Southern Cayuga Central School District – Curriculum Map

Subject: 8th Grade Science - IQWST (Investigating and Questioning Our World Through Science and Technology **School Year:** 2021 -20222

Title or Topics w/ NYS Standards	Essential Questions & Vocabulary	Content Skills (Activities to cover Essential Questions)	Major Assessments (Tests, Project, etc.)	Online Learning	Time Frame
Module 8.1 MS-ESS2-1 MS-ESS1-2 MS-ESS1-3 MS-PS2-4 MS-PS4-1 MS-PS4-2 MS-PS4-3 MS-Ls4-6 MS-ETS1-1	**"How Does the Universe Affect Me?"** Absorption Accretion Amplitude Angle Astronomy Axis Consensus Model Constellation Cosmologist Cosmology Electromagnetic Spectrum Elliptical Energy Equatorial plane Frequency Galaxy Gravity/Gravitational Force Infrared Light path Lunar Eclipse Measurement Milky Way Model	• How Did the Universe Form? • Where is the Earth in the Vast Universe? • How Do We See Objects? • Can We Develop a Model ofHow We See Objects? • How Does the Eye Sense Light? • How Does Light Create Shadows? • What Happens When Light Bounces Off an Object? • Why Can I See Through Some Objects? • What Else Can Light Do? • What is Light's Role in the Earth-Sun-Moon System? • Could There Be Light I Can't See?	• Handouts • Group activities • Lab Experiments • Readings • Activities • Quiz • Test	southerncayuga.iqwst.com	Sept.10 – Nov. 6th ~8 Weeks

	Moon Phases New Moon Nonvisible Opaque Orbit Partial Eclipse Penumbra Planet Ray Reflection Revolve Satellite Scattering Seasons Sensor Shadow Solar Eclipse Solar System Spectrum Star Telescope Tilt Total Eclipse Translucent Transmit Transparent Ultraviolet Umbra Universe Visible Light Wane Wave model Wax	• How Does Ultraviolet Light Affect Me? • Is a Digital or Analog Signal Better?			

Module 8.2 MS- ESS1-2 MS-ESS1-3 MS-PS2-1 MS-PS2-2 MS-PS2-3 MS-PS2-4 MS-PS2-5 MS-ETS1-1 MS-PS3-1 MS-PS3-2 MS-ETS1-1 MS-ETS1-2 MS-ETS1-3 Ms-ETS1-4	**"How Do Forces Impact Me?"** Acceleration Attractive Force Balanced Forces Collide/Collision Compression Contact Force Counteract Electrical Force Energy Energy Transfer Forces Forces that act a distance Free-body diagram Gram Gravitational energy Gravitational force Horizontal force Interact/interaction Kinetic energy Magnetic force Magnitude Mass Net force Recoil Reinforce Impulsive force System components Tides	• What is a force? • What forces act throughout a system? • How strong is that force? • Why do objects start moving? • Why does an object stop moving? • Why does something change speed or direction? • How can we describe how an object moves? • How can we use forces and energy to explain the magnetic cannon? • Designing the best electromagnet.	• Handouts • Group activities • Lab Experiments • Readings • Activities • Quiz • Test	southerncayuga.iqwst.com	Nov. 9 – Jan. 22nd ~ 8 weeks

	Unbalanced forces Velocity Vertical force				
Module 8.3 MS-LS3-1 MS-LS4-1 MS-LS4-2 MS-LS4-3 MS-LS4-4 MS-LS4-5 MS-LS4-6 MS-ESS1-4 MS-ETS1-2	**"How Do Living Things Change Over Time?"** Adaptations Analogous Antibiotic Bacteria Common ancestry Descendant Dominate Embryo Erosion Excavation Fault Fossil Frequency Homologous Inherited Intrusion Mass extinction Natural selection Population Radioactive decay Radiometric dating Recent Relative age Resistant Selective breeding	• Population Changes • Do Variations Between Individuals in a Population Matter? • The Finch Investigation • Can We Construct a General Model of Population Change? • Does the Natural Selection Model Apply to Other Populations? • How Does Natural Selection Happen Over Longer Periods of Time? • How Long Does Evolution Take? • How does Fossil Evidence Support Evolution? • Body Structures	• Handouts • Group activities • Lab Experiments • Readings • Activities • Quiz • Test	southerncayuga.iqwst.com	Jan. 25 – March 26th ~ 8 Weeks

	Species Strata Structure Superposition Theory Uplift Variation	● How Old Are Fossils? ● Artificial Selection			
Module 8.4 MS-ESS3-4 MS-ETS1-1 MS-ETS1-2	**"What Action Will You Take On Sustainability?"** Bearable Economic Sustainability Environmental Sustainability Equitable Social Sustainability Sustainability Viable	How Do I Impact Earth's Systems?	● Handouts ● Group activities ● Lab Experiments ● Readings ● Activities ● Quiz ● Test	southerncayuga.iqwst.com	April 5th – June 1st ~ 8 Weeks