

Mansfield Independent School District
Grade Seven, Scope of Instruction

Nature of Science	Life Science	Physical Science	Earth Science
<p><u>Safety:</u></p> <ul style="list-style-type: none"> • Safe use of equipment • Safety rules • Safety drills • Follow verbal and written directions correctly <p><u>Scientific Method:</u></p> <ul style="list-style-type: none"> • Proper use of method • Construct and analyze various graphs, tables and charts <ul style="list-style-type: none"> ○ Line, bar, and pie graphs ○ X- and y-axis ○ Dependent and independent variables ○ Analyze different representation of the same data <p><u>Critical Thinking and Problem Solving:</u></p> <ul style="list-style-type: none"> • Develop and/or critique or evaluate own work and work of others <p><u>Tools and Inquiry Methods:</u></p> <ul style="list-style-type: none"> • Select appropriate tools necessary for the task; use materials appropriately • Use tools to collect data using accurate/precise metric measurement 	<p><u>Structure and function in Living Systems</u></p> <ul style="list-style-type: none"> • Human Body: Systems and Functions--force of blood flow • Maintain internal stability in ever changing environment <p><u>Genetics</u></p> <ul style="list-style-type: none"> • Identify that sexual reproduction is more diverse than asexual • Survival of the fittest • Distinguish between dominant and recessive traits and recognize that inherited traits are within genetic material. <p><u>Internal vs. External Stimuli</u></p> <ul style="list-style-type: none"> • Analyze changes in an organism due to internal stimuli • Identify responses in organisms due to external stimuli <p><u>Organisms and Environment</u></p> <ul style="list-style-type: none"> • Identify components of an ecosystem (Abiotic and Biotic) • Roles in an ecosystem <ul style="list-style-type: none"> ○ :producers, consumers and decomposers and use of resources • Photosynthesis • Different environment = different organism • Role of ecological succession/equilibrium 	<p><u>Properties of Matter: Physical and Chemical Properties</u></p> <ul style="list-style-type: none"> • Identify and demonstrate everyday examples of chemical change • Describe physical properties of elements and identify how they are used to position an element of the periodic table • Atomic structure • Compounds <p><u>Energy:</u></p> <ul style="list-style-type: none"> • Potential and kinetic energy in everyday life • Transfer of radiant energy into chemical energy through photosynthesis <p><u>Force and Motion:</u></p> <ul style="list-style-type: none"> • Simple machines (pulleys and levers) • Newton's first law • Relate forces to living organisms including blood flow, emergency of seedlings 	<p><u>Components of Solar System</u></p> <ul style="list-style-type: none"> • Identify and illustrate how tilt, rotation and revolution of earth causes seasons, days, years • Relationship of Earth and Moon in terms of moons cyclical phases <p><u>Alteration of Earth by nature and human activity</u></p> <ul style="list-style-type: none"> • Describe and predict the impact of different catastrophic events on Earth • Analyze effects of regional, erosional deposition and weathering • Make inferences and draw conclusions about effects of human activity on Earth's renewable, nonrenewable and inexhaustible resources • Describe how systems may reach an equilibrium such as a volcano erupts • PE and KE in movement of faults