Grade 5 Science Progress Report Card Rubric

Science Reporting Standard	December: Earth Systems	March: Matter & Chemical Reactions	June: Ecosystems & Space
Demonstrates understanding of unit concepts, facts, and principles. SCORING: ***E: Independently demonstrates and applies understanding of all of the following unit concepts:*** ***M: Consistently demonstrates understanding of all of the following unit concepts:*** ***P: Inconsistently demonstrates understanding of two or more of the***	• Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. • The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. • Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. (5-ESS2-1) • Nearly all of Earth's available water is in the ocean. Most fresh water is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere. (5-ESS2-2) • Human activities have had	• Matter of any type can be subdivided into particles that are too small to see. • Gases are made from matter particles that are too small to see and are moving freely around in space. This can explain many observations, including the inflation of a balloon and that air can push on things. (5-PS1-1) • The amount (weight) of matter is conserved when it changes form, even when it seems to vanish. (5-PS1-2) • Measurements of a variety of properties can be used to identify materials. • When two or more different substances are mixed, a new substance with different properties may be formed. (5-PS1-4) • No matter what reaction or change in properties occurs, the total weight of the substances does not change. (Boundary: Mass and weight are not	Ecosystems Unit: • Energy released from food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water). (5-PS3-1) • Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. (5-PS3-1) • Plants acquire their material for growth chiefly from air and water. (5-LS1-1) • The food of almost any kind of animal can be traced back to plants. (5-LS2-1) • Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. • Some organisms, such as fungi and bacteria, break down dead organisms and therefore operate as "decomposers." (5-LS2-1) • Decomposition eventually restores (recycles) some materials back to the soil. (5-LS2-1) • A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. (5-LS2-1) • Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. (5-LS2-1) • Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (5-LS2-1) Space Unit: • The orbits of Earth around the sun and of the moon around

unit concepts.	major effects on the land, vegetation, streams, ocean, air, and even outer space. (5-ESS3-1) ● Individuals and communities are doing things to help protect Earth's resources and environments. (5-ESS3-1)	distinguished at this grade level.) (5-PS1-2)	Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. (5-ESS1-2) ● The Sun climbs highest around midday and drops lower until sunset, changing shadow length and direction through the day. (5-ESS1-2) ● Day and night are caused by the rotation of the Earth on its axis. Earth spins west to east every 24 hours, making the Sun, Moon, and stars appear to rise in the east and set in the west. (5-ESS1-2) ● As the Moon orbits Earth roughly once every 27–29 days, it appears in a different position against the background stars each night. (5-ESS1-2) ● Seasonal changes in the Sun's angle and path across the sky are the result of both the tilt of Earth's axis and the Earth's revolution around the sun in its orbit. (5-ESS1-2) ● As Earth orbits the Sun, the night side faces different parts of space. Constellations like Orion are prominent in winter skies, while others appear in summer ● The Sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth. (5-ESS1-1) ● Differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. (5-ESS1-1) ● Gravity exists on all planets and moons, but the amount of gravity is different because it depends on how massive the object is.
Observes, questions, investigates,	● Constructs and interprets graphs of the amounts and percentages of water and fresh water in various	● Makes observations and measurements to identify materials based on their properties.	Ecosystems Unit: ● Develops a model to describe the movement of matter among plants, animals, decomposers, and the environment. ● Provides evidence to support an argument that plants get the

explains, and communicates using appropriate vocabulary. ***E: Independently demonstrates and applies understanding of all of the following unit concepts:*** ***M: Consistently demonstrates understanding of all of the following unit concepts:*** ***P: Inconsistently demonstrates understanding of one or more of the unit concepts.***	reservoirs to provide evidence about the distribution of water on Earth. ● Develops a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. ● Generates and compares multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	● Conducts investigations to determine whether the mixing of two or more substances results in new substances. ● Develops a model to describe that matter is made of particles too small to be seen.	materials they need for growth chiefly from air and water. ● Uses models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. Space Unit: ● Develops and uses models to explain patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. ● Constructs graphs to represent and analyze data on the size, distance, and brightness of different stars. ● Provides evidence to support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. ● Uses evidence to explain the seasonal appearance of stars and constellations.