D.H.H. Lengel Middle School Curriculum
Grade 7 science
Length of Block: 50 min
Blocks per cycle: 5
Length of Course: Yearly

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Description of Course: The goal of this class is to expose students to the topics of life sciences. Topics covered include classifying organisms, viruses/bacteria and how they impact the body, Plants and how they grow, develop, and reproduce through means of photosynthesis. Animals are covered in the capacity of how they vary from plants as well as how each species is adapted to grow, develop, and survive in their specific habitat-- but also how animals are similar despite their differences. In the second semester, we expose students to the topics of introductory chemistry. Topics covered include atomic theory by way of contributions made by key scientists in history, atomic structure, states of matter, types of chemical reactions, structure and application of the periodic table, chemical bonding, radioactivity, and physical and chemical changes of matter. Students learn to apply knowledge learned about matter to everyday life as they encounter various substances and chemical reactions on a nearly daily basis.

Core Resources Available for Teachers for Instruction:

- ***Interactive Science: Diversity of Life***
- ***Interactive Science: Introduction to Chemistry***
- ***Google Classroom***
- ***Lab Supplies***

Core Resources Available for Teachers for Instruction:

Interactive Science: Diversity of Life
Interactive Science: Introduction to Chemistry

Parent

Marking Period	Unit Name	Objectives	Standards	Vocabulary	Assessments	Timeline
1	**Nature of Science/ Scientific Method**	Understand the difference between qualitative data and quantitative data. Understand the difference between observe vs infer. Compare and comprehend metric and empirical data measures.			• **Independent Project** • **Quiz**	**4 wks**
1A **1B** **2C**	**A. Life and defining characteristics** **B. Virus, Bacteria, and Protists**	Know how organisms live, grow, respond to their environment, and reproduce. Understand similarities and differences among different kinds of organisms.	3.1.6.A 3.1.7.A 3.1.8.A S.8.B.1.1.1 S.8.B.1.1.2 S.8.B.1.1.3	Dead Dormant Living Nonliving Eukaryote Multicellular Prokaryote Unicellular	A. Taxonomy of an animal project A. Creation of a dichotomous key B/C. Research brochure Unit quiz	**~2 wks** **~2wks** **1 wk**

	C. Fungi			Dichotomous Key Genus Species Asexual reproduction Sexual reproduction		
2	**7-6 Plants**	Know how organisms live, grow, respond to their environment, and reproduce. Know how characteristics are passed through multiple generations. Know why individuals with the same biological parents can exhibit different characteristics.	3.1.6.A 3.1.7.A 3.1.8.A 3.1.8.C S.8.B.2.1.1 S.8.B.2.1.2 S.8.C.1.1.3 S.8.C.2.1.1 S.8.C.2.1.3 S.8.C.2.2.1	Structural Adaptations Behavioral Adaptations Asexual reproduction Sexual reproduction Cell division Life cycles Carbon dioxide Glucose Oxygen Photosynthesis Products Water Reactants	**Plant Classification Quiz** **Photosynthesis Quiz** **Plant Structures and Functions Quiz**	**5-6wks**
3 or when supplies are available	****Special Activity: Embryology**				**Chick Hatch Packet**	**3 wks simultaneously with other lessons**

3	**7-7 Animals**	Know how organisms live, grow, respond to their environment, and reproduce. Know how characteristics are passed through multiple generations. Know why individuals with the same biological parents can exhibit different characteristics. Know how and why organisms interact with their environment and what are the effects of those interactions.	3.1.8.C 3.1.6.A2 4.1.7.A 3.1.7.A 3.1.8.A 3.4.8.A 3.4.8.B 4.2.8.C 4.4.8.A 4.5.8.A 4.5.8.C 4.5.8.D 3.3.8.A 3.1.7.A2 S.8.B.2.1.1 S.8.B.2.1.2 S.8.B.3.1.1 S.8.B.3.1.2 S.8.B.3.1.3 S.8.B.3.2.1 S.8.B.3.2.2 S.8.B.3.2.3 S.8.B.3.3.1 S.8.A.1.2.4	Structural Adaptations Behavioral Adaptations Cell Division Life Cycles Brain Nerves Neurons Response Signal Stimuli Abiotic Biotic Consumer Ecosystem Energy pyramid Food chain Food web Niche Predator Prey Producer Symbiosis Carrying capacity Limiting factor Population Community Competition Mutualism Parasitism Resource availability Symbiosis Autotroph Carnivore	**Quiz on vertebrates/ invertebrates** **Endangered/invasive species project** **Dissection or alternative -pre/post dissection** **Body Systems Quiz**	**~5wks**

				Decomposer Herbivore Heterotroph Omnivore Secondary Tertiary		
3	**7-8 Matter**	Be able to explain the structure, properties, and interaction of matter.	3.2.6.A2 3.2.6.A4 3.2.6.A5 3.2.7.A1 3.2.3.A1 3.2.3.A4 3.2.4.A4 3.2.8.A2 S8.C.1.1.1 S8.C.1.1.2 S8.A.1.3 S8.A.2.1 S8.A.2.2 S8.A.3.3 S11. C.1.1.4	Boiling point Characteristic Conductivity Density Flammability Malleability Melting point Odor Properties Pure substance Reactivity Solubility Chemical change Conditions Physical change	**Matter/ Chapter 1 Quiz**	**~3 wks**
4	**A. Atoms** **B. Periodic Table** **C. Models and Bonding**	Be able to explain the structure, properties, and interaction of matter.	3.2.7.A2 3.2.10.A2 3.2.6.A3 3.2.6.A4 3.2.7.A4 3.2.12.A1 3.2.6.A1 3.2.10.A3 3.2.4.A5 3.2.7.A3	Atoms Bonding Compounds Elements Chemical Equation Conservation of mass Dissolve Mass	**A. Quiz** **B. Element research project** **C. Quiz**	**~2 wks** **4-5 weeks** **~3 wks**

			3.2.8.A3 S8.A.3.2 S8.C.1.1.1 S8.C.1.1.3 S8.A.1.3 S8.A.2.1 S8.A.2.2 S8.C.1.1.2 S8.C.3.1.2 S8.A.1.1 S8.2.1.3	Phase Change Product Reactant System Yields Boiling Melting Freezing Sublimation Chemical change Endothermic Exothermic Mixtures Precipitate Balancing equations Cohesion Polarity Specific Heat Gas Liquid Solid States of Matter Temperature Thermal energy Pressure Colormetric Photometric		