

2. Identify how many traits did Mendel study?

Mendel studied 7 different traits of pea plants.

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Commented [1]: Where is your textual evidence?

3. Explain why was it important that Mendel controlled the fertilization of the pea plants?

Mendel controlled the fertilization in the pea plants. He could then observe how traits passed from one generation to the next. Mendel allowed some of the plants to self-fertilize as they do in nature. He also cross-fertilized by transferring pollen from one pea plant to another.

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Commented [2]: You are telling me what he did with the pea plants, but you haven't clearly addressed the question. Please clarify.

4. Define what is a dominant factor?

A genetic factor that blocks the presence of another genetic factor.

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Commented [3]: Where is your textual evidence?

5. State Mendel's two laws of heredity

1. The law of segregation
2. The law of independent assortment

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Commented [4]: What about them? Please define.

6. Explain what is the difference between a factor and an allele?

A factor is each form of a gene with different information. Allele is a gene at the same location on a pair of homologous chromosomes.

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Commented [5]: Provide examples to clarify. What are homologous chromosomes?

7. Apply how would you describe your own phenotype?

An organism's phenotype includes not only its physical appearance, but also how its organs function, how it reproduces, and many other characteristics.

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Commented [6]: You did not answer the question. Apply the definition to answer the question i.e. how would you describe your own phenotype?

8. State how are dominant alleles represented in writing?

The possible genotypes for the smooth pea phenotype are SS and Ss. Uppercase letters represent dominant alleles. Both of these genotypes result in a smooth phenotype because the S allele is dominant over the s allele. The wrinkled phenotype is possible only if the two recessive alleles ss are present.

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Commented [7]: This statement is not true. The uppercase letters would be SS. Are these recessive or dominant? Also, use the alleles, SS x ss to conduct a Punnett square and explain the genotype and phenotype of the offspring.

Apply the following videos to help you with the request:
https://www.youtube.com/watch?v=6QoJA2Mq1_o

<https://www.youtube.com/watch?v=pNvPxUsHtpo>

<https://www.youtube.com/watch?v=RTvUKYig4tE&t=76s>

9. Explain how does the genotype of the offspring differ from the parents genotypes in this figure? I could not figure out this answer. [Page:51](#)

10. Explain why are mendel's studies important?

Mendel's findings were not studied by scientists for many years. In the mid 1800s, ~~no one~~ understood the concept of chromosomes or the process of meiosis. In the 1900s, scientists rediscovered mendel's work. Now, all research involving modern genetics is based on mendel's work with pea plants.

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Commented [8]: Once you watch the videos to complete the punnett square (#8), you should be able to answer this question. If not, you can attend the drop in session or tutoring session for clarification.