

8th Grade Science Pacing Guide

[DPI 8th Grade Science Standards](#)

1st Nine Weeks:

TOPIC	STANDARD	Days	Lessons
<i>Scientific Method, Measurement, Lab Tools, Science Skills</i>		6	
Earth Systems, Structures, and Processes 8.E.1.1 Explain the structure of the hydrosphere including water distribution on earth and local river basins and water availability. <ul style="list-style-type: none"> • Water Properties • Water Cycle • Distribution of Water on Earth 8.E.1.3 Predict the safety and potability of water supplies in NC based on physical and biological factors. <ul style="list-style-type: none"> • River Basins, Watersheds, and Estuaries • Groundwater • Ph Scale 	<u>8.E.1.1</u> <u>8.E.1.3</u>	12	Hydrosphere 8.E.1 Properties of Water 8.E.1.1
8.E.1.2 Earth Systems, Structures, and Processes Summarize evidence that Earth's oceans are a reservoir of nutrients, minerals, dissolved gases, and life forms <ul style="list-style-type: none"> • Ocean Systems • Ocean Pollution and Acidification 	<u>8.E.1.2</u>	7	
8.E.1.4 Earth Systems, Structures, and Processes Conclude that the good health of humans requires monitoring the hydrosphere, water quality standards, methods of water treatment, maintaining safe water quality, & stewardship <ul style="list-style-type: none"> • Clean Water Act and Water Treatment • Point and Nonpoint Source Pollution • Stewardship 	<u>8.E.1.4</u>	5	
Ecosystems 8.L.3 Understand how organisms interact with and respond to the biotic and abiotic components of their environment. <ul style="list-style-type: none"> • Ecosystems- Trophic Levels and Energy • Ecological Relationships • Niche and Population Density • Food Chains and Webs/ Bioindicators • Carbon and Nitrogen Cycle • Symbiotic Relationships Common Formative Assessment (Benchmark)	<u>8.L.3.1</u> <u>8.L.3.2</u> <u>8.L.3.3</u>	14	Ecology/Ecosystems 8.L.1.1

2nd Nine Weeks:

TOPIC	STANDARD	Days	Lessons
Geological Evolution / Earth's History 8.E.2 Understand the history of Earth and its life forms based on evidence of change recorded in fossil records and landforms <ul style="list-style-type: none"> • Plate Tectonics/ Pangaea • Earth's Layers • Types of Rock/Cycle • Ice Cores and Tree Rings • Law of Superposition • Relative/Absolute Dating 	<u>8.E.2.2</u> <u>8.E.2.1</u>	16	History of Earth 8.E.1.2
Biological Evolution / Evolution & Genetics 8.L.4 Understand the evolution of organisms and landforms based on evidence, theories, and processes that impact the Earth over time <ul style="list-style-type: none"> • Fossil Types • Geologic Time Scale Common Formative Assessment (Benchmark)	<u>8.L.4.1</u> <u>8.L.4.2</u>	17	Evolution & Genetics 8.L.4 Biological Evolution 8.L.4.2

3rd Nine Weeks:

Chemistry/Matter 8.P.1.1 Classify matter as elements, compounds, or mixtures based on how the atoms are packed together in arrangements. 8.P.1.3 Compare physical changes such as size, shape and state to chemical changes that are the result of a chemical reaction to include changes in temperature, color, formation of a gas or precipitate. <ul style="list-style-type: none"> • Atomic Structure • Elements, Compounds, Mixtures • Physical and Chemical Properties • Physical and Chemical Changes • Periodic Table 	<u>8.P.1.1</u> <u>8.P.1.3</u>	10	Matter 8.P.1.1, 8.P.1.3, W.8.3 Properties and Change-Compounds, Mixtures, and Properties of Matter 8.P.1 Elements, Compounds, Mixtures, Physical, & Chemical Changes 8.P.1.3, W.8.3
Chemistry - Periodic Table and Balancing Equations 8.P.1.2 Explain how the physical properties of elements and their reactivity have been used to produce the current model of the Periodic Table of elements. 8.P.1.4 Explain how the idea of atoms and a balanced chemical equation support the law of conservation of mass. <ul style="list-style-type: none"> • Law of Conservation of Mass • Balancing Equations 	<u>8.P.1.2</u> <u>8.P.1.4</u>	15	Balancing Chemical Equations W.8.1
Molecular Biology 8.L.5 Understand the composition of various substances as it relates to their ability to serve as a source of energy and building materials for growth and repair of organisms. <ul style="list-style-type: none"> • Cells (Organelle Functions) Review 	<u>8.L.5.1</u> <u>8.L.5.2</u>	10	Molecular Biology 8.L.5.1 Biomolecules and Health 8.L.5.2, W.8.1

<ul style="list-style-type: none"> Unicellular and Multicellular Organisms Healthy Body 			
Structure and Function of Living Organisms 8.L.1 Understand the hazards caused by agents of diseases that affect living organisms. 8.L.2 Understand how biotechnology is used to affect living organisms. <ul style="list-style-type: none"> Basic Characteristics of Pathogens Treatment of Diseases Shapes of Bacteria Common Formative Assessment (Benchmark)	<u>8.L.1.1</u> <u>8.L.1.2</u> <u>8.L.2.1</u>	28	Structure and Function of Living Organisms 8.L.1 Immunes System and Biotechnology 8.L.1.1, 8.L.1.2, 8.L.2.1, W.8.1

4th Nine Weeks:

TOPIC	STANDARD	Days	Lessons
8.L.2 Understand how biotechnology is used to affect living organisms. <ul style="list-style-type: none"> Epidemics and Pandemics Mutations in DNA Biotechnology 	<u>8.L.2.1</u>	21	
Energy Conservation and Change 8.P.2 Explain the environmental implications associated with the various methods of obtaining, managing, and using energy resources. <ul style="list-style-type: none"> Renewable/Non-Renewable Energy Movement of Energy Review for EOG	<u>8.P.2.2</u> <u>8.P.2.1</u>	28	Renewable Energy 8.P.2.1, 8.P.2.2, W.8.1