

# **LIVING ENVIRONMENT SCOPE AND SEQUENCE**

## **SEPTEMBER**

### **Unit Title 1: How Do We Know That Something Is Alive? (Living things vs Non-living things)**

(A)

1. Intro to course; teacher expectations and student expectations. Distribution and discussion of syllabus and course outline. Distribution of folders, lab safety manual, lecture and lab rubrics and lab log sheet.

2. Project #1 Who Am I? An autobiographical essay for students to introduce themselves and raise their consciousness as important participants of the world's ecosystem.

(B) What Is Biology? How Do We Know That Something Is Alive? (Living things vs Non-living things). (BIOTIC AND ABIOTIC FACTORS). How Are Living Things Classified?

(C) How can we differentiate between a unicellular and a multicellular organism?

(D) Prokaryotes vs Eukaryotes.

(E) Lab #1: Using The Microscope - Observing unicellular and multicellular organisms.

(F) Lab #2: Making A Wet Mount Slide and Observing Cheek Cells

Lab# Using Dichotomous Key - SHARK KEY (classifying an unknown organism)

Quiz 1 and Test 1

(G) The Life Processes (Functions) - How Can We Tell That Something Is Alive?

(H) How Are Multicellular Organisms Organized? (Simple Introduction). Organ/Organ System and Function of the Body System.

(I) Lab#3 The Excretory System

Quiz 2 and Test 2

(J) Pre-lab lesson: How Do Scientists Make Sense Of The World? - Understanding The Scientific Method.

(K) Lab#4 - Regents Required Lab: Making Connections Part 1

(L) Lab#5 Making Connections Part 2

Test 3 - Lab questions only

## **OCTOBER**

### **Unit Title 2: How Are Multicellular Organisms Organized?**

(M) How Important Are Cells To The Study Of Living Things? What Are The Different Types Of Cells?

(N) How Do Tissues Function In Multicellular Organisms? What Are The Different Types Of Tissues?

(O) How Does The Circulatory System Function? What Makes Up The Circulatory System?

(P) (DO LAB#6 FIRST) Lab# 7 Growing Bacteria With Nutrient Agar - How Do Bacteria Grow?

(Q) LAB#6 Sheep Heart Dissection AND The Circulatory System

Quiz #3 Test #4

## **NOVEMBER**

### **Unit Title 3: The History of Cells**

The Value Of Cells - The Cell Theory

(R) How Were Cells Discovered? What Led To The Discovery Of Cells? What Are The Tenets Of The Cell Theory And The Timeline?

(S) Plant Cell vs Animal Cell

(T) Lab#8 What Is The Difference Between Plant And Animal Cells?

(U) PROJECT #2 The Cell Analogies Collage. Project Ends With Student Presentations.

Test #5

## **DECEMBER/JANUARY**

### **Unit Title 4: Reproduction and Development**

Lab#9 Regents Required: Diffusion Through Membrane

(V) How Do Cells Divide? What Is Reproduction? Sexual vs Asexual Reproduction And Examples like Cloning. Mitosis vs Meiosis and the Purpose of Each Type of Division.

(Y) Lab#10. What Is Reproduction?

(Z) What Are The Stages Of Mitosis? What Are The Stages Of Meiosis?

Quiz #4 Test #6

## **JANUARY/FEBRUARY**

### **Unit Title 5: Human Reproduction and Development.**

How Does Life Continue? What Are The Male And Female Reproductive Parts And Their Functions?

QUIZ #5 Vocabulary

(BB) Lab#11 Human Reproduction and Development

Understanding The Menstrual Cycle. And Human Reproduction Video

Test #7

## **FEBRUARY/MARCH**

### **Unit Title 6: Genetics and Heredity. Mendelian Genetics.**

How Are Genes Passed On?

(DD) The Punette Square. MINI - PROJECT: MAKING A NEW BABY

(EE) Lab#12 Variables (Lima Beans and Graph)

(FF) Lab#13 Which Brain Side Is Dominant?

(GG) Genetically Modified Organisms (GMO), topic of discussion ONLY

(HH) Project: Ethical And Legal Issues Associated With Genetic Testing (WEBQUEST). Research/Writing

Test #8

(II) DNA Replication, Transcription And Translation

(JJ) Lab #14 -Regents Required: Relationship and Biodiversity (Modified Version)

Test #9

## **APRIL/MAY**

### **Unit Title 7: Evolution and Ecosystem**

(KK) How did species evolve? How Does Evolution Occur? What Is The Value Of Biodiversity? How Do Living Things Interact With Each Other?

(LL) Lab#15 Owl Pellet

(MM) Lab#16 Food Web

(NN) Lab#17 Regents Required: The Beaks Of Finches

(OO) Lab#18 Evolution Simulation (Internet)

MAY/JUNE

Unit Title **8**: Human Impact on the Environment/Regents  
Review

(PP) End of Year Research Project: Students will choose a health topic that they are interested in, research it, write about it and create a pamphlet. **MUST INCLUDE BIBLIOGRAPHY!!!** Project will end in presentations.

(QQ) REGENTS PREP.....

(RR) REGENTS EXAMS .....

H A P P Y

S U M M E R