

Genetics Unit Overview

Section 4.1: The Nature of Heredity

- Know all key terms
- Understand what constitutes genetic material
- Know the 2 different types of reproduction: Asexual and Sexual
- Answer: 1,2,5,7 pg. 141

Section 4.2: Asexual Reproduction

- Know all key terms
- Be able to give examples of the different types of asexual reproduction
- Know and be able to distinguish the different phases of Mitosis
- Understand the different ways organisms are cloned.
- Examples of different applications for cloning
- Answer: 1,3,5,6 pg. 151

Section 4.3: Sexual Reproduction

- Know all key terms
- Know different modes of sexual reproduction
- Know and be able to distinguish the different phases of Meiosis
- Understand what a karyotype is
- Understand what the sex chromosomes are and how they determine gender
- Answer: 2,3,5 – 7,12 pg 160

Section 4.4: Abnormal Meiosis

- Know all key terms
- Understand what abnormal Meiosis is and what happens
- Be able to give some examples of Non-disjunction disorders
- Be able to give examples of tests for non-disjunction and technologies to help
- Answer: 1 – 4,9 pg. 166

Section 5.1: Mendelian Inheritance

- Know all key terms
- Understand Mendel's experiments and his results.
- Know Mendel's Laws of Inheritance
- Understand what alleles are, how they are passed and the different types
- Know how to make and use Punnett squares to predict the associated alleles
- Answer: 1-10 pg. 193

Section 5.2: Variations in Heredity

- Know all key terms
- Know what Incomplete dominance and Codominance is and how to use Punnett squares to answer problems associated with them
- Understand what the different blood types mean and how to answer questions associated with them.
- Answer 1 – 9 pg. 196

Section 5.3: Pedigrees

- Know all key terms
- Know what the symbols in a pedigree are and how to use them
- Know how to construct and use a pedigree for different scenarios.
 - Both autosomal and sex linked
- Answer 1 – 5 pg. 201

Section 5.5: Genetic Disorders

- Know all key terms
- Know some examples of genetic disorders
 - How they are tested for
 - How they transmitted
- Answer 1, 3, 5 pg. 207

Section 5.7: Multi-trait Inheritance

- Know all key terms
- Know how to create dihybrid crosses using a Punnett square
- Know what the probabilities of the crosses mean
- Answer 1-4,7 pg. 214

Section 6.1: DNA

- Know all key terms
- Know the composition of DNA
- Know the basic structure of DNA
- Answer 1 -5 pg. 233

Section 6.2: Mutations

- Know all key terms
- Know the different types of mutations
- Be able to give some examples of different types of mutations
- Answer 2 – 5 pg. 239

Section 6.3: Genomes

- Know all key terms
- Answer 1 – 8 pp. 244

Section 6.4: Manipulating the Genome

- Know all key terms
- Answer 1,2,5,6 pg. 248

Section 6.5: Gene Therapy

- Know all key terms
- Answer 1-3 pg. 251