

Exam 2 topics

Topic 05 – Photosynthesis & Respiration

I. Introduction

- A. Summary Equations
- B. Photosynthesis
- C. Respiration

II. Photosynthesis

- A. Light Reactions
- B. Carbon (Light-Independent) Reactions

III. Cellular Respiration

- A. Glycolysis
- B. Krebs's Cycle
- C. ETC and Chemiosmosis

IV. Applying Your Knowledge

- A. Understanding Dead Zones
 - 1. Defined
 - 2. Economic Impact
 - 3. Cause in the Gulf
 - 4. Factors Affecting Dead Zone Formation and Size
- B. Understanding Global Warming & the Greenhouse Effect
 - 1. Properties of CO₂
 - 2. Carbon in the Biosphere vs. Carbon in Fossil Fuels

Topic 06 - Chromosomes & Cell Division

I. Chromosomes

- A. Structure & Terminology
- B. Chromosome numbers
- C. Autosomes vs. Sex Chromosomes
- D. Karyotypes

II. Asexual Cell Division

- A. Mitotic Cell Division

III. Sexual Cell Division

- A. Meiotic Cell Division
- B. Why sex?

Topic 07 - Genetics

I. Mendelian Genetics

- A. Gregor Mendel
- B. Monohybrid Cross
 - Chi-Square Test to test predictions made with Punnet Squares

- Law of segregation
- C. Dihybrid Cross
 - Law of independent assortment

II. Non-Mendelian Genetics

- A. Linkage
- B. Incomplete Dominance or Codominance
- C. Polygenic Inheritance