GENE POOL ANALYSIS

We are studying the frequency of a pair of alleles in a population of animals. There are 70 black animals and 30 white animals in the population.. If we had to calculate the frequency of the black allele it would not be 7/10 as we need more information for the allele frequency. Study the table below.

phenotype	genotype	numbers	Allele numbers	Allele types	Total of allele types	Allele frequency
BLACK	BB	20	40	40B		
					90B	90/200
BLACK	Bb	50	100	50B + 50b		OR 45%
WHITE	bb	30	60	60b	110b	110/200
						OR 55%
TOTAL		**100**	**200**	**200**	**200**	**1 OR 100%**

After 50 years the population is sampled again and the results are somewhat different. This time you need to work out the allele frequency yourself using the first calculation as your model.

phenotype	Genotype	numbers	Allele numbers	Allele types	Total of allele types	Allele frequency
BLACK	BB	300				
BLACK	Bb	150				
WHITE	bb	50				
TOTAL						

1. Complete the table to work out the allele frequencies
2. Give the frequency for B and b
3. Give some possible reasons for why the allele frequency has changed. (gene pools remain **STABLE** under certain conditions so the **reverse** of those conditions will favour change)