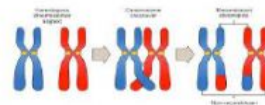


Genetics & Heredity Milestones Review Part 1

1. The process by which DNA makes a copy of itself is called _____.
2. The process by which RNA is turned into proteins is called _____.
3. The process by which a DNA molecule is transferred to a messenger RNA molecule is called _____.
4. The following mutation is a A C T G A C = A T G A C
5. The following mutation is a A C T G A C = A G T G A C
6. The following mutation is a A C T G A C = A C T T G A C
7. A mutation can pass from parents to offspring if it located in a _____.

8. What does the process of crossing over do for organisms?

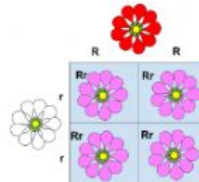


9. Big T over little t represents which one of Mendel's Laws?
10. Offspring will only receive one allele from their parent for a certain gene represents which one of Mendel's Laws?
11. Height and eye color traits don't come paired together. This is why brothers and sisters don't look exactly alike. Which one of Mendel's Laws does this represent?
12. Meiosis (Sexual Reproduction) is so important because it

13. The following picture represents:



- The following picture represents:



14. A brown cow mates with a white cow. The offspring have brown and white spots. What type of inheritance is this?
15. A blue flower cross-pollinates with a yellow flower. The resulting offspring are green flowers. What type of inheritance is this?

16. In the dihybrid cross for humans shown below, W is dominant for widows peak, w is recessive for straight hairline, R is dominant for being right-handed, and r is recessive for being left-handed.

	WR	Wr	wR	wr
WR	WWRR	WWRr	WwRR	WwRr
Wr	WWRr	WWrr	WwRr	Wwrr
wR	WwRR	WwRr	wwRR	wwRr
wr	WwRr	Wwrr	wwRr	wwrr

Which statement could be accurately made about the offspring of this cross?

- There is a 100% chance of having widows peak and being right-handed.
- There is no chance of having straight hairline and being left-handed.
- There is at least a 50% chance of having widow's peak and being right-handed.
- There is no chance of having widows peak and being left-handed.

17. A student draws a Punnett square where both parents are heterozygous for height are crossed. Tall (T) is dominant over short (t). Fill out the Punnett square and answer the following questions.

- What is the percent chance that the offspring will be short?
- What is the percent chance that the offspring will be tall?
- What is the genotypic ratio of the offspring?
- What is the phenotypic ratio of the offspring?

18. In pea plants, smooth seeds (S) are dominant to wrinkled seeds (s). A parent pea plant with smooth seeds (SS) is crossed with a parent pea plant with wrinkled seeds (ss).

Select the correct number for each box to provide the predicted phenotypic and genotypic ratios for the offspring of this cross.

?

Phenotypic Ratio

:

smooth seeds wrinkled seeds

Genotypic Ratio

: :

SS Ss ss

0
1
2
3
4