**7th grade Science**

**August**

**August 6 -9, 2019: Inquiry**

**August 12-16, 2019: Lab Safety**

**August 19-23, 2019: Earth’s Cycles**

**MS CCR Standard: E.7.9A** Students will demonstrate an understanding of how complex changes in the movement and patterns of air and water molecules caused by the sun, winds, landforms, ocean temperatures, and currents in the atmosphere are major determinants of local and global weather patterns.

**MS CCR Standard: E.7.9.A1** Analyze and interpret weather patterns from various regions to differentiate between weather and climate.

**MS CCR Standard: E.7.9.A2** Analyze evidence to explain the weather conditions that result from the relationship between the movementofwater and air masses.

**August 26-30, 2019 and September 2-6, 2019: Photosynthesis and Cellular Respiration**

**MS CCR Standard: P.7.5.D1** Analyze evidence from scientific investigations to predict likely outcomes of chemical reactions.

**MS CCR Standard: P.7.5.D2** Design and conduct scientific investigations to support evidence that chemical reactions (e.g., cooking, combustion, rusting, decomposition, photosynthesis, and cellular respiration) have occurred.

**September 9-13, 2019: Macromolecules**

**MS CCR Standard: L.7.3.3** Use models to describe how food molecules (carbohydrates, lipids, proteins) are processed through chemical reactions using oxygen (aerobic) to form new molecules.

**September 16-20, 2019: Disruptions in the Ecosystem**

**MS CCR Standard: L.7.3** Students will demonstrate an understanding of the importance that matter cycles between living and nonliving parts of the ecosystem to sustain life on Earth.

**MS CCR Standard: L.7.3.1** Analyze diagrams to provide evidence of the importance of the cycling of water, oxygen, carbon, and nitrogen through ecosystems to organisms.

**September 23-27, 2019: Sustaining the Ecosystem/Review**

**MS CCR Standard: L.7.3.5** Design solutions for sustaining the health of ecosystems to maintain biodiversity and the resources needed by humans for survival (e.g., water purification, nutrient recycling, prevention of soil erosion, and prevention or management of invasive species).

**September 29-October 4, 2019: Review and Testing (1st Nine Weeks’ Testing)**

**October 7-11, 2019: Types of Weather**

**MS CCR Standard: E.7.9.A** Students will demonstrate an understanding of how complex changes in the movement and patterns of air and water molecules caused by the sun, winds, landforms, ocean temperatures, and currents in the atmosphere are major determinants of local and global weather patterns.

**MS CCR Standard: E.7.9.A1** Analyze and interpret weather patterns from various regions to differentiate between weather and climate.

**MS CCR Standard: E.7.9.A2** Analyze evidence to explain the weather conditions that result from the relationship between the movement of water and air masses.

**October 14-18, 2019: Weather Data**

**MS CCR Standard: E.7.9.A3** Interpret atmospheric data from satellites, radar, and weather maps to predict weather patterns and conditions.

**MS CCR Standard: E.7.9.A4** Construct an explanation for how climate is determined in an area using global and surface features (e.g. latitude, elevation, shape of the land, distance from water, global winds and ocean currents).

**MS CCR Standard: E.7.9.A5** Analyze models to explain the cause and effect relationship between solar energy and convection and the resulting weather patterns and climate conditions.

**October 21-25, 2019: Weather Predictions**

**MS CCR Standard: E.7.9.A6** Research and use models to explain what type of weather (thunderstorms, hurricanes, and tornadoes) results from the movement and interactions of air masses, high and low pressure systems, and frontal boundaries.

**MS CCR Standard: E.7.9.A7** Interpret topographic maps to predict how local and regional geography affect weather patterns and make them difficult to predict.

**October 28-November 8, 2019: Climate Change**

**MS CCR Standard: E.7.9.B** Students will demonstrate an understanding of the relationship between natural phenomena, human activity, and global climate change.

**MS CCR Standard: E.7.9.B1** Read and evaluate scientific or technical information assessing the evidence and bias of each source to explain the causes and effects of climate change.

**MS CCR Standard: E.7.9.B2** Interpret data about the relationship between the release of carbon dioxide from burning fossil fuels into the atmosphere and the presence of greenhouse gases.

**MS CCR Standard: E.7.9.B3** Engage in scientific argument based on current evidence to determine whether climate change happens naturally or is being accelerated through the influence of man.

**November 11-22, 2019: Earth’s Axis**

**MS CCR Standard: E.7.9.C Students will demonstrate an understanding that the seasons are the direct result of the Earth’s tilt and the intensity of sunlight on the Earth’s hemispheres**

**MS CCR Standard: E.7.9.C1** Construct models and diagrams to illustrate how the tilt of Earth’s axis results in differences in intensity of sunlight on the Earth’s hemispheres throughout the course of one full revolution around the Sun.

**MS CCR Standard: E.7.9.C2** Investigate how variations of sunlight intensity experienced by each hemisphere (to include the equator and poles) create the four seasons

**November 25-29, 2019: Thanksgiving Holiday Break**

**December 2-6, 2019: Review Types of Weather and Weather Data**

**Types of Weather**

**MS CCR Standard: E.7.9.A** Students will demonstrate an understanding of how complex changes in the movement and patterns of air and water molecules caused by the sun, winds, landforms, ocean temperatures, and currents in the atmosphere are major determinants of local and global weather patterns.

**MS CCR Standard: E.7.9.A1** Analyze and interpret weather patterns from various regions to differentiate between weather and climate.

**MS CCR Standard: E.7.9.A2** Analyze evidence to explain the weather conditions that result from the relationship between the movement of water and air masses.

**Weather Data**

**MS CCR Standard: E.7.9.A3** Interpret atmospheric data from satellites, radar, and weather maps to predict weather patterns and conditions.

**MS CCR Standard: E.7.9.A4** Construct an explanation for how climate is determined in an area using global and surface features (e.g. latitude, elevation, shape of the land, distance from water, global winds and ocean currents).

**MS CCR Standard: E.7.9.A5** Analyze models to explain the cause and effect relationship between solar energy and convection and the resulting weather patterns and climate conditions.

**December 9-13, 2019: Review Weather Predictions and Climate Change**

**Weather Predictions**

**MS CCR Standard: E.7.9.A6** Research and use models to explain what type of weather (thunderstorms, hurricanes, and tornadoes) results from the movement and interactions of air masses, high and low pressure systems, and frontal boundaries.

**MS CCR Standard: E.7.9.A7** Interpret topographic maps to predict how local and regional geography affect weather patterns and make them difficult to predict.

**Climate Change**

**MS CCR Standard: E.7.9.B** Students will demonstrate an understanding of the relationship between natural phenomena, human activity, and global climate change.

**MS CCR Standard: E.7.9.B1** Read and evaluate scientific or technical information assessing the evidence and bias of each source to explain the causes and effects of climate change.

**MS CCR Standard: E.7.9.B2** Interpret data about the relationship between the release of carbon dioxide from burning fossil fuels into the atmosphere and the presence of greenhouse gases.

**MS CCR Standard: E.7.9.B3** Engage in scientific argument based on current evidence to determine whether climate change happens naturally or is being accelerated through the influence of man.

**December 16-20, 2019: Review Earth’s Axis and Testing (2nd Nine Weeks’ Testing)**

**Earth’s Axis**

**MS CCR Standard: E.7.9.C** Students will demonstrate an understanding that the seasons are the direct result of the Earth’s tilt and the intensity of sunlight on the Earth’s hemispheres.

**MS CCR Standard: E.7.9.C1** Construct models and diagrams to illustrate how the tilt of Earth’s axis results in differences in intensity of sunlight on the Earth’s hemispheres throughout the course of one full revolution around the Sun.

**MS CCR Standard: E.7.9.C2** Investigate how variations of sunlight intensity experienced by each hemisphere (to include the equator and poles) create the four seasons.

**December 23, 2019 – January 3, 2020: Christmas/Winter Break**

**January 6-10, 2020: Atoms**

**MS CCR Standard: P7.5C** Students will demonstrate an understanding of the proper use of the periodic table to predict and identify elemental properties and how elements interact.

**MS CCR Standard: P7.5C1** Develop and use models that explain the structure of an atom.

**January 13-17, 2020: Atomic Model**

**MS CCR Standard: P7.5C2** Use informational text to sequence the major discoveries leading to the current atomic model.

**January 20-24, 2020: Physical/Chemical Properties**

**MS CCR Standard: P7.5C3** Collect, organize, and interpret data from investigations to identify and analyze the relationships between the physical and chemical properties of elements, atoms, molecules, compounds, solutions, and mixtures.

**January 27-31, 2020: Periodic Table**

**MS CCR Standard: P7.5C4** Predict the properties and interactions of elements using the periodic table (metals, non-metals, reactivity, and conductors).

**February 3-7, 2020: Chemical Formula**

**MS CCR Standard: P7.5C** Describe concepts used to construct chemical formulas (e.g., CH4, H2O) to determine the number of atoms in a chemical formula.

**February 10-14, 2020: Chemical Bonding**

**MS CCR Standard: P7.5C6** Using the periodic table, make predictions to explain how bonds (ionic and covalent) form between groups of elements (e.g., oxygen gas, ozone, water, table salt, and methane).

**MS CCR Standard: P7.5D4** Build a model to explain that chemical reactions can store (formation of bonds) or release energy (breaking of bonds).

**February 17-21, 2020: Chemical Reactions**

**MS CCR Standard: P7.5D** Students will demonstrate an understanding of chemical formulas and common chemical substances to predict the types of reactions.

**MS CCR Standard: P7.5D1** Analyze evidence from scientific investigations to predict likely outcomes of chemical reactions.

**MS CCR Standard: P7.5D2** Design and conduct investigations to support evidence that chemical reactions (e.g., cooking, combustion, rusting, decomposition, photosynthesis, and cellular respiration) have occurred.

**February 24-28, 2020: ph**

**MS CCR Standard: P7.5D3** Collect, organize, and interpret data using various tools (e.g., litmus paper, pH paper, cabbage juice) regarding neutralization of acids and bases using common substances.

**March 2-6, 2020: Review/Testing**

**March 9-13, 2020: Spring Break**

**March 16-20, 2020: Scientific Method**

**March 23-April 3, 2020 Photosynthesis/Cellular Respiration**

**MS CCR Standard: P.7.5.D1** Analyze evidence from scientific investigations to predict likely outcomes of chemical reactions.

**MS CCR Standard: P.7.5.D2** Design and conduct scientific investigations to support evidence that chemical reactions (e.g., cooking, combustion, rusting, decomposition, photosynthesis, and cellular respiration) have occurred.

**April 6-10, 2020: Weather Predictions/Climate Change**

**Weather Predictions**

**MS CCR Standard: E.7.9.A6** Research and use models to explain what type of weather (thunderstorms, hurricanes, and tornadoes) results from the movement and interactions of air masses, high and low pressure systems, and frontal boundaries.

**MS CCR Standard: E.7.9.A7** Interpret topographic maps to predict how local and regional geography affect weather patterns and make them difficult to predict.

**Climate Change**

**MS CCR Standard: E.7.9.B** Students will demonstrate an understanding of the relationship between natural phenomena, human activity, and global climate change.

**MS CCR Standard: E.7.9.B1** Read and evaluate scientific or technical information assessing the evidence and bias of each source to explain the causes and effects of climate change.

**MS CCR Standard: E.7.9.B2** Interpret data about the relationship between the release of carbon dioxide from burning fossil fuels into the atmosphere and the presence of greenhouse gases.

**MS CCR Standard: E.7.9.B3** Engage in scientific argument based on current evidence to determine whether climate change happens naturally or is being accelerated through the influence of man.

**April 13-17, 2020: Earth’s Axis**

**MS CCR Standard: E.7.9.C** Students will demonstrate an understanding that the seasons are the direct result of the Earth’s tilt and the intensity of sunlight on the Earth’s hemispheres.

**MS CCR Standard: E.7.9.C1** Construct models and diagrams to illustrate how the tilt of Earth’s axis results in differences in intensity of sunlight on the Earth’s hemispheres throughout the course of one full revolution around the Sun.

**MS CCR Standard: E.7.9.C2** Investigate how variations of sunlight intensity experienced by each hemisphere (to include the equator and poles) create the four seasons.

**April 20-24, 2020: Periodic Table Trends**

**MS CCR Standard: P7.5C4** Predict the properties and interactions of elements using the periodic table (metals, non-metals, reactivity, and conductors).

**April 27-May 1, 2020: pH**

**MS CCR Standard: P7.5D3** Collect, organize, and interpret data using various tools (e.g., litmus paper, pH paper, cabbage juice) regarding neutralization of acids and bases using common substances.

**May 4-8, 2020: Chemical Reactions**

**MS CCR Standard: P7.5D** Students will demonstrate an understanding of chemical formulas and common chemical substances to predict the types of reactions.

**MS CCR Standard: P7.5D1** Analyze evidence from scientific investigations to predict likely outcomes of chemical reactions.

**MS CCR Standard: P7.5D2** Design and conduct investigations to support evidence that chemical reactions (e.g., cooking, combustion, rusting, decomposition, photosynthesis, and cellular respiration) have occurred.