Grade 5 Spaceship Earth Science

Canterbury Public Schools

Subject	Science Grade 5
Grade Level	5
Unit Title	Spaceship Earth
Unit Goals	Demonstrate the relationship between the Earth and the Sun and other objects in the Universe.
Pacing (# of weeks)	6 weeks
Standards	5-ESS 1 and 2 1. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. 2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. 5-PS1 2 - 1 1. Develop a model to describe that matter is made of particles too small to be seen. 2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
Content/Conceptual Knowledge (know)	Science knowledge is based on logical and conceptual connections between evidence and explanations. NGSS informational resources- cross-cutting concepts, disciplinary concepts,
Skills (be able to do)	Follow step by step directions, use Google classroom, use technology to complete tasks, Use RACE strategy to help in answering questions, sketching and diagramming, graphing - math skills, basic math operations as well as graphing, Use the metric system, generate questions, use models, create models that exemplify topics or learning, use and revise models to describe, test, and predict abstract phenomena and design systems. Develop a model, distinguishing between correlation and causation, analyze data to determine similarities and differences in finding, obtaining and evaluating and communicating information that builds on and progresses to evaluating the merit and validity of ideas and methods, synthesize information,
Essential Questions	How fast does the Earth spin? Who set the first clock? How can the sun tell you the season?

	Why do the stars change with the seasons? Why does the moon change shape? What are the wantering stars? Why is gravity different on other planets? Could there be life on other planets?
Enduring Understandings	The Earth spins once in one day and the sun rise and sun set is due to the rotation of the Earth around the Sun. As the Earth rotates around the Sun, the seasons change. Gravity depends on mass. Gravity pulls on everything. Habitable planets are planets with just the right amount of light and heat.
Vocabulary	Rotation, spin, orbit, seasons, bar graph, lunar cycle, planet, Solar System, day , night, retrograde, prograde, light year, force, brightness, warp speed, technology, Habitable, Mars, robotics, helium, gravity, gravitational pull, magnetic pull, poles, Tilt, centimeters, multiplication and division, telescope, Galileo, ancient astronomers, astronauts, NASA, space probes, rockets, Hidden Figures, distance, closer, further, spacewalk, International Space Station, cite evidence, facts, text structure, multiple sources, cross referencing, description, problem/solution, cause and effect, sequence, title, heading, subheading, infographics, compare and contrast,
Common Learning Experiences broken down by standard addressed in the unit	(learning target, lesson structure, strategy implementation) 1. Earth's spin and relationship to the Sun 2. Earth's rotation and time 3. How can the Sun tell you the seasons?- seasonal changes and the Sun's path 4. Why do the stars change with the seasons?- Earth's revolution 5. Why does the moon change shape?- lunar cycle 6. What are the wandering stars?- Planets and Solar System 7. (8)Could there be life on other planets?- star brightness and life on other planets 8. (7)Why is gravity different on other planets?- gravity
Assessments	Unit assessments that follow the mystery. Demonstration evaluations, graphing as performance assessments,
Resources	(technology) Use Google classroom,projector,chrome books, Calculators, You Tube, videos, computer based on the internet, MYSTERY Science curricular materials, Scholastic.Com, NewsELA, Triple Beam Balance, digital scale

Student Resources	Classroom library, Google classroom, Mystery Science, online classroom resources
Teacher Resources	NASA.gov, Mystery science, scholastic.com, NewsELA, NGSS, NSF, CSTA, read alouds, articles, books
Strategies	Group discussion, questioning, turn and talk, lab partners, spokesperson, Silence is Golden, analysis of text structure, picture walk, pre read text, annotation, graphic organizers, student modeling, modeling, pre assessments (formative) ,large and small group, pairs, peer tutoring, reteaching concepts, gradual release model of instruction,
Behaviors that will lead to success	Questioning, group discussion, measurement, understanding of the metric system, written communication, cite evidence from multiple sources, keep materials organized, keep a science journal, wear goggles and safety glasses as appropriate, clean up area, use care when using sharp objects, be aware of space, care for materials, cooperation with peers, patience, accuracy and precision,