Unit A: Maintaining Health

**TOTAL NUMBER OF DAYS FOR UNIT: 22**

|  |
| --- |
| **Legend of Abbreviations used in table** |
| GO 1 | 1. Analyze how the human circulatory system facilitates interaction between blood cells and the external environment and investigate cardiovascular health |
| GO 2 | 2. Analyze the defense mechanisms used by the human body to protect itself from pathogens found in the external environment |
| GO 3 | 3. Apply the principles of heredity and molecular genetics to explain how human diseases can arise from inherited traits, the risks and benefits of genetic technology, and the need for ethical considerations in the application of scientific knowledge. |

|  |  |  |
| --- | --- | --- |
| **Day** | **GO** | **Topics being covered** |
| **1** | **GO 1** | * Course Outline and Expectations
* Text book assignment

**NOTES:*** Topic 1.1 – The Heart (pages 6-19)
* Circulatory System, Ideas about the heart, Cardiac Output Problem

**ASSIGNMENT:*** Page 9: questions 1-5
 |
| **2** | **GO 1** | **NOTES:*** Topic 1.1 Continued
* Heart diagrams, Blood Flow through the heart
* The beating heart: Diastole and Systole
* Factors Affecting Heart Rate

**ASSIGNMENT:*** Page 19: questions 1-6
 |
| **3** | **GO 1** | **LAB:*** Dissection of a mammal heart
 |
| **4** | **GO 1** | **MINI QUIZ: \*Formative Assessment\**** parts and blood flow of the heart

**NOTES:*** Topic 1.2 - Blood vessels: arteries, veins, capillaries (pages 20-33)
* Varicose veins

**ASSIGNMENT:*** Page 23: questions 11-14 and Page 24: questions 15-19
 |
| **5** | **GO 1** | **NOTES:*** Topic 1.2 Continued
* Blood Pressure
* Topic in Review

**ASSIGNMENT:*** Blood Pressure Lab
* Page 29: 20-21 (Extra Review Practice: Page 33, questions 1-6)
 |
| **6** | **GO 1** | **QUIZ: \*Summative Assessment\**** Topic 1.1 & 1.2

**NOTES:*** Topic 1.3: Blood (Pages 34-41)
* Components of Blood
* Clotting process
 |
| **7** | **GO 1** | **NOTES:*** Topic 1.4: cardiovascular disease (Pages 42-53)
* Cholesterol
* Heart Diseases
* Fatty Acids and Risk Factors

**ASSIGNMENT:*** Analyzing Nutrition Fact Labels
* Extra Practice Questions: Page 54, questions 1-10
 |
| **8** | **GO 2** | **QUIZ: \*Summative Assessment\**** Topic 1.3 & 1.4

**NOTES:*** Topic 1.5: Immune Response (Pages 55-70)
* Pathogens

**ASSIGNMENT:*** Utilizing Technology (adapted from page 63)
 |
| **9** | **GO 2** | **NOTES:*** Topic 1.5 Continued
* Body’s Defense Against Pathogens
* Vaccinations
* Autoimmune Diseases

**ASSIGNMENT:*** Continue with Utilizing Technology Assignment
* Chapter Review
 |
| **10** |  | **NOTES:*** Topic 2.1 – What is genetics? (Pages 78-92)
* Introduction into Genetics
* Chromosomes, Genes, Karyotype, Proteins and roles of proteins

**ASSIGNMENT:*** Human Karyotyping activity
 |
| **11** |  | **TEST: \*Summative Assessment\***Chapter 1 Test (1.1-1.5) |
| **12** |  | **NOTES:*** Topic 2.1 continued
* Mitosis & Meiosis
* Fertilization
* Selective Breeding
* Mendel’s Pea Plant Experiment

**ASSIGNMENT:**Page 92: questions, 1-6 |
| **13** | **GO 1-2** | **NOTES:*** Topic 2.2: Inheritance
* Dominant vs. Recessive Alleles
* Homozygous vs. Heterozygous
* Punnett Squares

**ASSIGNMENT:*** Page 96: questions, 14-15
* Page 97: questions, 16-17
* Smiley Genetics
 |
| **14** |  | **Notes:*** Review and Recap
* Chapter 2

**ASSIGNMENT:*** Socractive Quiz
 |
| **15** |  | **NOTES**:* Topic 2.2 continued
* Multiple Allele and Sex Linked Traits
* Co-dominance

**ASSIGNMENT**:* Discovering Dominant and Recessive Human Traits (adapted from page 102)
 |
| **16** |  | **NOTES:*** Topic 2.3 DNA
* Nucleotides and nitrogen bases
* Structure of DNA, Amino Acids

**ASSIGNMENT:*** Simulating DNA replication (adapted from page 111)
* Extra Practice: Page 115, questions 1-5
 |
| **17** |  | **QUIZ: \*Summative Assessment\**** Topics 2.1-2.3

**NOTES:*** Topic 2.4 Mutations and Genetic Disorders
* Mutations and Types
* Passing on of Mutations
* Factors that increase mutations
* Tracing Genetic Disease via pedigrees

**ASSINGMENT:*** Page 121, questions: 38-41 and Pedigree Activity
 |
| **18** |  | **NOTES:*** Topic 2.5, Genetic Technologies
* DNA and Fingerprinting
* Transgenic
* Gene Therapy

**ASSIGNMENT:*** Review for Chapter 2 Test
* Extra Practice Problems: pages 142-143
 |
| **19** |  | **TEST: \*Summative\**** Chapter 2 test
 |
| **20** |  | **Diploma Review** |
| **21** |  | **Unit Review** |
| **22** |  | **Unit Final** |