

**Minnesota**  
High School

**Grades 9-12**

**III. EARTH AND SPACE SCIENCE**

**The Universe**

The student will relate the formation and components of our solar system to the conditions necessary for life.

1. The student will explain how the sun, Earth and solar system formed.

2. The student will compare the characteristics of Earth with the characteristics and movement patterns of the other planets, their satellites and other objects in our solar system.

3. The student will compare and contrast the environmental parameters that make life possible on Earth with conditions found on the other planets of our solar system.

The student will use astronomical data to reveal the structure, scale, and changes in the stars, galaxies and universe over time.

1. The student will identify different types of stars and galaxies and describe how stars, galaxies and the universe change over time.

2. The student will explain how nuclear fusion produces energy and other elements.

3. The student will describe the evidence from current technologies that has been used to understand the composition and the early history of the universe.

4. The student will explain how Doppler evidence indicates our universe is expanding in all directions.

**Starry Night Lesson Plans**

*In order of relevance*

F3	B1-B2	C1-C4	D1-D3		
F3	F2	B1			
B1-B2	C1-C4	D1-D3	I2		
C1	C3	I2			
F1-F3	G1-G3	H1-H3	I1-I3	E1-E4	
G1-G3	H1-H3	F3	E1-E3		
F1	G2	G3			
H1-H3	I1-I3	F2			
H3	I3				