New Mexico

High School

Grades 9-12

Standard III (Earth and Space Science): Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.

Benchmark I:
Examine the scientific theories of the origin, structure, contents, and evolution of the solar system and the universe, and their interconnections.

	Starry Night Lesson Plans *In order of relevance*				
1. Understand the scale and contents of the universe, including:	B1-B2	C1-C4	D1-D3	G1-G3	H1-H3
· range of structures from atoms through astronomical objects to the universe	B1-B2	C1-C4	D1-D3	G1-G3	H1-H3
· objects in the universe such as planets, stars, galaxies, and nebulae.	B1-B2	C1-C4	D1-D3	G1-G3	H1-H3
2. Predict changes in the positions and appearances of objects in the sky (e.g., moon, Sun) based on knowledge of current positions and patterns of movements (e.g., lunar cycles, seasons).	A1-A5	C2	E1-E4		
3. Understand how knowledge about the universe comes from evidence collected from advanced technology (e.g., telescopes, satellites, images, computer models).	I1-I3	F2	F1	H1-H3	
4. Describe the key observations that led to the acceptance of the Big Bang theory and that the age of the universe is over 10 billion years.	H2	H3	I3		
5. Explain how objects in the universe emit different electromagnetic radiation and how this information is used.	G2	I3	H1	F2	
6. Describe how stars are powered by nuclear fusion, how luminosity and temperature indicate their age, and how stellar processes create heavier and stable elements that are found throughout the universe.	G2	G3	G4	F3	
7. Examine the role that New Mexico research facilities play in current space exploration (e.g., Very Large Array, Goddard Space Center).	**Section I Page 10 New Mexico Edition**				