



INDIAN SCHOOL AL BURAIMI
BIOLOGY WORKSHEET

NAME :

DATE:

STD : X

Worksheet 6

TOPIC - HEREDITY

1. A blue colour flower plant denoted by BB is cross bred with that of white colour flower plant denoted by bb.

(a) State the colour of flower you would expect in their F1 generation plants.

(b) What must be the percentage of white flower plants in F2 generation if flowers of F1 plants are self-pollinated?

(c) State the expected ratio of the genotypes BB and Bb in the F2 progeny.

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(d) State the type of plants which are not found in F1 generation but reappeared in F2 generation. Write the reason for the same.

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2. A Mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bear violet flowers but almost half of them were short. Suggest the genetic makeup of the tall parent.

3. The genotype of a green stemmed tomato plant is denoted by GG and that of a purple stemmed tomato plant is gg. When the two plants are crossed,

a) What colour of stem would you expect in the F1 progeny?

b) Give the percentage of purple stemmed plant if F1 plants are self-pollinated.

c) In what ratio would you find the green and purple colour in the F2 progeny?

4. What is the information source for making proteins in the cell?
5. Name an organism which can change sex during its lifetime.
6. Why do we find very little variations among sugarcane plants?

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7. **Assertion:** When pure breed tall plants are crossed with pure breed short plants, all the plants in F1 progeny are tall. When the tall plants of F1 progeny are crossed, short plants re-appear in F2 progeny.

Reason: Traits are independently inherited.

8. Sahil performed an experiment to study the inheritance pattern of genes. He crossed tall pea plants (TT) with short pea plants (tt) and obtained all tall plants in F1 generation.

(a) What set of genes will be present in the F1 generation?

(b) Give reason, why only tall plants are observed in F1 progeny.

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(c) When F1 plants were self - pollinated, a total of 800 plants were produced. How many of these would be tall, medium height or short plants? Give the genotype of F2 generation.

d) When F1 plants were cross-pollinated with plants having tt genes, a total of 800 plants were produced. How many of these would be tall, medium, or short plants? Give the genotype of F2 generation.

9. Why did Mendel choose pea plants for his experiments? (Give three reasons)