SCOPE AND SEQUENCE FOR 6TH GRADE EARTH SCIENCE (2020-21)

UNIT	COMPOSITION OF THE EARTH
LENGTH	7 WEEKS
OVERVIEW	Introduction of elements common in minerals and the processes that occur to form the 3 major types of rock as they "cycle". Attention will also be given to mineral resources, fossil fuels, and alternative energy sources.
TOPICS/CONTENT (T.F.L.)	-Elements common in minerals (part one) -Rock Formation (part two) -Rock Cycle (part two) -Mining (part two)
NGSS	**MS-ESS2-1.** ***Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.*** **MS-ESS3-1.** ***Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.***
CONTENT (S.F.L.)	6TH GRADE STUDENT FRIENDLY LANGUAGE FOR COMPOSITION OF THE EARTH
RESOURCES	VOCABULARY LIST FOR COMPOSITION OF THE EARTH

UNIT	THE DYNAMIC EARTH
LENGTH	11 WEEKS
OVERVIEW	The four layers of the Earth will be explored. The theory of plate tectonics will be discussed. A correlation between the movement of these plates and mountain formation, earthquakes, and volcanoes will be explored.
TOPICS/CONTENT (T.F.L.)	-Layers of the Earth -Concept of Plate Tectonics -Plate Motion resulting in mountain formation, earthquakes, volcanoes, & sea-floor spreading and other ocean floor features
NGSS	**MS-ESS2-1.** ***Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.*** **MS-ESS2-2.** ***Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.*** **MS-ESS2-3.** ***Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.*** **MS-ESS3-2.** ***Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.***
CONTENT (S.F.L)	6TH GRADE STUDENT FRIENDLY LANGUAGE FOR THE DYNAMIC EARTH
RESOURCES	VOCABULARY LIST FOR THE DYNAMIC EARTH

UNIT	RESHAPING THE CRUST
LENGTH	8 WEEKS
OVERVIEW	The processes of weathering, erosion, and deposition will be addressed. The agents of erosion (gravity, wind, glaciers, and water) will be related to the reshaping of the land to include;(but not limited to) the exploration of stream and river systems and deposition, caverns, sinkholes, glaciers, and dunes.
TOPICS/CONTENT (T.F.L.)	-Weathering (physical, chemical) -Erosion (gravity, water, wind, & glaciers) -Deposition -Water cycle/River System -Glaciers & features -Caverns -Sinkholes
NGSS	**MS-ESS2-1.** ***Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.*** **MS-ESS2-2.** ***Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.*** **MS-ESS2-4.** ***Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.***
CONTENT (S.F.L.)	6TH GRADE STUDENT FRIENDLY LANGUAGE FOR RESHAPING THE CRUST
RESOURCES	VOCABULARY LIST FOR RESHAPING THE CRUST

UNIT	WEATHER AND CLIMATE
LENGTH	4 WEEKS
OVERVIEW	Atmospheric composition and atmospheric heating will be described as well as an explanation of how pressure and temperature are related to altitude as well as how pressure differences cause wind both globally and locally. Air masses will be characterized by moisture content and temperature to represent the effects of weather. Humidity and forms of precipitation will be discussed as well as an exploration of severe weather such as thunderstorms, hurricanes, and tornadoes. Weather instruments will be described and students will analyze weather maps to determine what is being represented. Students will differentiate between weather and climate and recognize how latitude, prevailing winds, geography, and ocean currents affect an area's climate.
TOPICS/CONTENT (T.F.L.)	-Atmospheric gases -Air pressure -Heat Transfer (radiation, conduction, convection) -Motion of air pressure and pressure differences -Types of precipitation -Air masses & fronts -Weather instruments -Severe weather (thunderstorms, hurricanes, floods, tornadoes)
NGSS	**MS-ESS2-5.** ***Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.*** **MS-ESS2-6.** ***Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.*** **MS-ESS3-2**

	Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their efforts.
CONTENT (S.F.L.)	6TH GRADE STUDENT FRIENDLY LANGUAGE FOR WEATHER AND CLIMATE
RESOURCES	VOCABULARY LIST FOR WEATHER AND CLIMATE

UNIT	ASTRONOMY
LENGTH	6 WEEKS
OVERVIEW	Planetary motion involving rotation, orbit, revolution and gravity will be used to describe our solar system and other galaxies. The scale of the solar system as well as the sizes and locations of the different planets will be visually represented. Differences in composition and appearance/ characteristics of the planets will be explained. Comets, asteroids, and meteoroids will be explained. Special emphasis will be given to the Earth-sun-moon system to describe lunar phases, eclipses, and seasons. History of space exploration will be used to show developments in technology.
TOPICS/CONTENT (T.F.L.)	-Planets (similarities & differences) -Comets, asteroids, & meteoroids -Space exploration
NGSS	**MS-ESS1-1.** ***Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.*** **MS-ESS1-3.** ***Analyze and interpret data to determine scale properties of objects in the solar system.***
CONTENT (S.F.L.)	6th GRADE FRIENDLY LANGUAGE FOR ASTRONOMY
RESOURCES	VOCABULARY LIST FOR ASTRONOMY