

# Blood Typing Wkst.

Geneticists probably know more about blood types than any other inherited trait. The 4 basic blood types are determined by the presence or absence of certain agglutinogens on the RBC's. Blood types are inherited; one from each parent. Therefore, they can be homozygous or heterozygous.

Q1. Recall from biology (or from our class discussion!) what homozygous and heterozygous mean and record definitions below.

Q2. Complete the data table below.

Blood Type of Parents	All Possible Genotype of Parents	All Possible Genotype of Children	All Possible Phenotypes of Children
A & O			
A & B			
AB & B			
AB & O			
O & O			

Punnett squares are used by genetics to predict the probable outcomes of certain crosses.

Q3. Complete the punnett square below crossing a heterozygous for type-A parent with a parent that is type AB.


A- parent genotype: \_\_\_\_\_  
 AB-parent genotype: \_\_\_\_\_  
 Probable genotype for offspring: \_\_\_\_\_  
 Probable phenotypes for offspring: \_\_\_\_\_

Q4. You are blood type and you marry a person with blood type AB. Complete the punnett square below


O-parent genotype - \_\_\_\_\_  
 AB-parent genotype - \_\_\_\_\_  
 Probable genotype for offspring - \_\_\_\_\_  
 Probable phenotype for offspring - \_\_\_\_\_

Q5. Suppose 2 newborn babies are accidentally mixed up at birth. Determine the parents of each child using the information below. Show your punnett squares and all other work.

Baby 1 = O	Mrs. Brown = B	Mrs. Smith = B
Baby 2 = A	Mr. Brown = AB	Mr. Smith = B

Q6. What genotypes must 2 parents have to produce 4 difference phenotype blood types?

When predicting the probably blood types from crosses, the Rh factor must also be considered. Remember A, B, and Rh+ are all dominant alleles. [++ = +Rh / +- = +RH / -- = -Rh]

Q7. Using the phenotypes below determine the outcomes all the crosses. Use punnett squares.

	<b>Males</b>	<b>Females</b>
A)	AB++	BB++
B)	AO--	OO++
C)	BB+-	AO--
D)	AB--	BB+-
E)	AO+-	BO+-