

Genetics Unit
Codominance worksheet

Name:

Codominance- when both alleles are expressed at the same time

Example: **ABO** system of blood types

This is an example that uses a 3 allele system. A persons blood type is based on

the absence or presence of certain proteins in his or her red blood cells.

A is codominant with B-neither covers the other both are expressed independently.

A is dominant over O- Only A is expressed if A and O are present.

B is dominant over O- Only B is expressed if B and O are present.

Possible genotypes

Phenotypes

AA -----	Type A
AO -----	Type A
BB -----	Type B
BO -----	Type B
AB -----	Type AB
OO -----	Type O

Questions

- 1.) If you have type A blood, what are your possible genotypes?
- 2.) If you have type B blood, what could your genotypes be?
- 3.) If you have type AB blood, what must your genotype be?
- 4.) If you have type O blood, what must your genotype be?
- 5.) Could two individuals with type A blood ever produce any offspring with type O blood? Explain your answer completely.
- 6.) could two individuals with type O blood ever produce any offspring with type A blood? Explain.

- 7.) Could a type O individual and a type AB individual ever produce any offspring with type A blood? Explain.
- 8.) A man has type A blood and his wife has type B. A physician types the blood of their four children and is amazed to find one of each of the blood types among them. How could this happen?
- 9.) A woman sues a man for the support of her child. She has type A blood, her child has type O, and the man has type B. Could the man be the father? Explain.
- 10.) A wealthy elderly couple die together in an accident. Soon a man shows up to claim their fortune, saying that he is their only son who ran away from home as a boy. Other relatives dispute his claim. Hospital records show that the deceased couple were type AB and O respectively. The claimant to the fortune was type O. Could he be their son? Explain.
- 11.) Suppose two newborn babies were accidentally mixed up in the hospital. In an effort to determine to which parents each baby belonged, the blood types of the babies and parents were identified. From the following test results, identify which baby belongs to which parents and their genotypes.

Individual	Blood Type	Genotype	Parents' Name
Baby #1	O		
Baby #2	A		
Mrs. Brown	B		_____
Mr. Brown	AB		_____
Mrs. Smith	B		_____
Mr. Smith	B		_____