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**1. Explain the terms analogous and homologous organs with examples.**

Homologous organs are those organs that have the identical basic structural style and origin however have completely different functions. For example: The forelimbs of humans and also the wings of birds look completely different outwardly however their complex body part is comparable.

Analogous organs are those organs that have the various basic structural style and origin however have similar functions. For example: The wings of birds and insects.

**2. Outline a project which aims to find the dominant coat color in dogs.**

Dogs have a spread of genes that govern coat color. There are a minimum of eleven known sequence series (A, B, C, D, E, F, G, M, P, S, T) that influence coat change dog. A dog inherits one sequence from every of its oldsters. The factor gets expressed within the constitution. As an example, within the B series, a dog is genetically black or brown. Allow us to assume that one parent is homozygous black (BB), whereas the opposite parent is homozygous brown (bb).

	BB		
bb	B	B	
	b	Bb	Bb
	b	Bb	Bb

In this case, all the off springs are going to be heterozygous (Bb).

Since black (B) is dominant, all the off springs are going to be black. However, they're going to have each B and b alleles. If such heterozygous pups are crossed, they're going to manufacture twenty five homozygous black (BB), fiftieth heterozygous black (Bb), and twenty five homozygous brown (bb) off springs.

	B	b
B	BB	Bb
b	Bb	Bb

**3. Explain the importance of fossils in deciding evolutionary relationships.**

Fossil give evidence about

- (a) The organisms that lived way back like the fundamental quantity throughout that they lived, their structure etc.
- (b) Biological process development of species i.e., line of their development.
- (c) Connecting links between 2 teams. As an example, feathers gift in some dinosaurs implies that birds are terribly closely associated with reptiles.
- (d) That organisms evolved earlier and which later.
- (e) Development of complicated body styles from the straightforward body designs.

**4. What evidence do we have for the origin of life from inanimate matter?**

The evidence of the origin of the inanimate matter in life was provided by Stanley L. Miller and Harold C. Urey's associate degree experiment conducted in 1953. They assembled an environment in experiment that contained molecules such as ammonia, alkane series and element sulfide over water, but no chemical element. It was just like the atmosphere on earth that thought it would exist. This was kept at a temperature slightly below 100 ° C and the mixture of gasses to simulate lightning was felt by sparks. At the end of the week, fifteenth of the alkane series carbon has been regenerated into easy carbon compounds as well as amino acids that form super molecule molecules and support basic life. It was inferred from this that life arose again on earth.

**5. Explain how sexual reproduction gives rise to more viable variations than asexual reproduction. How does this affect the evolution of those organisms that reproduce sexually?**

Sexual reproduction causes a lot of viable variations because of the subsequent reasons: (a) Error in repetition of deoxyribonucleic acid, that don't seem to be extremely vital.

- (b) Random segregation of paternal and maternal body at the time of sex cell formation.
- (c) Exchange of genetic material between homologous chromosomes throughout formation of gametes.
- (d) Accumulation of variations occurred because of reproduction over generation after generation and choice naturally created wide diversity.
- (e) In case of agamogenesis, solely the terribly tiny changes because of inaccuracies in deoxyribonucleic acid copying pass away the relative. Thus, off springs of agamogenesis are a lot of or less genetically just like their folks. So, it will be ended that evolution in sexually reproducing organisms proceed at a quicker pace than in asexually reproducing organisms.