

## Grade 8 Science – Curriculum Overview

	<b>Unit 1 (40 Days)</b>	<b>Unit 2 (40 Days)</b>	<b>Unit 3 (40 Days)</b>	<b>Unit 4 (40 Days)</b>
<b>Unit Titles</b>	<b>Reproduction and Heredity</b>	<b>Evolution and Earth History</b>	<b>Weather and Climate</b>	<b>A Design for Change</b>
<b>Essential Question(s)</b>	<ul style="list-style-type: none"> <li>• How do organisms grow, develop, and reproduce?</li> <li>• How can we use models to describe the passing along of genetic traits from parent to offspring?</li> <li>• How does genetic variation among organisms in a species affect survival and reproduction?</li> <li>• How do new human technologies affect the probability that certain traits will be inherited by offspring?</li> </ul>	<ul style="list-style-type: none"> <li>• How do organisms change over time in response to changes in the environment?</li> <li>• How have Earth's changing conditions impacted living organisms?</li> <li>• How can we use evidence from the fossil record, and embryological anatomical similarities, to explain relationships among organisms and species?</li> </ul>	<ul style="list-style-type: none"> <li>• How can we apply our understanding of factors that affect our weather and climate to forecast major weather events?</li> </ul>	<ul style="list-style-type: none"> <li>• How does human use of Earth's resources impact environments?</li> <li>• How is energy transferred through ecosystems?</li> <li>• How can we minimize human impact on the environment?</li> </ul>
<b>Big Ideas</b>	<ul style="list-style-type: none"> <li>• All organisms reproduce in order to ensure the survival of the species.</li> <li>• Organisms that reproduce sexually, produce a greater variety of traits among offspring than organisms that reproduce asexually.</li> <li>• Animals and plants have structures and behaviors that increase the likelihood of successful reproduction.</li> <li>• New technologies can manipulate the genetic make-up of organisms and change cellular function.</li> </ul>	<ul style="list-style-type: none"> <li>• The collection of fossils and their placement in chronologic order is known as the fossil record.</li> <li>• The fossil record documents the change of many life forms throughout the history of life on Earth.</li> <li>• Evidence of common ancestry, and diversity among species created through evolution, exists.</li> <li>• Natural selection leads to the predominance of certain traits in a population, and the suppressions of others.</li> <li>• Events in natural systems occur in consistent patterns.</li> </ul>	<ul style="list-style-type: none"> <li>• The movement of water changes the land's surface, features and create underground formations.</li> <li>• The complex movement of water in the atmosphere and ocean are major determinants of local weather patterns.</li> <li>• The ocean exerts a major influence on weather and climate by absorbing energy from the sun and globally redistributing.</li> <li>• Variations in density drive some ocean currents.</li> </ul>	<ul style="list-style-type: none"> <li>• Energy is transferred through trophic levels in ecosystems.</li> <li>• Populations directly impact availability of resources.</li> <li>• Renewable and nonrenewable resources are unevenly distributed throughout Earth.</li> <li>• Human activities and natural phenomena impact global temperature, ecosystem diversity and weather events.</li> </ul>