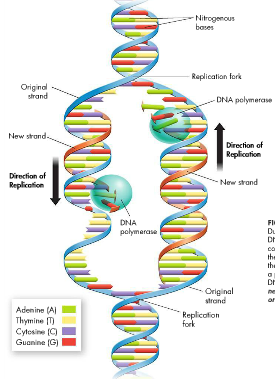
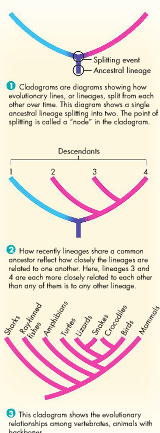
Bio SG

1. Describe MendeI's studies and conclusions about inheritance.
   1. An individuals characteristics are determined by factors that are passed from one generation to the next
2. Describe the other inheritance patterns.
   1. Incomplete Dominance-Some alleles aren’t recessive or dominant
   2. Co-dominance-Both alleles expressed
3. Contrast the number of chromosomes in body cells and in gametes.
   1. Body cells🡪2(N) or 46
   2. Gametes 🡪N or 23
4. Summarize the events of meiosis
   1. Prophase
   2. Metaphase
   3. Anaphase
   4. Telophase
   5. Cytokinesis
   6. X2
5. Contrast meiosis and mitosis
   1. Meiosis🡪4 cells from 1, Only used for production of gametes
   2. Mitosis🡪2 cells from 1, Used to make any other type of cell
6. Summarize the process of bacterial transformation.
   1. When a bacteria dies, another bacteria is capable of “absorbing” the DNA from the dead bacterium
7. Identify the role of DNA in heredity.
   1. To store, copy, and transmit genetic information in a cell
8. Identify the chemical components of DNA.
   1. DNA is a Nucleic Acid Made up of nucleotides joined into long Strands or chains by covalent bonds
9. Describe the steps leading to the development of the double-helix model of DNA.
   1. Franklin’s experiments with DNA X-Ray diffraction identified the structure of DNA, which Watson and crick used (stole) to make a model
10. Summarize the events of DNA replication.
    1. 
11. Contrast RNA and DNA
    1. RNA-Disposable CC of a portion of DNA
    2. DNA-Precious Permanent Copy
12. Explain the process of Transcription.
    1. In transcription, segments of DNA serve as templates to produce Complementary RNA molecules
13. Identify the genetic code and explain how it is read.
    1. The genetic code is the code of the genes in DNA, read 1 codon at a time, each codon is an amino acid
14. Summarize the process of Translation.
    1. Ribosomes use the sequence of codons in mRNA to assemble amino acids into polypeptide chains
15. Define mutations and list The different Types of mutations
    1. 🡪heritable changes in DNA
       1. Gene Mutations
          1. Substitutions
          2. Insertions
          3. Deletions
       2. Chromosomal Mutations
          1. Deletion
          2. Duplication
          3. Inversion
          4. Translocation
16. Describe the effects mutations can have on genes.
    1. Some have no effect, Some can be deadly, some may be beneficial
17. Identify the types of human chromosomes in a karyotype.
    1. Complete Diploid Set Of Chromosomes
18. Describe The patterns of the inheritance of human Traits
    1. Simple Dominance
    2. Co-dominant
    3. Multiple Alleles
    4. Sex-Linked
19. Explain how pedigrees are used to study human traits.
    1. Information Gained From pedigree analysis makes it possible to determine the nature of genes and alleles associated with inherited human traits
20. Summarize the problems caused by nondisjunction.
    1. If nondisjunction occurs during meiosis, gametes with abnormal number of chromosomes may occur
21. Describe The Techniques used to study human DNA.
    1. Using tools that cut, separate, and then replicate DNA Base by Base
22. Explain the purpose of selective breeding.
    1. To take advantage of naturally occurring genetic variation
23. Explain how transgenic organisms can be useful to humans.
    1. Could be useful with cloning or GM to produce better crops
24. Describe the benefits of genetic engineering as they relate to agriculture & industry.
    1. Better, less expensive, and more nutritious food
25. Summarize the process of DNA fingerprinting and provide examples of how it is used.
    1. DNA finger printing analyzes areas of DNA that serve little or no purpose, but vary greatly between individuals
26. Identify some of the pros and cons of genetically modified foods.
    1. Pro🡪 higher yield, lowering amount of required insecticide
    2. Con🡪No Hazards (yet), harms small farms
27. State Charles Darwin's contribution to science.
    1. A scientific theory of Evolution That Explains modern organisms
28. Describe the three patterns of biodiversity noted by Darwin.
    1. Species Vary Globally
    2. Species Vary Locally
    3. Species Vary over Time
29. Describe Lamarck‘s explanation of how organisms evolve.
    1. Lamarck Suggested that organisms could change during their lifetimes by selectively using or not using parts of their bodies, they could then pass on these acquired traits
30. What do fossils reveal about ancient life? How do we determine how old fossils are?
    1. Many recently discovered fossils dorm series that trace the evolution of modern species from extinct ancestors
    2. Radiometric dating or relative dating
31. Describe the conditions under which natural selection occurs.
    1. More individuals are born than can survive
    2. Natural heritable variation
    3. Variable fitness
32. Explain the principle of common descent
    1. All organisms descended from 1 ancestor
33. Explain how geologic distribution of species relates to their evolutionary history.
    1. Patterns in the distribution of living and fossil species tell us how modern organisms evolved from their ancestors
34. Describe what homologous structures suggest about the process of evolutionary change.
    1. Evolutionary theory explains the existence of homologous structures adapted to different purposes as the result of descent with modification from a common ancestor
35. Describe how living Things are organized to study.
    1. Systematics
36. Describe how to make and interpret a cladogram.
    1. 
37. Name the six kingdoms of life as they are now identified.
    1. Eubacteria
    2. Archaebacteria
    3. Protista
    4. Fungi
    5. Plantae
    6. Animalia
38. Describe the three-domain system of classification.
    1. Bacteria
    2. Archaea
    3. Eukarya