6. In snapdragons, red is not completely dominant over white flowers.

a. What color flowers would you expect when you cross a red flower with a white flower? What would be the genotypic and phenotypic ratios of the offspring be?

b. Cross two of the F_1 generation from above. What would be the genotypic and phenotypic ratios of the offspring be?

7. In dragons, the ability to breath fire is a recessive trait. Homozygous dominant dragons cannot produce fire or smoke at all. Heterozygous dragons can produce smoke, but no fire.

a. Cross a fire breathing dragon with a homozygous dominant dragon. What would be the genotypic and phenotypic ratios of the offspring be?

b. Cross two smoke-producing only dragons. Are any of the offspring able to produce fire? Show punnett square to support your answer.

8. In cattle, red and white hair are codominant. The heterozygous condition is roan colored (contains both red hair and white hair)

a. Cross a red cow and a white cow. What would be the genotypic and phenotypic ratios of the offspring be?

b. Would it be possible to have any red cattle when two roan cattle are crossed? Show punnett square to support your answer.

9. In Guinea pigs, the genotype (BB) is black, and the genotype (bb) is white color, and (Bb) is grey color, The gene (B) and (b) are sex-linked.

a. What type of offspring are to be expected in a cross between a black female and a white male?

b. A heterozygous female is crossed with a white male. What are the expected genotypic and phenotypic ratios of the offspring?

c. Would it ever be possible to produce a male with grey hair? Explain

10. In humans, colorblindness is due to the reccesive allele (c), and normal vision is due to the dominant allele (C). Color blindness is a sex-linked trait.

a. What is the expected offspring between a normal man and a colorblind woman? Give both genotypic and phenotypic ratios of offspring

b. A normal male is crossed with a female who is not colorblind? Would it ever be possible to produce offspring that are colorblind? Show punnett square to support your answer.

c. What would you expect when a colorblind man marries a colorblind woman? Give both genotypic and phenotypic ratios of offspring.

d. Is it ever possible to have a male that is a carrier for colorblindness? Explain

e. Would there ever be an instance when a female could not be a carrier? Explain

11. The chart below shows the inheritance of human blood types. There are four different phenotypes possible: A, B, AB, and O. The alleles A and B are codominant, and the O allele is recessive to both A and B.

Blood Groups

Phenotype (Blood Type)	Genotype	Antigen on Red Blood Cell	Safe Transfusions	
			To	From
A	I^AI^A or I^Ai	A	A, AB	A, O
B	I^BI^B or I^Bi	B	B, AB	B, O
AB	I^AI^B	A and B	AB	A, B, AB, O
O	ii	none	A, B, AB, O	O

a. A person with I^AI^B is crossed with a person who is I^AI^A. What are the genotypic and phenotypic ratios of the offspring?