Scope and Sequence for 6th – 8th grades					
Prior Knowledge and Experience	**Develop Knowledge**	**Lessons**	**NSES Stds.**	**Colo. Stds. for Science**	**Colo. Stds. for Math**
See Prior Knowledge and Experience K-5					
Anatomy of the Sun	**Anatomy of the Sun**				
Solar activity	Interior of Sun	• Features of the Sun	A, B, D, G	1, 2.2, 4.1, 4.2, 4.4, 6	3.1, 3.4
Sunspots	Exterior of Sun	• The Dynamic Nature of the Sun • Features of the Sun	A, B, D, G	1, 2.2, 4.1, 4.2, 4.4, 5, 6	3.1, 3.4
Motion of the Sun	Solar activity	• The Dynamic Nature of the Sun • Features of the Sun • Soda Bottle Magnetometer • Where to See an Aurora • CME Plotting • Radiation Hazards in Space • AM Radio Ionosphere Station	A, B, D, E, G	1, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4, 5, 6	1.3, 1.6, 2.1, 2.2, 3.1, 3.4, 4.4, 5.1, 5.2, 5.3, 6.2, 6.3
	Magnetic field	• Features of the Sun • The Earth as a Magnet • Iron Filings and Magnetic Field Lines • Soda Bottle Magnetometer • Learning about Space Weather • Measuring the IMF • Science and Engineering Conference • CME Plotting	A, B, D, E, G	1, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4, 5, 6	3.1, 3.4, 5.1, 5.2, 6.2

Motions of the Earth	**Earth-Sun system**				
Seasons	Earth's Magnetic Field and Interplanetary Magnetic Field (IMF)	• **Features of the Sun** • **The Earth as a Magnet** • **Iron Filings and Magnetic Field Lines** • **Soda Bottle Magnetometer** • **Learning about Space Weather** • **Measuring the IMF** • **Science and Engineering Conference** • **CME Plotting**	A, B, D, E, G	1, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4, 5, 6	3.1, 3.4, 5.1, 5.2, 6.2
Day and Night	Aurora	• **Where to See an Aurora** • **CME Plotting** • **AM Radio Ionosphere Station**	A, B, D, E, G	1, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4, 5, 6	2.1, 2.2, 3.1, 3.2, 3.4, 4.4, 5.3, 5.6, 6.2
	Spacecraft and Space Travel	• **Measuring the IMF** • **Radiation Hazards in Space**	A, B, D, E, G		1.3, 1.6, 6.2, 6.3
Science and Math Tools	**Science and Math Tools**				
Instrumentation	Developing Instrumentation	• **Measuring the IMF** • **Science and Engineering Conference**	A, B, D, E, G	1, 2.1, 2.3, 4.1, 4.4, 5, 6	
Data Collection and Interpretation	Data collection and interpretation	• **Iron Filings and Magnetic Field Lines** • **Soda Bottle Magnetometer**	A, B, D, E, G	1, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4, 5, 6	3.1, 3.4, 5.1, 5.2
Pattern Recognition	Scientific Reporting	• **Science and Engineering Conference**	A, B, D, G	1, 5, 6	

Graphing and Charting	Graphing and Charting	• **Soda Bottle Magnetometer** • **CME Plotting**	A, B, D, E, G	1, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4, 5, 6	2.1, 2.2, 3.1, 3.4, 4.4, 5.1, 5.2, 5.3, 6.2
	E-M spectrum	• **The Dynamic Nature of the Sun** • **Features of the Sun** • **AM Radio Ionosphere Station**	A, B, D, E, G	1, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4, 5, 6	2.1, 2.2, 3.1, 3.2, 3.4, 5.3, 5.6
Useful Concepts *					
Light and the E-M Spectrum					
Scientific Method					
Electromagnetism					

*Use discretion based on the age/abilities of the students. It is not necessary to have these skills to do lessons.