Hamilton Heights School Corporation
Earth and Space Science Curriculum Map

Course Title: Earth and Space Science	Quarter 1:	Academic Year: 25-26

Essential Questions						
Unit Name : Earth's Materials	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Ch 1 Introduction to Earth Science		HS-ESS1-1, HS-ESS2-2, HS-ESS2-6, HS-ESS2-7	What is Earth Science? - Representing Earth's surface - - Earth system science - Scientific inquiry	Construct a flow chart with diagrams and descriptions of the nebular theory Explain how evolution of Earth has been driven by interactions between the "spheres" Illustrate Earth as a system	Chapter test	- Spheres walk - Using a Topographic map to create a landform lab - Logos country mapping activity
Ch 2 : Minerals		HS-ESS2-5, HS-ESS3-2	- Matter - Minerals - Properties of minerals	Analyze minerals based on their properties	Chapter test	- Crystals formation lab - Mineral ID and quizzes - Mineral detectives lab - Ore production and cost lab

						- Mineral trading card activity
Ch 3 : Rocks		HS-ESS2-5	- Rock cycle - Types of rocks	Create a rock cycle flow chart Analyze rocks based on their properties	Chapter test	- Rock ID and quizzes - Rock cycle activity - Uses of rocks and minerals activity - Careers and uses of rocks and minerals activity

Course Title: Earth Space Science	Quarter 2:	Academic Year: 25-26

Essential Questions						
Unit Names : Forces Within and Historical Geology	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Ch 8 : Earthquakes and Earth's interior		HS-ESS2-1	- What is an earthquake - Measuring earthquakes - Hazards - Earth's layers	Use resources to analyze fault lines Detail how to prepare for an earthquake (what actions should be taken before and after)	Chapter test	- Locating earthquake activity - Locating the epicenter lab - Virtual earthquake activity
Ch 9 : Plate		HS-ESS1-5,	- Continental drift	Create models / diagrams to	Chapter test	- Puzzle activity

Tectonics		HS-ESS2-1	- Sea-floor spreading - Theory of plate tectonics - Mechanisms of plate motion	show plate movements Create models to demonstrate plate interactions and geologic features created Create a timeline to show development of modern tectonic plate theory		- Pangaea lab
Ch 10 : Volcanoes and other Igneous Activity		HS-ESS2-1	- Volcanoes and plate tectonics - Nature of volcanic eruptions - Intrusive igneous activity	Create models to differentiate between volcano types Explain how volcanoes form and their chemical compositions	Chapter test	- Building volcanoes - Volcano multimedia project
Ch 12 : Geologic Time		HS-ESS1-6	- Discovering Earth's history - Fossils : evidence of past life - Radioactive dating - Geologic time scale	Differential between relative and absolute geologic time Detail how sedimentary and igneous rock can be dated	Chapter test	- Geologic time scale investigation - Fossil formation lab - Fossil dig lab - Half life lab

Course Title: Earth Space Science	Quarter 3:	Academic Year: 25-26

Essential Questions

Unit Names : Astronomy and the Universe and Astronomy	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Charting the Heavens			What is Astronomy?	Compare and contrast scientific theories Know that both direct and indirect observations are used by scientists to study the universe	Chapter test	
Ch 22 : Origin of Modern Astronomy		HS-ESS1-4	Early Astronomy Earth-moon-sun system Earth's moon	Use mathematical representations to demonstrate Kepler's laws Explain Kepler's Laws and Newton's laws Use works from ancient Greeks to demonstrate the effect of observational data and scientific discussion on our understanding of the mechanics and motion of our solar system	Chapter test	- Keplers laws activity - Astronomer timeline activity
Ch 23 : Touring our Solar System		HS-ESS1-4	The solar system Planets Minor members of the solar system	Explain what caused the sun , Earth and most of the other planets to form	Chapter test	- Bodes law activity

				Properties of planets Terrestrial vs jovian planets		

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Essential Questions						
Unit Name : Astronomy	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Ch 24 : Studying the sun		HS-ESS1-1	Study of light Astronomical tools The sun	Explain how nuclear fusion in the core produces elements and energy Construct an explanation detailing how space can be studied by observing all frequencies of the electromagnetic radiation with differentiated telescopes and observational tools	Chapter test	
Ch 25 : Beyond our solar system		HS-ESS1-2, HS-ESS1-3, HS-ESS1-4	Properties of Stars Stellar Evolution The Universe	Describe the life cycle of stars based on their mass Describe the expanding	Chapter test	- H-R diagraming

				universe theory		
The night sky			The night sky		Unit project	- Creating a constellation project