

Comparison of Inheritance Types**I. Mendelian vs. Non-Mendelian Inheritance**

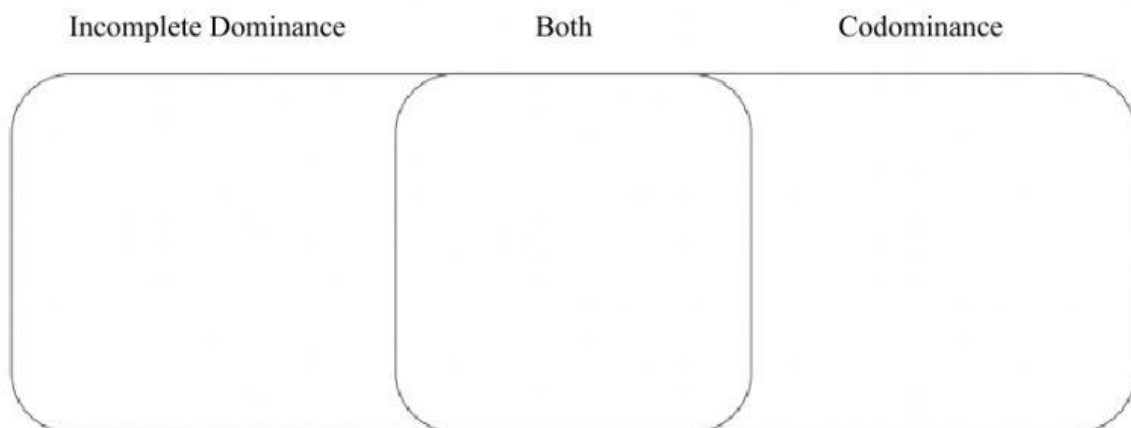
Identify which type of inheritance is being described in each of the following, using the options given in the provided choice bank. Write the letter of the correct answer on the blank.

Choice Bank for Questions 1-10	
A. Complete dominance	C. Codominance
B. Incomplete dominance	D. Incomplete dominance AND Codominance

- _____ A form of dominance where a third phenotype appears after a cross, usually a blend of the two parent phenotypes.
- _____ A ratio of 3:1 is seen in the offspring, where for every three offspring that have round seeds there is one that has wrinkled seeds.
- _____ An example of this is a cross between a carnation plant that has red flowers and another carnation plant that has white flowers. The offspring produced pink flowers.
- _____ One of the two alleles is fully expressed while the other is overpowered.
- _____ The allele is not fully expressed in the heterozygote, but is partially expressed.
- _____ The offspring shows the phenotypic traits of both parents at the same time.
- _____ The resulting pattern in the offspring does not follow Mendelian inheritance patterns.
- _____ An example is blood type AB where both alleles I^A and I^B are fully expressed.
- _____ Only one of the two parental phenotypes is expressed in the hybrid offspring.
- _____ It assumes that one of the two alleles is dominant over the other.

II. Complete the Venn diagram

Record at least 2 items in each section of the diagram below.



III. Comparison of Non-Mendelian Inheritance Types

Identify which type of inheritance is being described in each of the following, using the options given in the provided choice bank. Write the letter of the correct answer on the blank. Some choices will be used more than once.

Choice Bank for Questions 11-20		
A. Incomplete dominance	B. Codominance	C. Polygenic inheritance
D. Epistatic inheritance	E. Sex-linked inheritance	

11. ____ A single “master gene” can determine whether other genes are or are not expressed. Complete baldness is an example of this type of inheritance.
12. ____ Males are more likely to inherit recessive conditions than females in this type of inheritance.
13. ____ The heterozygous individuals will result in an intermediate/blended phenotype between the parents.
14. ____ Inheritance pattern that results in a wide variety of phenotypes. An example is skin color.
15. ____ Inheritance pattern that results in both phenotypes expressed equally in the heterozygous offspring.
16. ____ Many genes are linked together to produce the trait.
17. ____ Traits following this inheritance pattern are usually written as superscripts on X chromosomes.

18. ____

HH straight hair × hh curly hair

H	h
H	Hh
h	Hh

hh wavy hair

19. ____

BB brown × bb white

B	b
B	Bb
b	Bb

Bb spotted

20. ____

aaBBCC (pure white line) × AAbbCC (pure red line)

F1: AaBbCc (medium red)

Self-fertilization

Frequency in Population

Number of red pigment alleles in genotype

0	1	2	3	4	5	6
aaBBCC	AaBBCC, aaBBCC	AA BB CC, AaBBCC, AaBBCC, aaBBCC	AA BB CC, AaBBCC, AaBBCC, AaBBCC, aaBBCC	AA BB CC, AaBBCC, AaBBCC, AaBBCC, AaBBCC, aaBBCC	AA BB CC, AaBBCC, AaBBCC, AaBBCC, AaBBCC, AaBBCC, aaBBCC	AA BB CC