

In humans, the allele for being **right-handed** is dominant over the **left-handed** allele.

What letter codes will we use for these alleles?

Right-Handed R **Left-Handed** r

Since we have two copies of our genes, there are three possible combinations of these alleles that a person could have...

Code

 RR Homozygous Dominant, which makes a person _____ - *right*
Handed.

 Rr Heterozygous, which makes a person _____ - *right*
Handed.

 rr Homozygous Recessive, which makes a person _____ - *left*
Handed.

We use a Punnett Square to predict how these traits could be passed on to future generations.

If a person who is **homozygous dominant** (right/~~left~~ handed) marries a person who is **homozygous recessive** (~~right~~/left handed), will their children be right-handed or left handed?

	r	r	
R	Rr	Rr	G-Ratio 4:0 → 4 → 1
	right	right	
R	Rr	Rr	P-Ratio 4:0 → 1
	right	right	

Parent Codes
RR rr

What are the chances of having child who is...

100% Right-Handed

0% Left-Handed

Genotype - Genes you have.

Phenotype - Physical traits that show up.

Genotypic Ratio (G-Ratio) - the ratio of different genotypes in the Punnett Square.

Phenotypic Ratio (P-Ratio) - the ratio of different phenotypes in the Punnett Square.



If two people who are heterozygous (right/~~left~~ handed) get married, will their children be right-handed or left-handed?

R - right
r - left

	R	r
R	RR right	Rr right
r	Rr right	rr left

Parent Codes

Rr Rr

What are the chances of having child who is...

75% Right-Handed

25% Left-Handed

G-Ratio: 1:2:1
RR Rr rr

P-Ratio: 3:1
right: left

Can you figure out the genotypes of the parents by looking at the phenotypes of the children?

A couple has four children. Two of the kids are left-handed, and two of them are right handed. What are the most likely genotypes of the parents?

	r	r
R	Rr right	Rr right
r	rr left	rr left

Parent Codes

Rr rr

RR } right
Rr }
rr } left

Start with
recessive!
(bottom corner)

Let's say that a right-handed woman marries a left-handed man.

Could you tell if the woman is **homozygous dominant** (RR) or **heterozygous** (Rr) by looking at their kids?

	R	R
r	Rr	Rr
r	Rr	Rr

	R	r
r	Rr	rr
r	Rr	rr

Does it matter that the husband is left-handed?
Why or why not?