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|  | **Earth /Space Science**  ***Students in grade six will understand that characteristics and features that create recognizable and predictable patterns affect the Earth’s weather. These characteristics are interrelated.***  ***Students will:*** | **Physical Science**  ***Students in grade six will understand that:***  ***Matter is composed of particles and these particles can take various forms (solids, liquids, gas, plasma)***  ***All matter undergoes both chemical and physical changes.***  ***Students will:*** | **Life Science**  ***Students in grade six will understand that:***  ***All living things are composed of cells that have common features and structures that support life.***  ***While plant and animal cells have similarities, there are specific differences in their organelles that are unique to each form of life.***  ***Cells contain the hereditary materials responsible for the characteristics and features of each living organism.***  ***Students will:*** |
| **Change** | *Recognize and describe patters and changes in weather as they relate to fronts and cloud formations.*  *Describe the various features of the layers of the atmosphere.*  *Explain how the actions of heat transfer drive weather patterns.* | *Recognize matter is composed of particles and these particles can take various forms (solids, liquids, gas, plasma).*  *Describe the features of chemical and physical change.* | *Identify examples of cell structures (animal and plant) and describe their functions.*  *Differentiate between plant and animal cells based on their cellular organelles.*  *Describe the function and role of DNA in creating the hereditary features of living things.* |
| **Interrelationships** | *Recognize the key features of atmosphere change and the effects on weather including: fronts, cloud types, humidity and moisture and weather’s effects on human activity.*  *Identify the impact of temperature, humidity, and pressure changes on moisture content and saturation.* | *Explain the relationship between matter and energy.*  *Compare and contrast the key features of weight, mass, density, and volume.* | *Relate individual cell structures to their specific functions.*  *Define the relationship between cells, tissues, and organ systems.*  *Explain the relationship between DNA and the expression of genetic traits within a cell.* |
| **Scale** | *Compare and contrast the key points of:*   * *Climate and Weather* * *US and local weather* * *Layers of the atmosphere* * *Daily weather and seasonal change* | *Identify and apply the measurements best suited to describe*  *Volume (liquid/solid), mass, weight, and density.* | *Describe the relative sizes of cells in comparison with organelles, tissues, and organisms.* |
| **Modeling** | *Construct and read weather maps to predict and model changes in weather.*  *Create atmosphere models describing the key features of the layers of the atmosphere.* | *Construct models to illustrate and describe the states of matter.* | *Create cellular models containing key organelles and structures.* |
| **Inquiry/Process** | *Forecast and predict weather using maps and data relating to atmospheric change.*  *Describe the use technology over time to investigate, track and predict weather.* | *Explore and recognize the relationship between states of matter and their respective energy levels.*  *Predict changes in state based on increases or decreases in the energy level of matter.* | *Utilize a Punnett square to predict and describe the features of organisms based on their genetic inheritance.*  *Identify the key structures and organelles of plant and animal cells under a microscope.*  *Describe the advances and use of technology over time used to investigate and explore cellular organelles and heredity.* |