

RE Unit Review

1. Create a concept map that illustrates your understanding of the following terms and how they relate to reproduction.
 - a. mitosis
 - b. heredity
 - c. meiosis
 - d. characteristics
 - e. gametes
 - f. traits
 - g. eggs
 - h. DNA
 - i. sperm
 - j. genes
 - k. asexual reproduction
 - l. alleles
 - m. sexual reproduction
2. What is the function of cell division?
3. Explain the difference between a haploid cell and a diploid cell.
4. Describe the reason gametes contain only half the DNA of body cells.
5. List three environmental factors that can cause changes in a cell's DNA that may lead to cancer.
6. What is the difference between mitosis and cytokinesis?
7. Describe how a hybrid black cat differs from a purebred black cat.
8. What is a zygote? How is it formed?
9. Outline the path of development in animals from gamete to embryo.
10. Sketch the parts of a flower that are involved in reproduction. Describe how each part functions in cross-fertilization.
11. Summarize how bacteria cells divide by binary fission.
12. Explain the difference between asexual and sexual reproduction and the advantages and disadvantages of each.
13. How does binary fission differ from meiosis?
14. Briefly list the costs and benefits of asexual and sexual reproduction in terms of diversity.
15. What is similar about egg and sperm cells? What is different?
16. Differentiate between heritable and nonheritable characteristics. Provide two examples of each type.
17. Use a diagram to compare the inheritance of dominant and recessive traits.
18. What is meant by the term "genetic code"?
19. What is the general structure of the DNA molecule?
20. Explain the relationship among DNA, chromosomes, genes, and alleles.
21. Sketch a simple diagram of a human cell and include information about the roles of chromosomes, genes, and DNA.
22. Explain the effect that technology such as artificial insemination, that is used in the livestock industry, has on the genetic variation of domesticated animals such as cattle and sheep.

23. Compare and contrast genetic engineering with other types of reproductive technology. List possible advantages and disadvantages of each.
24. Describe three examples of genetic engineering.
25. Compare and contrast gamete formation in male and female humans.
26. What is the main function of the male and female reproductive systems in humans?
27. Write out the path that mature sperm cells take from the testes to the outside of the body.
28. Describe the function of the follicles in the production of egg cells.
29. Compare the roles of LH and FSH in regulating the female reproductive cycle.
30. Name and state the function of the four hormones discussed.
31. Describe positive and negative feedback using two hormones in the female reproductive system.
32. Write out the path that a mature egg cell takes from the ovary to the outside of the body.
33. Where in the body is an egg usually fertilized by sperm?
34. What is the difference between fertilization and implantation?
35. Explain cleavage in terms of zygote development.
36. What is the placenta and what is its function?
37. Describe how four of the methods of contraception discussed prevent pregnancy from occurring. Be sure to explain what part of the regular reproductive process is interrupted.
38. Describe a situation where in vitro fertilization might be used and explain what in vitro fertilization is.
39. Which type of reproduction, sexual or asexual, is responsible for an increased amount of genetic variation in plants and animals? Support your answer with examples.
40. What impact does the cloning of domesticated animals have on genetic diversity? Would cloning of wild animals ever be a possibility? Explain your answer.
41. Describe the similarities and differences between cell division and human reproduction. How are these connected?
42. Imagine that your gonads were exposed to a high dose of radiation. Explain some of the possible consequences, including any impact on future generations.
43. Explain how you would create a new breed of dog.
44. List reasons you would or would not be concerned about drinking milk from cows treated with a growth hormone.