Chesapeake Math & IT Academy – MS North

Science Department

HS Honors Biology for Grade 8

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Curriculum** | **List of Suggested Labs and Experiments (Wet & Dry)** | **Virtual** |
|  | **UNIT 1 You Are What You Eat** |  |  |
| **QUARTER 1** | * Nature of Science (NOS) | 1. Mystery Boxes 2. The Great Fossil Find 3. Perception is not always a Reality |  |
| * Measurements, Lab Safety, and Lab Equipment | 1. Measuring in Science 2. Lab safety and equipment’s |  |
| * Introduction to Organic Compounds | 1. Identifying Organic Compounds  * Burette’s test * Iodine test * Benedict solution test * Paper test Indicator * Lipids test |  |
| * Characteristics of Water | * 1. Inquiry and Investigation: Properties of water |  |
| * Chemical Bonds and Reactions | Sodium Polyacrylate and WaterLAB: TYPES OF CHEMICAL REACTIONS |  |
| * Systemic Literacy Task- *Lactose Intolerance* | * 1. Milk makes me sick |  |
|  | **UNIT 2 Just Breathe** |  |  |
| **QUARTER 2** | * Cells | 1. Mitosis and Meiosis 2. Observing Mitosis (Cheek cells and Onion Skin) | * http://www.phschool.com/science/biology\_place/labbench/lab3/intro.html |
| * The Cell Membrane | 1. Cell membrane permeability lab |  |
| * Osmosis, Active and Passive Transport | * 1. Diffusion and Osmosis   2. Passive Observation and Active experiment   3. Moisture test | * http://www.phschool.com/science/biology\_place/labbench/lab1/intro.html |
| * Carbon-based Molecules | Enzyme CatalysisHow Does Sodium Carbonate Influence the Process of a Fiber Reactive Dye?Collect carbon dioxide from soda pop (Pepsi), yeast mixed with sugar and water, and a chemical reaction, which is made from baking soda and vinegar | * http://www.phschool.com/science/biology\_place/labbench/lab2/intro.html |
|  | **UNIT 3 Diversity of Life** |  |  |
| **QUARTER 3** | * Photosynthesis & Cell respiration | 1. Plant Pigment & Photosynthesis 2. Transpiration 3. Cell Respiration 4. Dissolved Oxygen and Aquatic Primary Productivity 5. Yeast and Balloon Respiration 6. Fermentation Lab | * <http://www.phschool.com/science/biology_place/labbench/lab4/intro.html> * <http://www.phschool.com/science/biology_place/labbench/lab5/intro.html> * <http://www.phschool.com/science/biology_place/labbench/lab9/intro.html> * http://www.phschool.com/science/biology\_place/labbench/lab12/intro.html |
| * Ecosystems: Stability and Change | * 1. Experiment with ecosystem (simulation)   2. Inquiry: Biodiversity |  |
| * The Structure and Function of DNA | * 1. DNA extraction Technique   2. Genetics of Organisms   3. Bacterial Identification   4. Gel Electrophoresis Chamber | [*http://www.phschool.com/science/biology\_place/labbench/lab7/intro.html*](http://www.phschool.com/science/biology_place/labbench/lab7/intro.html) |
| * Genetics/Heredity | * 1. Karyotyping   2. Yeast mutation |  |
|  | **Unit 4: Evolution** |  |  |
| **QUARTER 4** | * Genetic Engineering | * 1. Molecular Biology   2. Genetics of Organisms   3. Population, genetics and Evolution   4. The Genetics of Taste | * <http://www.phschool.com/science/biology_place/labbench/lab6/intro.html> * <http://www.phschool.com/science/biology_place/labbench/lab7/intro.html> * http://www.phschool.com/science/biology\_place/labbench/lab8/intro.html |
| * Evolution and Natural Selection | * 1. Animal behavior | http://www.phschool.com/science/biology\_place/labbench/lab11/intro.html |
| * Human Body Systems | * 1. Circulatory physiology   2. Dissections | <http://www.phschool.com/science/biology_place/labbench/lab10/intro.html> |