Biology Benchmark Review Second Nine (SB2) Weeks 2009-2010

1. Compare the number of strands for DNA and RNA.	**2. Name the three parts of a nucleotide.**	**3. Mutations change the bases of DNA. If one base is replaced with another, what kind of mutation is this?**	**4. Genes for different traits are sorted independently of one another states the law of _____ _____**	**5. Cross one homozygous dominant genotype and one homozygous recessive genotype. Describe the results.**
6. What is genetic material within a cell? ___ ___ ___	**7. What can cause changes in the genetic material that lead to variation in a species?**	**8. What genotype has two different alleles for a certain gene?**	**9. Name the complementary mRNA sequence for CGATTC.**	**10. What process makes mRNA from DNA?**
11. If a (diploid) cell has 24 chromosomes, how many are in a (haploid) cell of that organism?	**12. How many times does DNA replication occur before meiosis?**	**13.If two pea plants are crossed the resulting plants may be tall or short and produce yellow seeds or green seeds. This is supported by Mendel's Law of _____ _____ .**	**14. Write a homozygous dominant genotype for the letter B.**	**15. What is the triplet code (3 letters) of mRNA needed to give an amino acid order called?**
16. If two heterozygotes are crossed, how many of their offspring will also be heterozygotes?	**17. If two rabbits are heterozygous for two traits in a genetic cross, what is the phenotypic ratio?**	**18. A pea plant's height and seed color denote its _____.**	**19. What circular organelle is the place where proteins are made?**	**20. Where does transcription occur?**

21. Diploid cells are converted into haploid cells by _____ .	**22. How do the bases pair up in DNA?**	**23. Draw a pedigree to show the likelihood a male will be colorblind if his mother is a carrier and his father is not colorblind.**	**24. If all plants that have the genotype Tt are tall what principle does this justify?**	**25. What two chromosomes may a sperm carry for fertilization?**
26. What process makes sperm and eggs?	**27. What type of reproduction produces offspring that are clones (identical)?**	**28. What project put together the sequence of all human DNA?**	**29. If the genes of an organism have been manipulated by a scientist what may it be called?** **1. _____** **2. _____** **3. _____**	**30. _____ are long chains of molecules that make up DNA.**
31. What is the genotypic ratio for two heterozygous organisms that are crossed?	**32. Which bases have equal amounts in DNA?**	**33. Create a key to show the genotypes and phenotypes for all blood types**	**34. Cross a person with A blood and a person with AB blood. The parents of the person with A blood were both AB. How many A phenotypes result in that cross?**	**35. Cross a person that is heterozygous for B blood and a person with O blood.**
36. What process allows small amounts of DNA to be copied into larger amounts for testing?	**37. What are gametes?**	**38. Write a genotype that is homozygous recessive using the letter A.**	**39. What are the anticodons for the mRNA below?** **GUACGUACC**	**40. Where does translation occur?**