

## Blood Type: Multiple alleles and different forms of dominance

Each one of us has what is called a blood type. Proteins inhabit the surface (or don't with type O) of our blood cells determining what type of blood we have. Just like other genetic traits, we get one allele for blood type from each of our parents. The inheritance pattern for blood is not so straightforward, though. Look at the chart below to see what the blood type possibilities are.

Blood Type Genotypes	AA	AO	BB	BO	AB	OO
Blood Type Phenotypes	A	A	B	B	AB	O

### Dominance Patterns

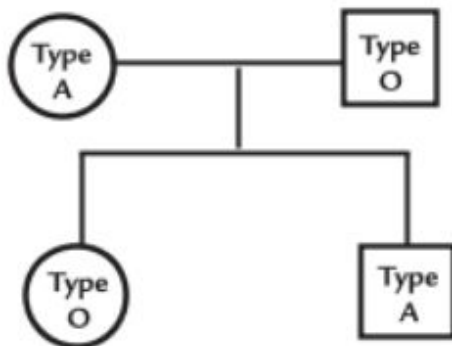
Look at the blood type genotypes and phenotypes above.

1. Which 2 genotypes give you type B blood?
2. What does it take to have type O blood?
3. What happens when the blood genotype is heterozygous with one O allele?
4. Is this complete dominance, incomplete dominance or codominance? Explain
5. There is one more pattern of inheritance in blood types. What is the genotype and phenotype of this blood type?
6. Is this complete dominance, incomplete dominance or codominance? Explain

7. Flip a coin to determine which allele each parent passes on. Heads is the allele on the left and tails is the allele on the right. Figure out the blood types for all parents and offspring.

Parent 1 genotype	Parent 1 blood type	Offspring genotype	Offspring blood type	Parent 2 genotype	Parent 2 blood type
AA	A	AA	A	AO	A
BO		OO		BO	
AB				AA	
AB				BO	
OO				AB	
BB				AO	
AB				AB	
AA				BB	
BO				AO	
AA				BO	

Two parents have a genotype of BO and AO. What are all of the possible genotypes of the offspring? Make a punnett square as evidence.

Joseph's sister

Joseph

### Blood Type Pedigree

1. Look at the diagram.
2. Label the genotype for each person.