

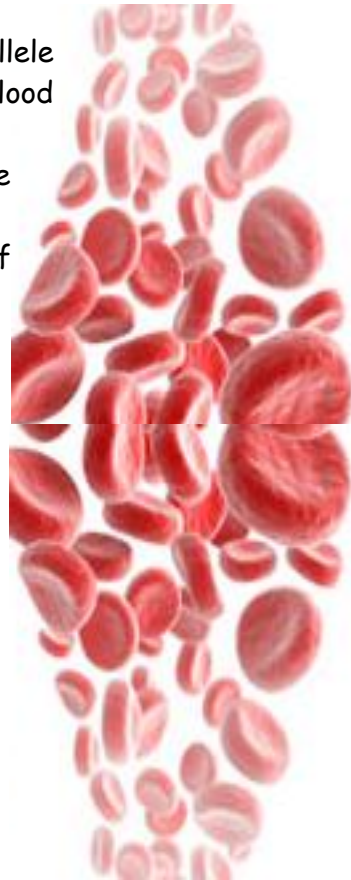
Multiple Alleles - Blood Types

Name _____ p _____

Some traits may be expressed by more than two possible alleles. This is multiple allele expression. One very important trait expressed through multiple alleles is human blood type. There are four possible types of human blood: A, B, AB, and O

These are expressed by immunoglobulin proteins, so the three possible alleles are written in this way: I^A , I^B , and i

Remember the rules of capital letters and lower case letters. If you do not know if someone is heterozygous or homozygous type A or B, ALWAYS use the heterozygous!



Write the possible genotypes of each type of blood. (p216 in the book)

Type A _____ or _____

Type B _____ or _____

Type AB _____

Type O _____

1. One parent is homozygous type A and the other is heterozygous type A.

Legend	Parents	Cross it	Possible Offspring Genotypes	Possible Offspring Phenotypes



2. Homozygous type B father crossed with a type O mother.

Legend	Parents	Cross it	Possible Offspring Genotypes	Possible Offspring Phenotypes



3. If a type AB father has a baby with a type A mother, what would the **possible** blood types of the baby be? List all the **possible blood types**.

Legend	Parents	Cross it	Possible Offspring Genotypes	Possible Offspring Phenotypes

4. What are the possible blood types of a baby born to a type A father and a type B mother?

Legend	Parents	Cross it	Possible Offspring Genotypes	Possible Offspring Phenotypes

5. What are the possible blood types of a baby born to a type B father and a type O mother?

Legend	Parents	Cross it	Possible Offspring Genotypes	Possible Offspring Phenotypes

TEST REVIEW:

1. If square is dominant over round sponges, determine the phenotype of the following genotypes:

a. Ss _____ b. ss _____ c. SS _____

2. If red smurfs are recessive to blue smurfs determine all the possible genotypes for each color of smurf.

a. Blue smurfs _____ Red smurfs _____



3. Hobbits have genes that make their feet either hairy or hairless. The allele for hairy feet is recessive. Cross a heterozygous parent with a parent who has hairy feet. Show your results.

Legend	Parents	Cross it	Possible Offspring Genotypes	Possible Offspring Phenotypes

