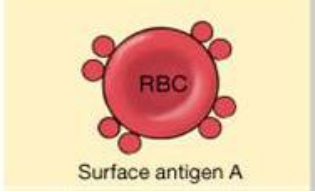
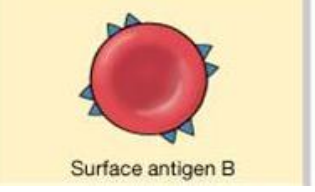
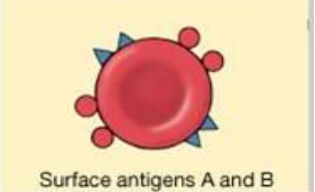



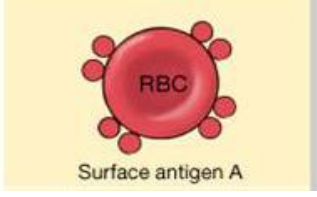
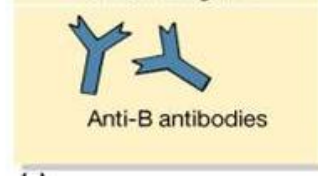
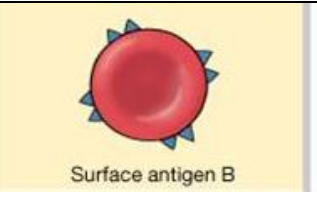
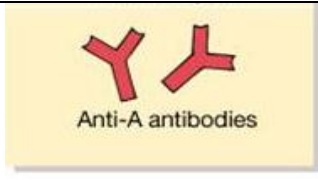
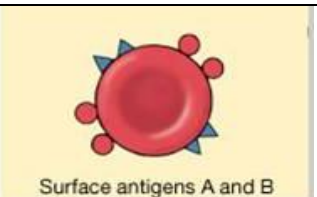
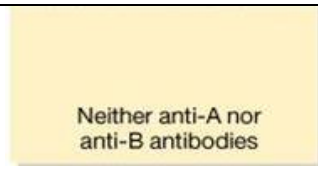
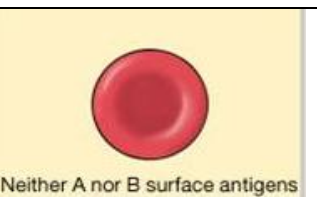
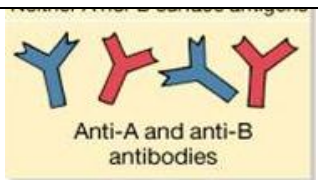
+Human Blood Types; Multiple Alleles

Type II Hypersensitivity

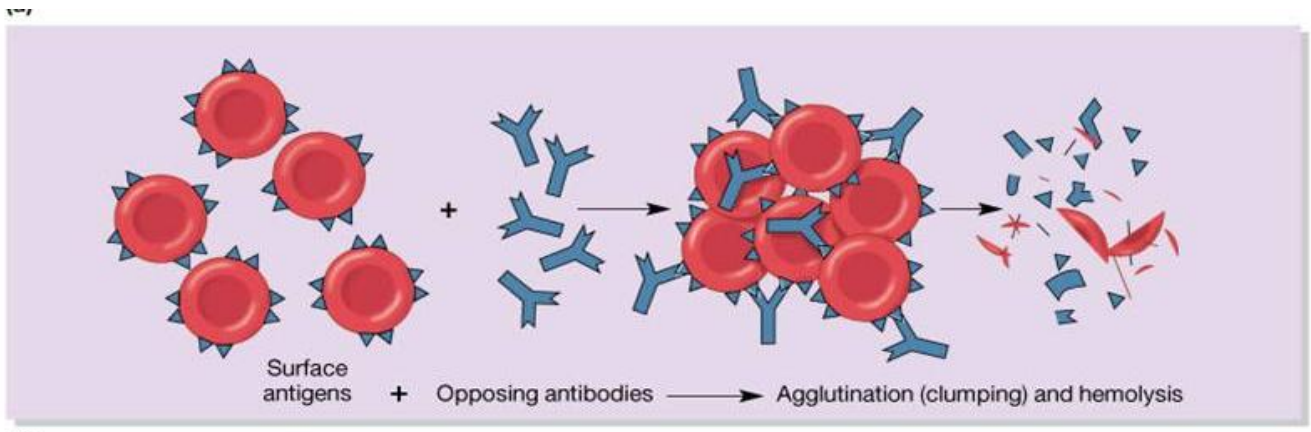
Pheno- type (Blood Type)	Genotype	Antigens	Antibodies	Can give blood to	Can receive blood from
A					
B					
AB					
O					

Pheno- type (Blood Type)	Genotype	Antigens	Antibodies	Can give blood to	Can receive blood from
A	$I^A I^A$ =homozygous dominant  $I^A i$ = heterozygous				
B	$I^B I^B$ =homozygous dominant  $I^B i$ =heterozygous				
AB	$I^A I^B$				
O	$ii$ =homozygous recessive				

Phenotype (Blood Type)	Genotype	Antigens- a particle that causes an immune response (causes your immune system to attack it)	Antibodies – particles that bind with antigens (made by B cells in your immune system)	Can give blood to	Can receive blood from
A	$I^A I^A$ =homozygous dominant  $I^A i$ = heterozygous	 <p>Surface antigen A</p>			
B	$I^B I^B$ =homozygous dominant  $I^B i$ =heterozygous	 <p>Surface antigen B</p>			
AB	$I^A I^B$	 <p>Surface antigens A and B</p>			
O	$ii$ =homozygous recessive	 <p>Neither A nor B surface antigens</p>			

Pheno- type (Blood Type)	Genotype	Antigens	Antibodies	Can give blood to	Can receive blood from
A	$I^A I^A$ = homozygous dominant $I^A i$ = heterozygous	 Surface antigen A	 Anti-B antibodies		
B	$I^B I^B$ = homozygous dominant $I^B i$ = heterozygous	 Surface antigen B	 Anti-A antibodies		
AB	$I^A I^B$	 Surface antigens A and B	 Neither anti-A nor anti-B antibodies		
O	$ii$ = homozygous recessive	 Neither A nor B surface antigens	 Anti-A and anti-B antibodies		

# Agglutination:



(b)

Rh Factor: Rh antigen, no RH antibodies = **+**      no Rh antigen, Rh antibodies = **-**

Blood Type	A+	A-	B+	A-	AB+	AB-	O+	O-
A & B antibodies								
Rh Antibodies (postnatal)								

True Universal Donor?

True Universal Recipient?