



UNITED NATIONS SCHOOL I.E.D.  
PREPARATORY WORKSHOP  
SECOND TRIMESTER  
BIOLOGY 8°

**Copy and solve in the notebook**

**DELIVERY DATE JULY 15**

NAME \_\_\_\_\_ GRADE \_\_\_\_\_ DATE \_\_\_\_\_

1. The production of plants with pink flowers from the cross between plants with red flowers and plants with white flowers, in what genetic combination is possible?
2. Some twins occur when a fertilized egg (zygote) divides into two cells and they continue to develop independently. Despite their similarities, these twins may present differences throughout their lives related to height, weight, hair texture, etc., why does this happen?
3. A woman whose blood group is A, but whose father has blood group O, marries a man with blood group AB. What is the probability of having children with blood group O?
4. Modern molecular biology techniques allow us to replace the nucleus of a fertilized egg with the nucleus of a somatic cell of an adult organism. When this egg is implanted in the uterus of a female of the species, what will the characteristics of the resulting individual like?
5. If you have the alleles P for curly hair and p for straight hair, what kind of genotype will be Pp?

READ THE FOLLOWING INFORMATION AND FROM IT ANSWER QUESTIONS 8 TO 12

*In Persian cats, long hair (C) is recessive compared to short hair (c) in Siamese cats. Below are three different crosses and the results obtained in each of them.*

*#1 A long-haired Persian cat is crossed with a short-haired Siamese cat and they have 8 kittens of which 4 are long-haired and 4 are short-haired.*

*#2 A Siamese shorthair cat is crossed with a Siamese shorthair cat and has 16 kittens of which 12 have short hair and 4 have long hair.*

*#3 A short-haired Siamese cat is crossed with a long-haired Persian cat and they all have short-haired children.*

6. According to the results obtained in crossing #1, which was the genotype of the crossed cats?
7. If the long-haired cats obtained in the first crossing were crossed with each other, what will be the percentages of phenotypes of the descendants?
8. What will be the genetic constitution of the descendants of cross #3?

9. If we wanted to obtain a whole generation of cats with long hair, what genotypes of cat we would have to cross?
10. According to the results obtained in crossing #2, what are the genotypes of the kittens that are crossed?
11. In humans, brown eye color (M) is dominant over blue eye color (m). If a man with blue eyes marries a woman with brown eyes, but whose father had blue eyes, which will be the proportion of children who can have blue eyes?
12. In turkeys, the tan feather color (B) is dominant over the red feather color (b). If we cross a red-feathered turkey with a heterozygous, tan-feathered turkey, which will be the proportion of poults that can have red feathers?