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AP Biology

Chapter 36: Reproduction and Development

***36.1 Both asexual and sexual reproduction occur in the animal kingdom***

1. Distinguish between *sexual reproduction* and *asexual reproduction*.

2. Which form of reproduction:

a. relies entirely on *mitosis*

b. forms *gametes*

c. results in offspring genetically identical to the parent

d. produces a *zygote*

e. occurs in *budding*

f. is seen in *parthenogenesis*

4. What advantage does sexual reproduction provide? In what type of an environment would it be favored?

7. What conditions are always required for *external fertilization*?

9. Now, how have animal species solved the problem of moving sperm to egg in a dry environment? And how have plants solved that same problem?

***36.2 Reproductive organs produce and transport gametes***

21. What is *gametogenesis* in males called?

22. What is *gametogenesis* in females called?

26. How long is the process of spermatogenesis in humans?

***36.3 The interplay of tropic and sex hormones regulates mammalian reproduction***

42. FSH and LH get their names from events of the female reproductive cycle, but they also function in males. How are their functions in females and males similar?

***36.4 Development of an egg into a mature embryo requires fertilization, cleavage, gastrulation, and organogenesis***

51. What is the role of *HCG*? Is it produced by the embryo or by the mother?

52. How does a pregnancy test work?

53. Describe the steps of fertilization in the formation of a zygote.

54. What is *morphogenesis*?

55. What is apoptosis and how does it play a role in development?

41. Although all cells in an organism have the same genome, explain two ways in which gene expression is altered during development.

42. What does it mean to say that a cell is *totipotent*?