• What is genetics?

Mendel's Peas

One of the characteristics of pea plants that Mendel studied was seed color. He crossed plants that produced yellow seeds with plants that produced green seeds.

Study Mendel's data shown in the table below. Answer the questions that follow.

Parents	First generation	Second generation
yellow seeds x green seeds	all yellow seeds	6022 yellow seeds 2001 green seeds

1. Which factor, green seed color or yellow seed color, is dominant? Explain your answer.

_____

_____

2. Use the letter *Y* or *y* to stand for the alleles for seed color. Represent the dominant allele. _____

Represent the recessive allele. _____

3. Complete the table.

Phenotype	Possible genotypes
yellow seeds	
green seeds	

4. Make a Punnett square showing the alleles of the parent plants and the first generation of offspring.

5. Make a Punnett square showing a cross between two of the offspring shown above. Show the alleles for these parents of the second generation and their offspring.

6. a. Use the Punnett square to predict the ratio of plants that produce yellow seeds to plants that produce green seeds in the second generation of offspring. _____

b. Does this ratio agree with Mendel's observations? _____

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