Chesapeake Math & IT Academy – MS North

Science Department

HS Honors Biology for Grade 8

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|  | **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
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| * Measurements, Lab Safety, and Lab Equipment
 | 1. Measuring in Science
2. Lab safety and equipment’s
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| * Introduction to Organic Compounds
 | 1. Identifying Organic Compounds
* Burette’s test
* Iodine test
* Benedict solution test
* Paper test Indicator
* Lipids test
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| * Characteristics of Water
 | * 1. Inquiry and Investigation: Properties of water
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| * Chemical Bonds and Reactions
 | Sodium Polyacrylate and WaterLAB: TYPES OF CHEMICAL REACTIONS |  |
| * Systemic Literacy Task- *Lactose Intolerance*
 | * 1. Milk makes me sick
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|  | **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
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| * The Cell Membrane
 | 1. Cell membrane permeability lab
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| * 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
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| * 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
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|  | **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
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| * Ecosystems: Stability and Change
 | * 1. Experiment with ecosystem (simulation)
	2. Inquiry: Biodiversity
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| * 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
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|  | **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
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| * 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> |