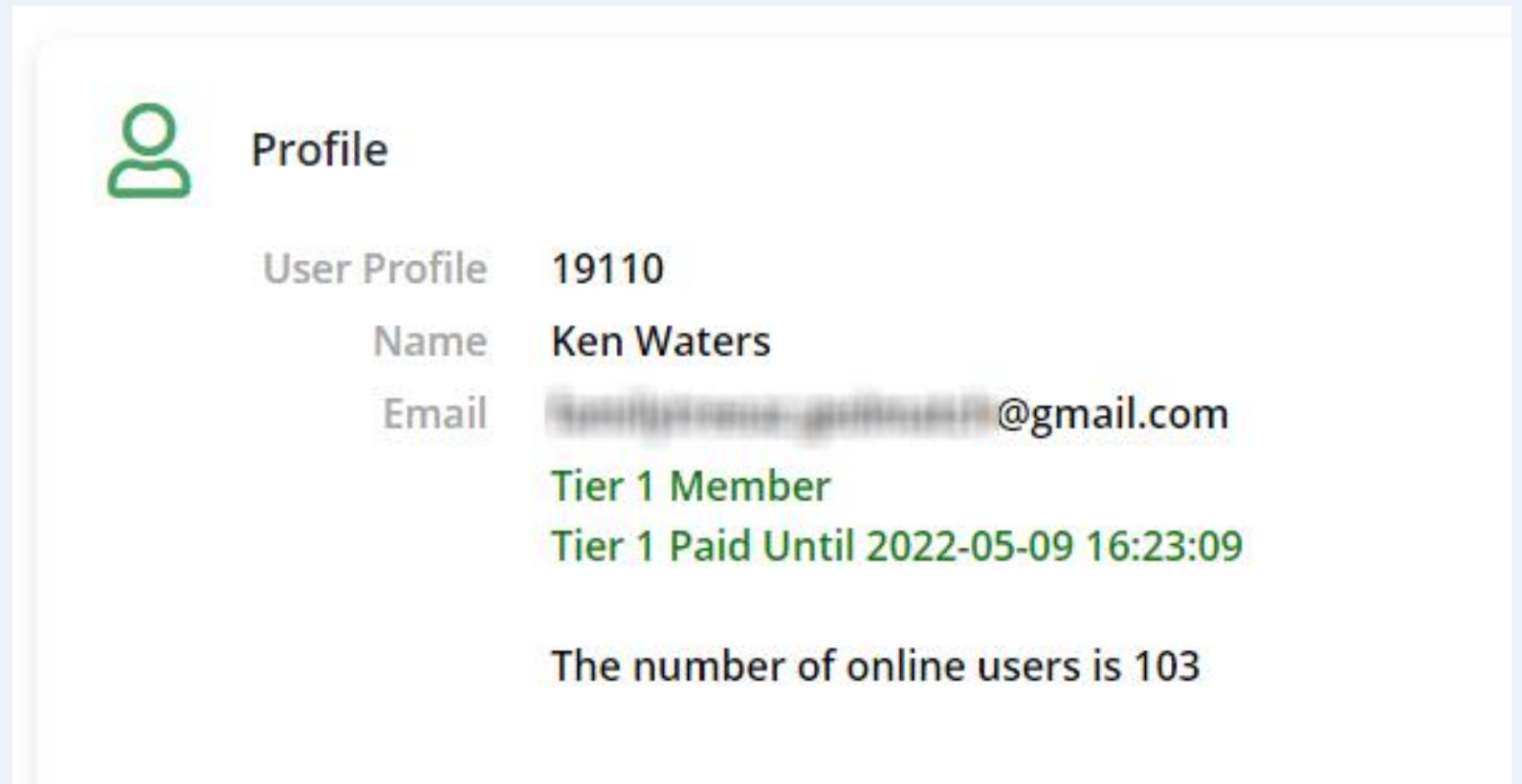
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## 2 - Profile

- User Profile #, Name
- Email
- If you are a Tier 1 Member you'll see status here
- Number of online users



A screenshot of a user profile card. It features a green person icon on the left. The title 'Profile' is centered. Below the title, there are several lines of text: 'User Profile 19110', 'Name Ken Waters', 'Email [redacted]@gmail.com', 'Tier 1 Member', and 'Tier 1 Paid Until 2022-05-09 16:23:09'. At the bottom, it states 'The number of online users is 103'.

	<b>Profile</b>
User Profile	19110
Name	Ken Waters
Email	[redacted]@gmail.com
	<b>Tier 1 Member</b>
	<b>Tier 1 Paid Until 2022-05-09 16:23:09</b>
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VIEW/EDIT



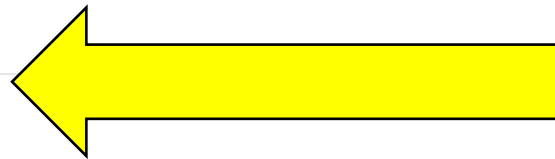
### LEGEND

(Status indicators shown to the right of each kit below)

- ✓ Kit has completed all processing and has good status
- ✎ Click on pencil if you wish to EDIT or DELETE kit profile
- 2 Likely duplicate - may need to be deleted
- R Kit has completed all processing and has good status
- ? Unknown Status

Click on blue kit number to go directly to one-to-many results

### Your DNA Resources



### Information

User Lookup - Find information on your matches.

How to use GEDmatch

GEDmatch Terms of Service

GEDmatch info about you

GEDmatch Education **NEW**

Support Request



### Upload Your DNA

Generic Uploads (23andme, FTDNA, AncestryDNA, most others)



### Free Tools

One-To-Many - Limited Version

Relationship Probability

One-to-One Autosomal DNA Comparison

One-to-One X-DNA Comparison

Admixture (heritage)

Admixture / Oracle with Population Search

People who match both, ...

# 3 - DNA Kits in your profile

- Each DNA kit that you upload will show here
- Each kit has a kit # (assigned when uploaded)

- ▶ If restricted
- ▶ Police/IGG Access

**Edit settings**

The screenshot shows a table titled "Your DNA Resources" with several rows of data. A yellow arrow points from the text "Each kit has a kit # (assigned when uploaded)" to the first column of the table. A green box highlights the text "Kit name" in the second column of the third row. A blue arrow points from the text "Police/IGG Access" to the "POLICE" icons in the fourth column of the table. A yellow box labeled "Edit settings" has a blue arrow pointing to the pencil icons in the fifth column of the table.

Kit #	Kit name	Status	Access	Actions
A912345	R	✓		
A912345	✓ A			
A712345	R	✓	POLICE	
A912345	y	✓	POLICE	
A812345	✓ E		POLICE	

# Kit Settings

## Your DNA Resources

A [blurred]	R	✓	[blurred]
A [blurred]		✓	A [blurred]
A [blurred]	R	✓	[blurred]
A [blurred]	y	✓	[blurred]

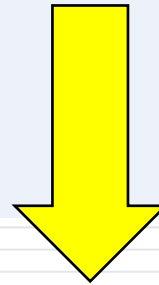
## LEGEND

(Status indicators shown to the right of each kit below)

✓	Kit has completed all processing and has good status
✎	Click on pencil if you wish to EDIT or DELETE kit profile
2	Likely duplicate - may need to be deleted
R	Research Kit
?	Unknown Status

# When you click on the edit “pencil”

- “Opt In” – allow law enforcement kit owners to “see” your kit
- “Opt Out” – do not allow LE access
- “Private” – no one can see your kit
- “Research” – allow matching to other kits but they can’t “see” you



Public Profile

Research

Change Access:  Opt In ⓘ

Opt Out ⓘ

Private ⓘ

Research ⓘ

CHANGE


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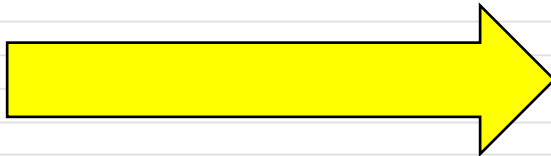



VIEW/EDIT

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 Upload Your DNA  
Generic Uploads (23andme, FTDNA, AncestryDNA, most others)

Click on blue kit number to go directly to one-to-many results  
**Your DNA Resources**

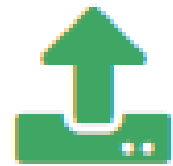


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Admixture (heritage)  
Admixture / Oracle with Population Search  
People who match both, =5, =6, 7 kits



# Upload a Kit

- Click on the upload link



## Upload Your DNA

Generic Uploads (23andme, FTDNA,  
AncestryDNA, most others)

---

# First Step: Upload a DNA kit

- Enter basic information about the test-taker

**1 Donor Information**

**Name of Donor**

Johnny Appleseed

Please use the DNA donor's real name here. If you don't want the real name displayed, you may also enter an alias in the box below.

**Alias (optional)**

If you don't want the donor's full name displayed, you may substitute an alias. Otherwise, leave this blank. If you enter an alias here, it will be shown on report pages instead of the name you entered above. The alias should either be similar to your full name, or the same as the 'screen name' that you use on forums. GEDmatch site administrators reserve the right to remove any alias that is not appropriate in their opinion.

**Sex of Donor**

Male  Female

**What is your Mitochondrial haplogroup (if known)?**

What is this kit's mtDNA mitoYDNA ID (if applicable)?

**Males Only (or females with a male sibling who has been tested):**

**What is your Y haplogroup (if known)?**

What is this kit's Y-DNA mitoYDNA ID (if applicable)?

**Name of Testing Company, or other source**

Select a Company or Source

**Name of Testing Company, or other source**

Select a Company or Source

Select a Company or Source

23andMe

24Genetics

Ancestry

Atlas

Complete Genomics

DNA Land

FTDNA

Full Genomes

Gencove

GeneByGene

Genes For Good

Genos

GPS Origins

GSA

HGDP (Stanford)

Living DNA

MyHeritage

NatGeo

Oxford (FTDNA)

# Upload DNA kit

- This next step is important and should be carefully chosen
- Most genealogists would select one of the first 3 choices
- The other choices are primarily for IGG (Investigative Genetic Genealogy) which often deals with either identification of unknown decedents or with criminal investigations

## 2 Raw Data to GEDmatch

When you upload Raw Data to GEDmatch, you agree that the Raw Data is one of the following. Select one option

- Your DNA
- DNA of a person for whom you are a legal guardian
- DNA of a person who has granted you specific authorization to upload their DNA to GEDmatch
- DNA of a person whose identity is known by you and who is known to be deceased
- An artificial DNA kit  
if and only if: (1) it is intended for research purposes; and (2) it is not used to identify anyone in the GEDmatch database, or
- DNA obtained from an artifact  
if and only if: (1) you have a reasonable belief that the Raw Data is DNA from a previous owner or user of the artifact rather than from a living individual; and (2) that previous owner or user of the artifact is known to you to be deceased.
- Anonymized sample for a donor to a large scale population study  
Please contact GEDmatch administrators for populations greater than 50 individuals.
- None of the above  
If your DNA data does not fit any of the above categories, it will not be permitted.

# Privacy setting for this kit

- Another important step to carefully consider
- This step can be modified later if necessary
- Suggest one of the top two options
  - If you do not want your DNA kit to be used to search IGG then select “Opt Out”

## 3 Privacy Options

Select one of the following privacy options for this kit:

Opt In

Most Popular

We will compare your DNA kit to all other kits in the GEDmatch database to find your matching genetic relatives. Kits in the database include those submitted by users undertaking personal genetic genealogy research, adoptee searches, users (including law enforcement) attempting to identify unidentified human remains, and law enforcement attempting to identify perpetrators of violent crimes. Your kit **WILL** be compared with kits submitted by law enforcement to identify perpetrators of violent crimes. The operators of GEDmatch encourage everybody to select this option.

Research

This kit will not be shown in match result reports generated for other kits. Genealogy and Genetic Genealogy require the sharing of information. This option is provided primarily for artificially created research kits, but may be used for regular uploads if you have specific reasons for doing so.

Opt Out

We will compare your DNA kit to all other kits in the GEDmatch database to find your matching genetic relatives. Kits in the database include those submitted by users undertaking personal genetic genealogy research, adoptee searches, and users (including law enforcement) attempting to identify unidentified human remains. Your kit **WILL NOT** be compared with kits submitted by law enforcement to identify perpetrators of violent crimes.

Private

This kit will not be available for any matching. The kit will be in the database, and it will be batch processed, but no comparison results will be shown unless this privacy setting is changed by you later.

# Final step

- Click “Choose File” and navigate on your computer to the DNA file you downloaded
  - For help on downloading see <https://app.gedmatch.com/UploadHelp.php>

**4** File Upload


Click on "Choose File", "Browse", or similar wording (depends on your browser) to find the raw DNA data file on your computer.

Your data must be Build 37 (GRCh37/hg19)

No file chosen

Click "Upload" to send your DNA data to GEDmatch

# GEDMatch Help for Downloading DNA



## Download/Upload DNA Help

Overview | **Uploading to GEDmatch after Downloading** | Ancestry | FTDNA | 23andMe | Living DNA | MyHeritage | WholeGenome

### Uploading your DNA to GEDmatch after Downloading from your testing company

1. Log into GEDmatch
2. Click on "Generic uploads (23andMe, FTDNA, AncestryDNA and most others)"
3. Fill in the form with as much information as you have
4. Click on the Browse button at the bottom of the page
5. Find the title of the raw data you just downloaded from the testing company. Hint: look for the correct download date
6. Highlight the title then click on open at the bottom of the page where the title occurs. The title will now appear next to your GEDmatch browse button.
7. Click the upload button and wait until you see the word "Finish."

### Ancestry DNA Download

1. Log into Ancestry.com
2. Click on DNA at the top of the page menu
3. Click on "Your results data summary"
4. Click on "Settings"
5. Click on "Download raw DNA data"
6. Enter password and click on "Confirm..."
7. Follow instructions provided by Ancestry to complete the download

Once your raw data arrives, note the name and location of the dna file, do not touch it, follow the directions on the second tab.

### Family Tree DNA (FTDNA) DNA Download

1. Log into FTDNA
2. On the right panel labeled "Family Ancestry Autosomal DNA" locate the "Data Download" button (first on middle row).
3. Click on "Data Download"
4. Click on "Build 37 Concatenated." (The other two options will not work)
5. Save the file.

Once your raw data arrives, note the name and location of the dna file, do not touch it, follow the directions on the second tab.

### 23andMe DNA Download

1. Log into 23andMe
2. On the upper right side you should see your name, initials or picture, followed by a down arrow. Click on the down arrow
3. In the drop down menu click on "Settings."
4. In the bottom section titled "23andMe Data" click on "View."
5. On the page that appears, in the "Raw Data" section, click on "Download Raw Data."
6. Click on "I understand limitations and risks"
7. Click on "Submit Request." It may take an hour or more for your DNA data to be sent to your email.
8. When you are notified by 23andMe that the data has been sent, open the email and click on "Download Raw Data."
9. Wait for for the download to complete.

Once your raw data arrives, note the name and location of the dna file, do not touch it, follow the directions on the second tab.

### MyHeritage DNA Download

1. Log into your account at MyHeritage
2. Click on "DNA" at the top of your MyHeritage home page
3. In the drop down menu that appears, click on "Manage DNA kits"

- Other good resources:

- Ancestry

- [https://support.ancestry.com/s/article/Downloading-DNA-Data?language=en\\_US](https://support.ancestry.com/s/article/Downloading-DNA-Data?language=en_US)

- YourDNAGuide

- <https://www.yourdnaguide.com/download-ancestrydna>

- Know Your DNA

- <https://knowyourdna.com/how-to-download-your-dna-data/>

- There are others, Google search will find them

# Wait while the DNA chromosome data are analyzed

Note: Please Wait for Progression Display

Make sure you wait for the next screen, and the progression display that shows as each chromosome is processed. this process takes several minutes. If you don't wait for it to finish, your data will not be usable. However, if you don't see any activity for more than 10 minutes, you have probably lost your connection and should restart the upload process.



## GEDmatch® Generic DNA file upload

Upload Time: 2022-Apr-05 00:03:08 UTC  
Software Ver: 2022-Mar-10 22:15:25  
Email: mymesawweather@gmail.com  
Donor Name: Johnny Appleseed  
Your Browser: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/99.0.4844.84 Safari/537.36

Your DNA data file will now be processed on the server. Processing milestones are listed below.  
You should see the word 'Finished' at the bottom of the page when processing is complete. If you leave this page before it is finished, your data may be lost.  
Processing normally takes less than a minute.  
If you see the word 'ERROR', then your file did not complete processing, and you will need to try your upload again.  
File size inside Zip: 18841299


Processing file...

File is from AncestryDNA.Com  
File is Build 37 format  
Processing Chromosomes...

1 .....2 .....3 .....4 .....5 .....6 .....7 .....8 .....9 .....10 .....11 .....12 .....13 .....14 .....15 .....16 .....17 .....18 .....19 .....20 .....21 .....22 ..X ..Y 25  
Kit Num: MN6213352

Assigned kit number: **MN6213352** Write this number down.

- Your newly uploaded DNA kit will now show on the homepage
- All uploaded DNA kits have a kit ID
- Users can upload multiple DNA kits if they wish---each will have a unique kit ID
- It will take 24-48 hours for the kit to be fully available to be compared within the kit database
  - Some features will be available nearly immediately such as comparisons to individual kits and ethnicity estimates
- NOTE: I created this profile and uploaded a DNA kit solely for the purposes of this example
  - **BOTH have since been deleted!**



### Profile

**User Profile** 1386811

**Name** Jill Brown

**Email** mymesaweather@gmail.com

**Registered User**

The number of online users is 86

---

**LEGEND**  
(Status indicators shown to the right of each kit below)

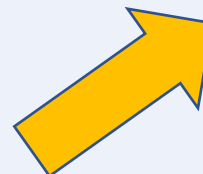
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**Your DNA Resources**

MN6213352	Johnny Appleseed
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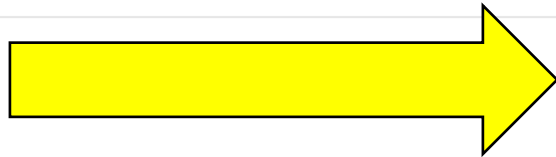
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 Upload Your DNA  
Generic Uploads (23andme, FTDNA, AncestryDNA, most others)

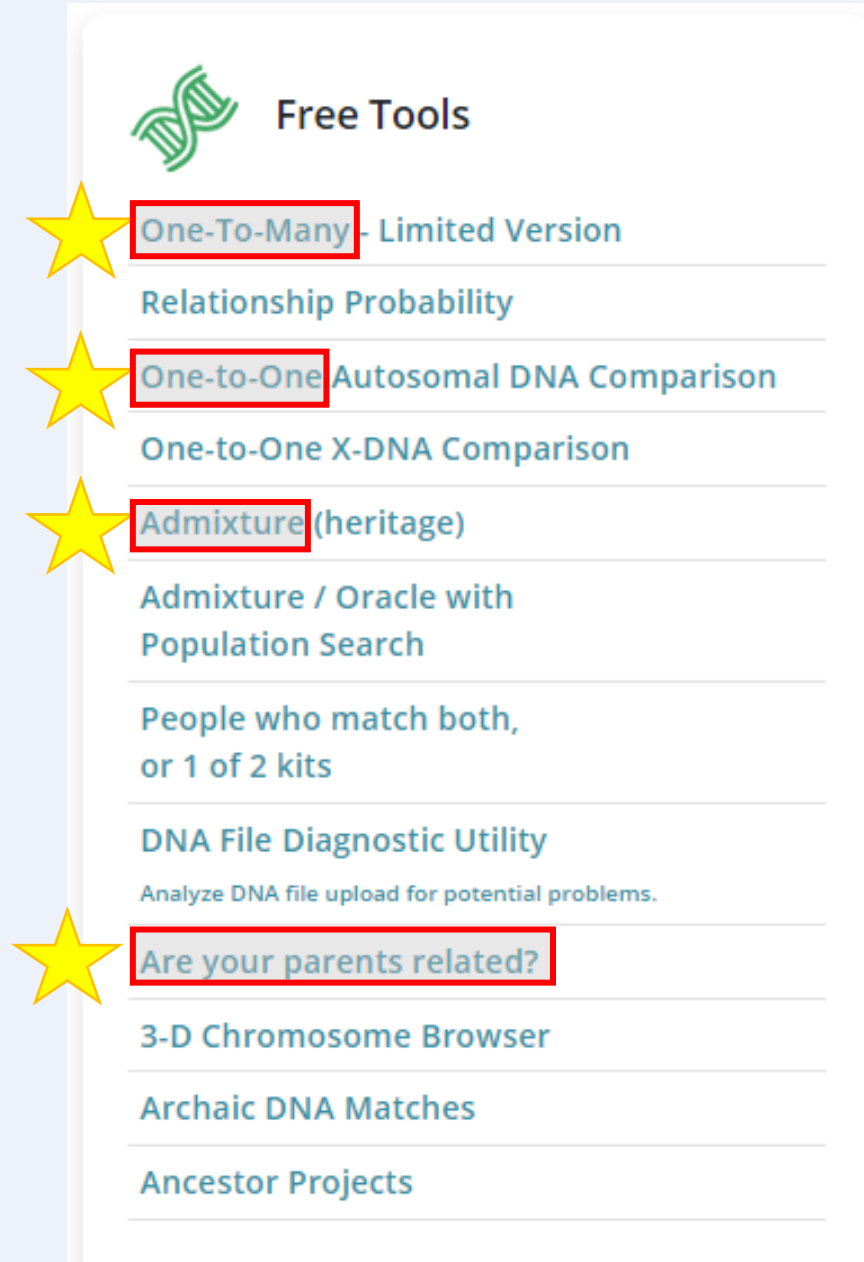
Click on blue kit number to go directly to one-to-many results  
**Your DNA Resources**



 Free Tools  
One-To-Many - Limited Version  
Relationship Probability  
One-to-One Autosomal DNA Comparison  
One-to-One X-DNA Comparison  
Admixture (heritage)  
Admixture / Oracle with Population Search  
People who match both,

# Free Tools!

- This is the menu you want to become familiar with for the primary tools
- For this talk we will only be discussing 4 of these



The image shows a screenshot of a website's 'Free Tools' menu. At the top left is a green DNA double helix icon. To its right is the text 'Free Tools'. Below this, a list of tools is presented, each separated by a horizontal line. Four items are highlighted with a yellow star on the left and a red rectangular box around the tool name:

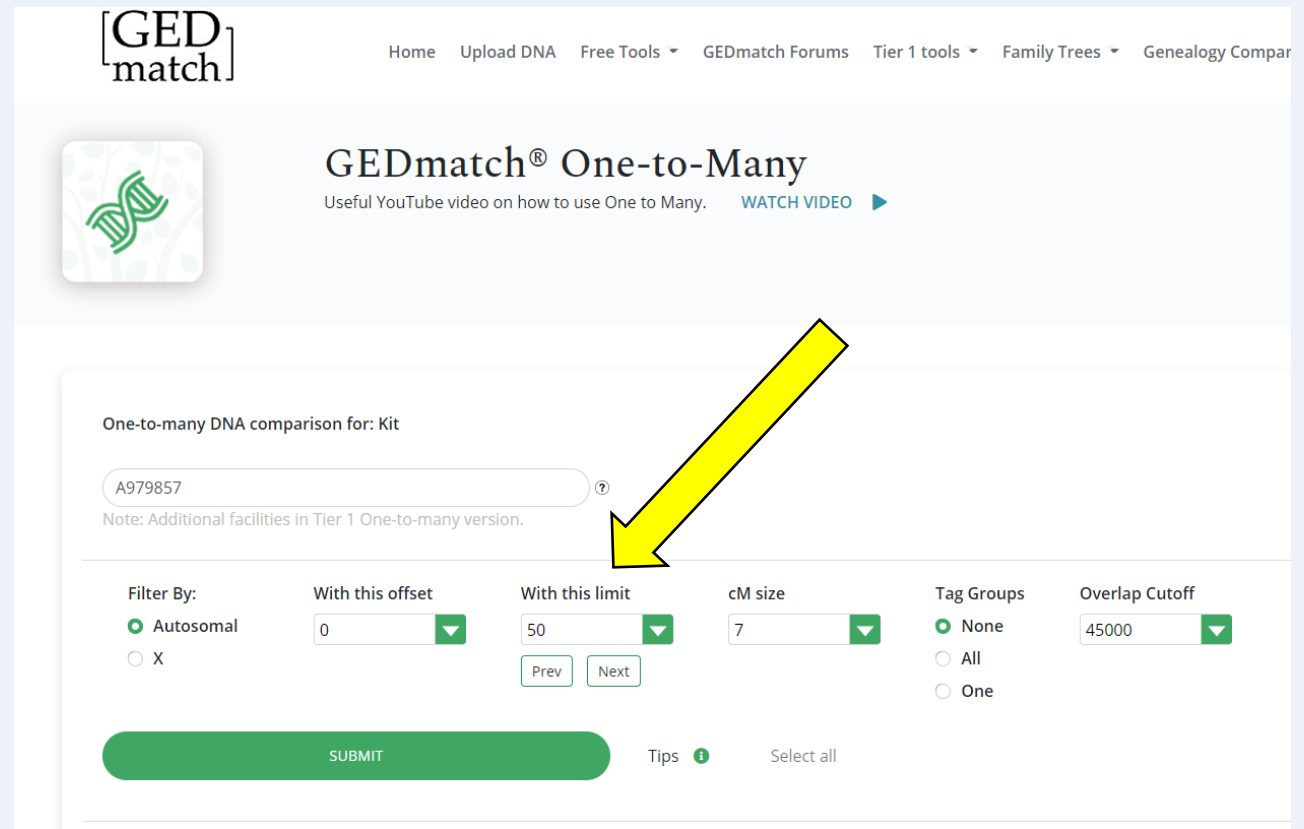
- ★ **One-To-Many** - Limited Version  
Relationship Probability
- ★ **One-to-One** Autosomal DNA Comparison  
One-to-One X-DNA Comparison
- ★ **Admixture** (heritage)  
Admixture / Oracle with Population Search  
People who match both, or 1 of 2 kits
- ★ **Are your parents related?**  
DNA File Diagnostic Utility  
Analyze DNA file upload for potential problems.

Other tools listed at the bottom of the menu are:

- 3-D Chromosome Browser
- Archaic DNA Matches
- Ancestor Projects

# One-to-Many

- Enter one kit #
- ...or, you can simply click on the kit # from your DNA kit list if it's one of your own kits
- Recommend accepting all the defaults
  - EXCEPT: maybe the limit as you might want to see more than 50 matches



The screenshot shows the GEDmatch One-to-Many interface. At the top, there is a navigation bar with links for Home, Upload DNA, Free Tools, GEDmatch Forums, Tier 1 tools, Family Trees, and Genealogy Comparisons. The main heading is "GEDmatch® One-to-Many" with a sub-heading "Useful YouTube video on how to use One to Many." and a "WATCH VIDEO" link. Below this is a search bar containing the kit number "A979857" and a "Note: Additional facilities in Tier 1 One-to-many version." A yellow arrow points to the "With this limit" dropdown menu, which is currently set to 50. Other settings include "Filter By" (Autosomal selected), "With this offset" (0), "cM size" (7), "Tag Groups" (None selected), and "Overlap Cutoff" (45000). A green "SUBMIT" button is at the bottom, along with "Tips" and "Select all" links.


# One-to-Many

- Sorted by Match strength (centiMorgans)

Select	Kit #	Name	E-Mail	GED WikiTree	Age(days)	Type	Sex	Mt	Y	Total cM	Largest	Gen	Total cM	Largest	Source	Overlap
<input type="checkbox"/>	A	Jo	fa	GED	3079	2	F			3587.1	263.7 Q	1.00	196.1	196.1	Migration - F2 - A	N/A
<input type="checkbox"/>	SW	Ke	fa	GED	697	2	M	H1c1	R-M269	3577.5	151.8 Q	1.00	187.8	105.1	Ancestry	427055
<input type="checkbox"/>	AT	Ke	fa		583	2	M			3577.5	151.8 Q	1.00	187.8	105.1	Ancestry	427056
<input type="checkbox"/>	NH	Jo	fa	GED	697	2	F			3577.5	151.8 Q	1.00	181.1	98.4	Ancestry	327698
<input type="checkbox"/>	A	Er	fa	GED	2744	2	M		R-M269	1627.8	136.4 Q	1.57	0	0	Migration - F2 - A	N/A
<input type="checkbox"/>	NC	Er	fa	GED	697	2	M			1587.3	136.3 Q	1.59	0	0	Ancestry	313948
<input type="checkbox"/>	A	*M	fa		2204	2	M		R-M269	745	128.9 Q	2.13	0	0	Migration - F2 - A	N/A

# One-to-One

- Need two kit #s to be able to use
  - Can get the numbers from the one-to-many list –or–
  - ...if someone shares a kit # with you to use to compare
  - Recommend using all the defaults although if you do not want the chromosome segments you can select “Position Only”



**GEDmatch<sup>®</sup> One-to-one**  
Useful YouTube video on using the One to One DNA compa

This utility allows you to make detailed comparisons between Autosomal DNA kits. Results m

Kit Number 1:

Kit Number 2:

Show graphic bar/numeric positions for each Chromosome?

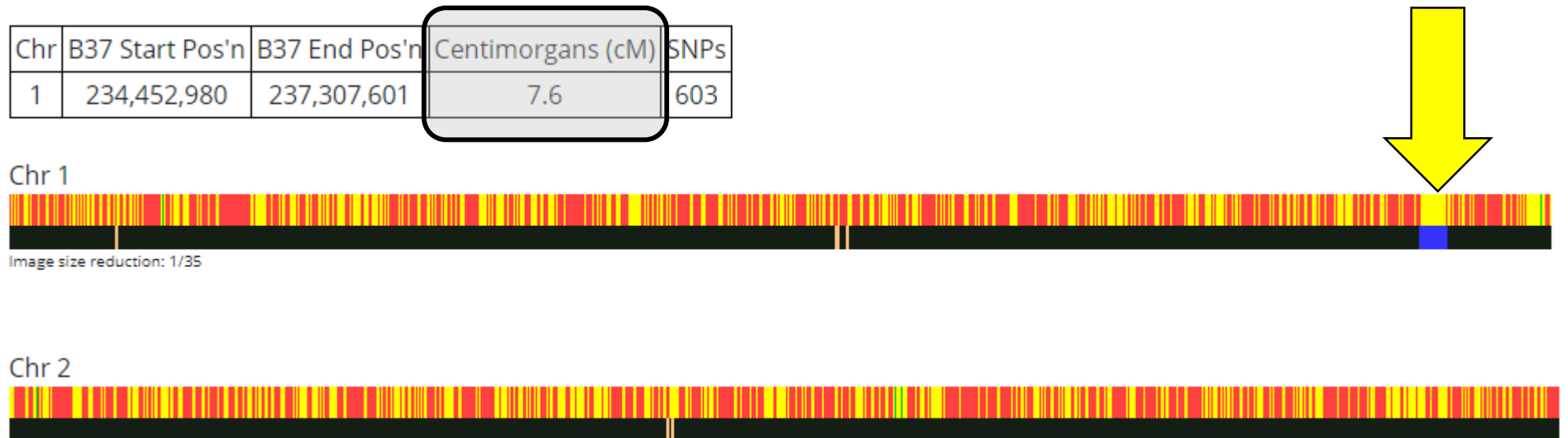
Graphics and Positions  
 Position Only  
 Graphic Only

Show graphic bar/numeric positions for each Chromosome?

- Graphics and Positions  
 Position Only  
 Graphic Only

# One-to-One

- Each of the 22 autosomal chromosomes will be displayed
- Blue segment indicates HIR (half identical region)



# One-to-One

- An example of a parent-child match – entire chromosome highlighted

Chr	B37 Start Pos'n	B37 End Pos'n	Centimorgans (cM)	SNPs
1	752,721	102,285,489	130.7	23,514
1	102,292,110	249,202,567	150.8	27,878

Chr 1



Image size reduction: 1/52

Chr	B37 Start Pos'n	B37 End Pos'n	Centimorgans (cM)	SNPs
2	18,856	243,048,760	263.6	50,938

Chr 2



Image size reduction: 1/51

Chr	B37 Start Pos'n	B37 End Pos'n	Centimorgans (cM)	SNPs
3	63,411	197,833,758	224	41,913

# One-to-One

- An example of a uncle-nephew pair

Chr	B37 Start Pos'n	B37 End Pos'n	Centimorgans (cM)	SNPs
2	38,932,056	67,072,059	25.7	6,980
2	117,375,251	243,048,760	136.3	25,190

Chr 2



Image size reduction: 1/51

Chr	B37 Start Pos'n	B37 End Pos'n	Centimorgans (cM)	SNPs
3	61,495	7,557,251	21.3	2,777
3	68,320,679	90,417,760	17.1	3,838
3	93,545,404	193,711,182	105.7	19,801

Chr 3

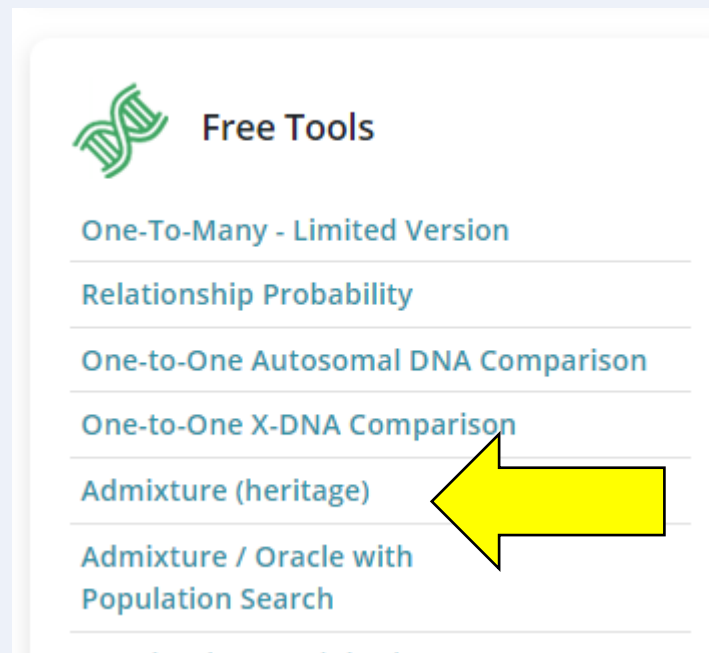


Image size reduction: 1/42



# Admixture (ethnicity)

- Select from Free Tools



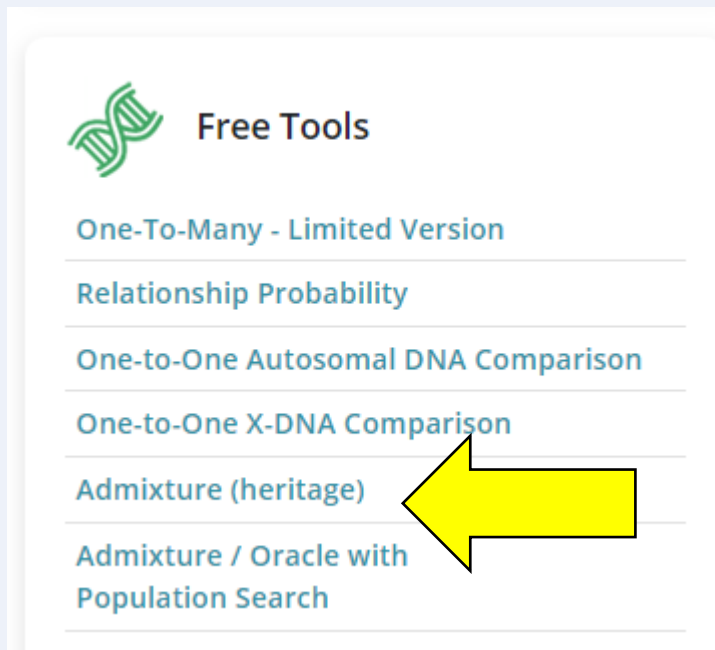
The image shows a screenshot of a software interface titled "Free Tools". The title is accompanied by a green DNA double helix icon. Below the title, there is a list of tool options, each separated by a horizontal line. The options are: "One-To-Many - Limited Version", "Relationship Probability", "One-to-One Autosomal DNA Comparison", "One-to-One X-DNA Comparison", "Admixture (heritage)", and "Admixture / Oracle with Population Search". A large yellow arrow with a black outline points from the right side of the screen towards the "Admixture (heritage)" option.


**Free Tools**

- One-To-Many - Limited Version
- Relationship Probability
- One-to-One Autosomal DNA Comparison
- One-to-One X-DNA Comparison
- Admixture (heritage)**
- Admixture / Oracle with Population Search

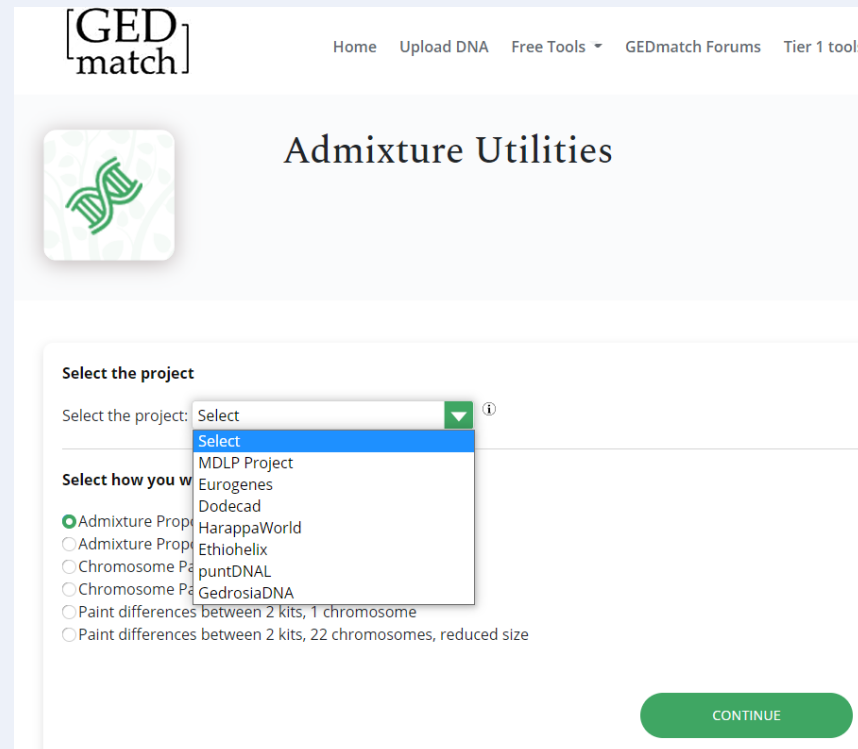
# Admixture (ethnicity)

- Select from Free Tools



 **Free Tools**



- [One-To-Many - Limited Version](#)
- [Relationship Probability](#)
- [One-to-One Autosomal DNA Comparison](#)
- [One-to-One X-DNA Comparison](#)
- [Admixture \(heritage\)](#)
- [Admixture / Oracle with Population Search](#)



**[GED] match** Home Upload DNA Free Tools GEDmatch Forums Tier 1 tools

## Admixture Utilities

**Select the project**

Select the project:   

- Admixture Prop
- Admixture Prop
- Chromosome Pa
- Chromosome Pa
- Paint differences between 2 kits, 1 chromosome
- Paint differences between 2 kits, 22 chromosomes, reduced size

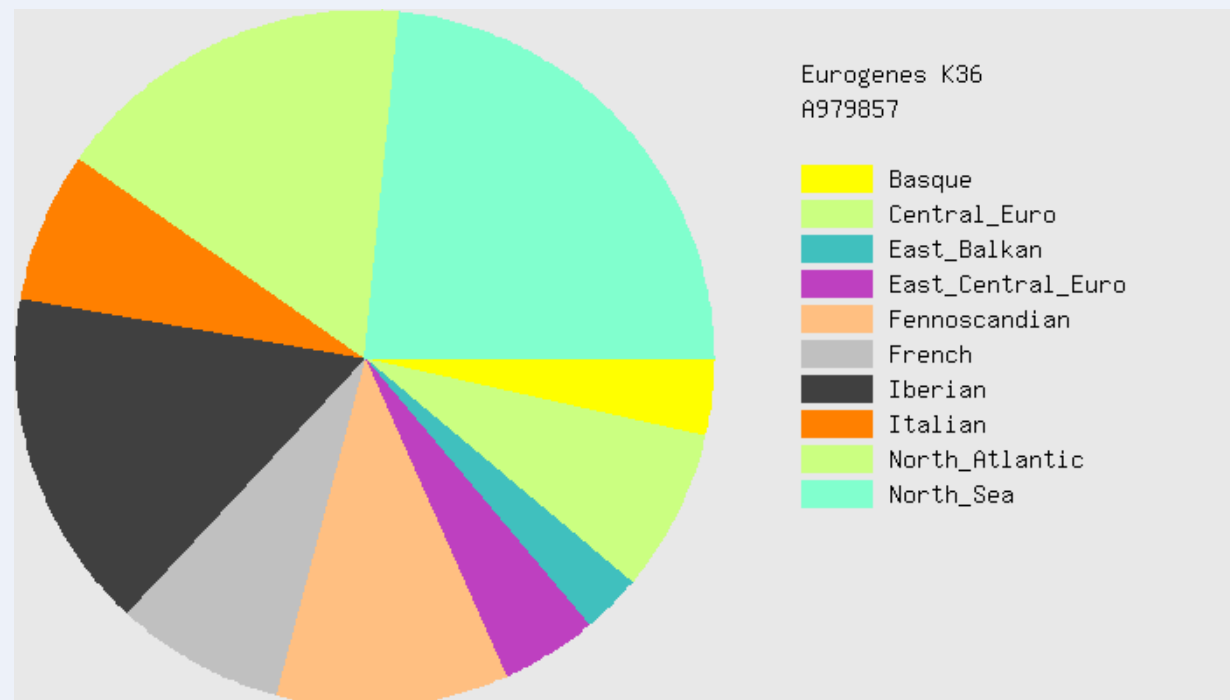
**Select how you want to view results**

- MDLP Project
- Eurogenes
- Dodecad
- HarappaWorld
- Ethiohelix
- puntDNAL
- GedrosiaDNA

**CONTINUE**

# Admixture (ethnicity)

- **MANY** combinations possible with different ethnicity tests and sample sets
- Just one example here:
  - My kit
  - Using Eurogenes-36



# Are Your Parents Related?

- Checks for “consanguinity”
  - Common for endogamous populations

Autozygosity **occurs when two chromosomal segments that are identical from a common ancestor are inherited from each parent.** This occurs at high rates in the offspring of mates who are closely related (inbreeding), but also occurs at lower levels among the offspring of distantly related mates. Apr 12, 2012

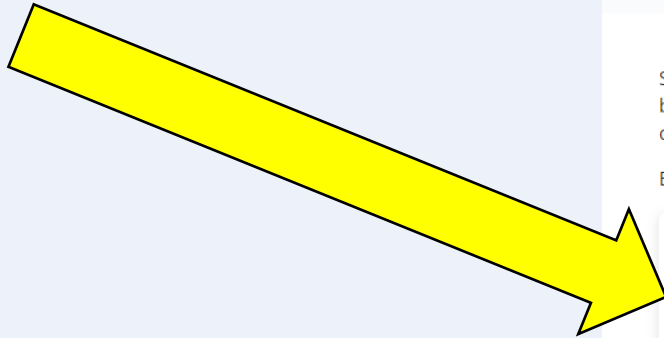
The image shows a screenshot of a website's 'Free Tools' menu. At the top left is a green DNA double helix icon. The menu items are listed vertically, separated by thin horizontal lines. A large yellow arrow points from the right side of the image towards the 'Are your parents related?' option.


- Free Tools
  - One-To-Many - Limited Version
  - Relationship Probability
  - One-to-One Autosomal DNA Comparison
  - One-to-One X-DNA Comparison
  - Admixture (heritage)
  - Admixture / Oracle with Population Search
  - People who match both, or 1 of 2 kits
  - DNA File Diagnostic Utility
    - Analyze DNA file upload for potential problems
  - Are your parents related?
  - 3-D Chromosome Browser
  - Archaic DNA Matches
  - Ancestor Projects

More on this: <https://blog.kittycooper.com/2018/07/when-the-dna-says-your-parents-are-related/>

# Are Your Parents Related?

- Enter a single kit #





## Are Your Parents Related?

Since you inherit half of your DNA from each of your parents, it stands to reason that large blocks of SNPs where both parents share the same allele are called 'Runs of Homozygosity' (ROH). There are other utilities available to help you determine how closely related your parents might be.

Enter your kit number below, and click on 'Submit'.

Kit number of child:

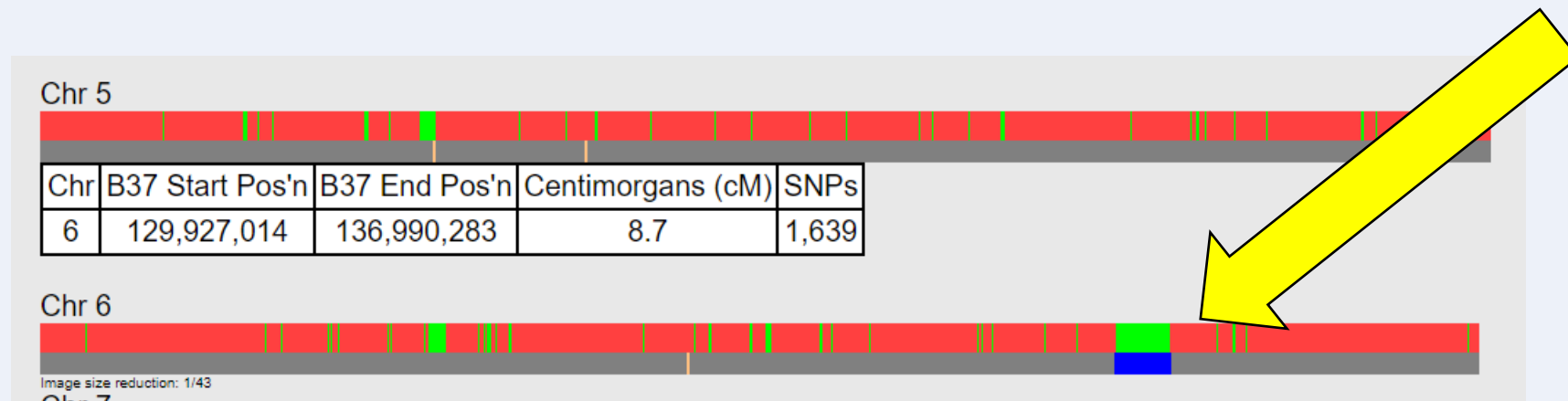
Show graphic bar/numeric positions for each Chromosome?

Graphics and Positions

Position Only

# Are Your Parents Related?

- Example of a positive result
- This is a 2<sup>nd</sup> cousin once removed to me with 100% ancestry from the Portuguese Azores Islands
- Same identical segment on one chromosome that's identical, i.e., same from both parents



# One other thing to mention

- GEDMatch does have the capability to store trees
- They are in the standard “GEDCOM” format that can be exported from Ancestry trees, FamilyTreeMaker, RootsMagic, etc.

## Your Family Trees (Also known as GEDComs) below:

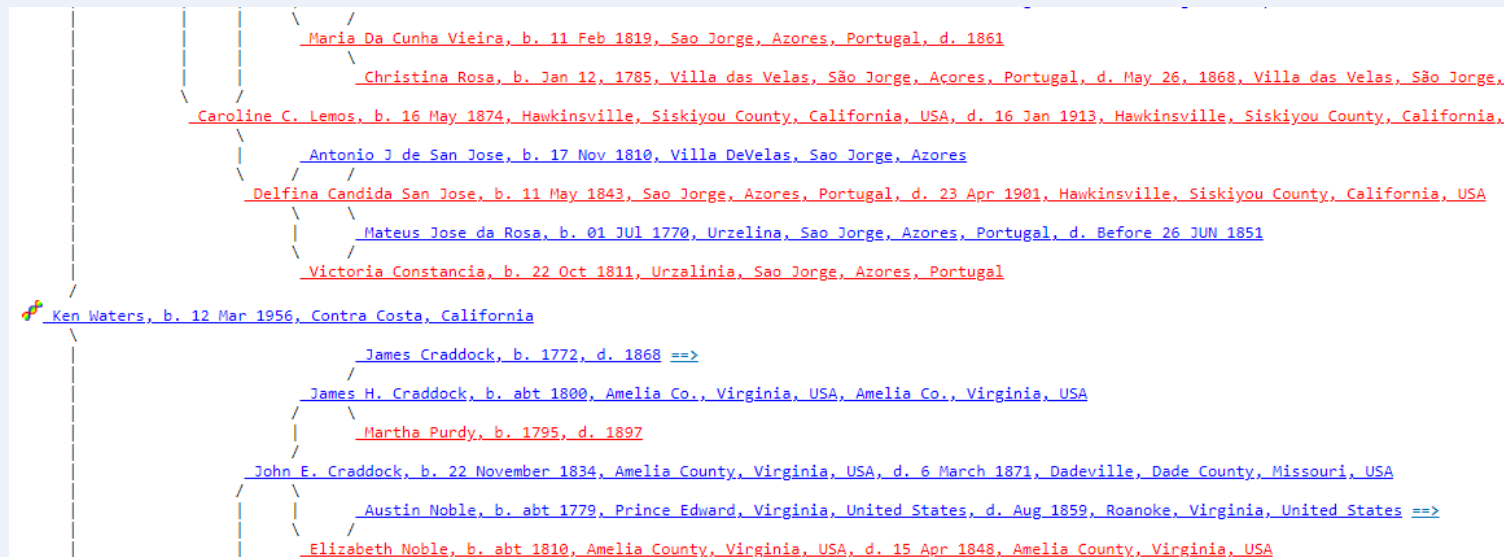
<a href="#">5290368</a>	2020-08-29	Me
<a href="#">5760302</a>	2020-07-31	Joan Craddock
<a href="#">3147917</a>	2020-07-31	Ernie Waters
<a href="#">4173734</a>	2020-07-01	/LIVING/

Click on the GEDCOM number above to go to the individual detail page for the point person. To change the point person, or to create a link between a DNA kit and a person in your GEDcom: Go to their individual detail page in the online tree and at the bottom of that page there is a box for linking a DNA kit to that GEDCOM, or for changing the point person.

Click [HERE](#) to manage GEDCOM resources.

# GEDCOMs

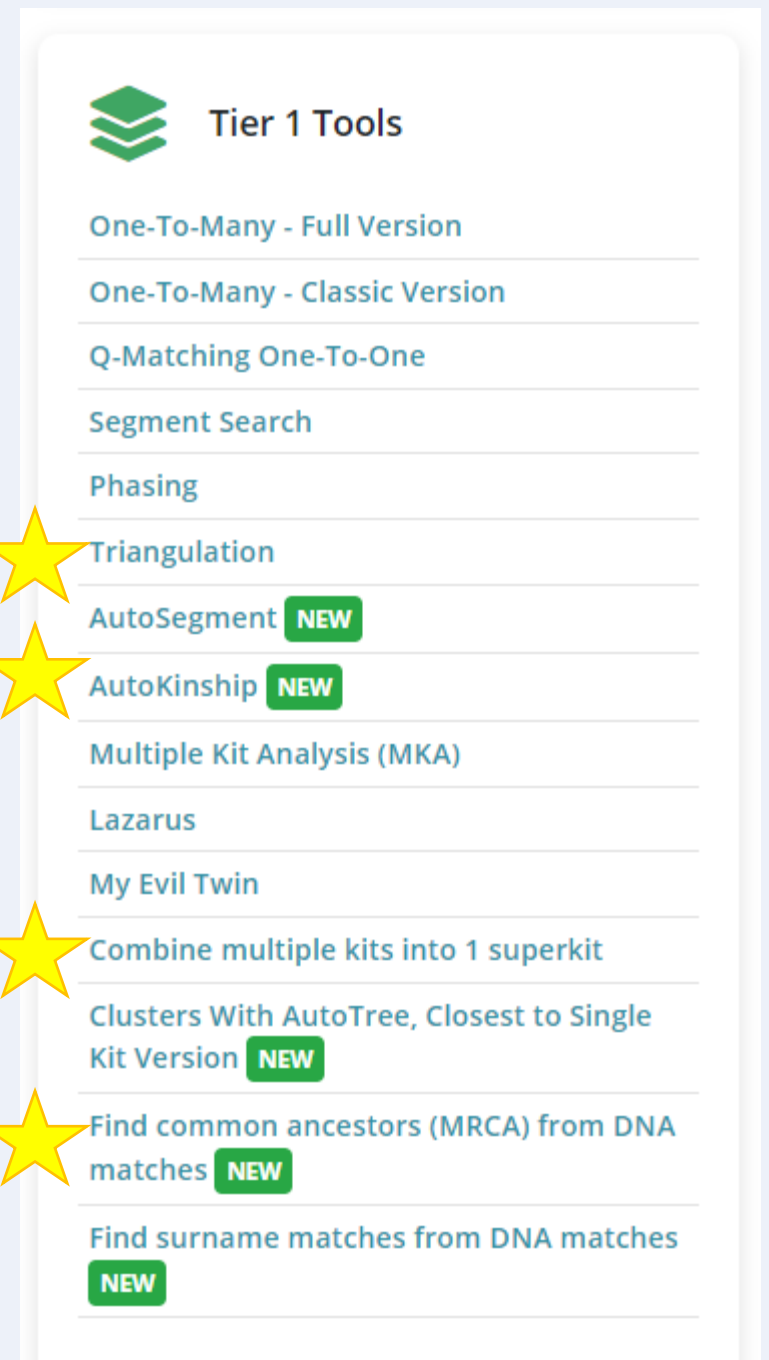
- These can be accessed from matches in the one-to-many lists:
  - GEDMatch's display of trees is very rudimentary











# There's More....**MUCH** More

- Many more tools of interest that can be tried beyond the four highlighted here
- Many of these require a “Tier 1” membership
  - This currently costs \$15 for one month's use
  - Can be set to autopay every month or can be used as needed, one month at a time



 Tier 1 Tools

- One-To-Many - Full Version
- One-To-Many - Classic Version
- Q-Matching One-To-One
- Segment Search
- Phasing
-  Triangulation
-  AutoSegment **NEW**
-  AutoKinship **NEW**
- Multiple Kit Analysis (MKA)
- Lazarus
- My Evil Twin
-  Combine multiple kits into 1 superkit
- Clusters With AutoTree, Closest to Single Kit Version **NEW**
-  Find common ancestors (MRCA) from DNA matches **NEW**
- Find surname matches from DNA matches **NEW**

# 3 Options to subscribe to Tier 1

## Pay-As-You-Go Tier 1 Access

Get access to Tier 1 tools when you need them, for how long you need them. You will be charged a one-time fee for the number of months you choose.

Time Period

1 Month \$15.00 USD ▾

**Join Tier 1**



## Auto-Renewal Tier 1 Access

Get access to Tier 1 tools every month, and save \$ when paying for a year! You will be automatically charged monthly or yearly for these options.

Monthly Recurring - \$10 / month

**Monthly Auto-Renewal**



Yearly Recurring - \$100 / year

**Yearly Auto-Renewal**



## Quote of the Day

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

– Ken Waters

# Upcoming Classes/Presentations

**Mon, Dec 5, 7 pm (Private Group—contact Ken for information)**

Topic: DNAPainter

**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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