

All about me!

Heredity

Children tend to look like their parents, but not exactly. Children inherit some characteristics or **genetic traits** from one parent and some from another.

You might already be familiar with a few genetic traits of humans such as eye colour, blood types and even baldness.

There are a tremendous number of genetic traits. This makes humans extremely variable. With the exception of identical twins, it is highly unlikely that any two persons will have the same combinations of genetic traits.

You will first collect data on the traits that you have (or have not!). Complete each box with either a number of by **circling** the ones that apply to you.

Gender		Writing hand			Age	
Male	Female	Right	Left	Either	whole years	
Interlocking fingers Right thumb on top cc		Dimples DD or Dd			Cleft chin mm	
Interlocking fingers Left thumb on top CC or Cc		No dimples dd			No cleft chin Mm or mm	
<small>*modifier gene + cleft gene</small>						
Straight thumb SS or Ss		Freckles FF or Ff			Attached lobe ee	
Curved thumb Ss		No Freckles ff			Unattached (free) lobe EE or Ee	
Dominant Eye Left See below		Tongue roller TT or Tt			Width measurements (mm) IPD = Mouth =	
Dominant Eye Right See below		Non roller tt			This is also considered a genetic trait but to help consider if eyes are 'close', 'medium' or 'far' apart you will need to measure your IPD .	

Create a triangle gap between your hands. With both eyes look at an object from a few feet away so that it is in the centre of the gap.

Use just one eye and then the other to look at the object. The object will stay in the centre (or closer to it) for your dominant eye.



Looking straight ahead, have someone measure the center-to-center distance between each of your pupils (**IPD** or Interpupillary Distance). They should try and record this to the nearest millimetre

For adults the average lies between 58 and 72mm.

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Your teacher will show you how to obtain a random sample of data from our database. Complete the following table using this sample.

Size of sample			
Trait	My type	From sample	
		Number like me	%
Gender			
Writing hand			
Finger-locking			
Dimples			
Cleft chin			
Thumb			
Freckles			
Ear lobe			
Dominant Eye			
Tongue roll			

Doppelgangers

Do you have an exact double somewhere in the world? There are many intriguing accounts throughout history of people who claim to have encountered their double - their so-called doppelgangers.

How many people in this sample have exactly the same full set of 10 characteristics as you? _____

We have only recorded a few characteristics. **Suggest** some other traits that would need to be collected to help you find if you have a doppelganger.

IPD or Interpupillary Distance

Sometimes a person might be described, either rightly or wrongly, as having eyes that are close together. Is this something which can be shown mathematically? Using the IPD (millimetres), draw up a table using intervals similar to the one shown below.

40-45mm	45-50mm	50-55mm	55-60mm
//	###	### ///	etc

What is the mean (average) IPD ?

What distance would you use to judge if someone has 'eyes close together'.

What are the problems (errors) of using this method of judging someone?

How can you use the measurements of IPD and width of mouth to help this investigation?