

Arizona
High School

Grades 9-12

STRAND SIX – EARTH AND SPACE SCIENCE

Concept 3: Origin and Evolution of the Earth System

PO 1. Describe the scientific theory of the origin of the solar system (solar nebular hypothesis).

F3 B1

PO 2. Describe the characteristics, location, and motions of the various kinds of objects in our solar system, including the Sun, planets, satellites, comets, meteors, and asteroids.

B1-B2 C1-C4 D1-D3

PO 3. Explain the phases of the Moon, eclipses (lunar and solar), and the interaction of the Sun, Moon, and Earth (tidal effect).

A3 A4 A5

Concept 4: Origin and Evolution of the Universe

PO 1. Describe the Big Bang Theory as an explanation for the origin of the universe.

H3 H2 I3

PO 2. Describe the fusion process that takes place in stars.

G2

PO 3. Analyze the evolution of various types of stars using the Hertzsprung-Russell (HR) diagram.

G2 G3

PO 4. Compare the evolution (life cycles) of stars of different masses (low and high mass).

G2 G3

PO 5. Explain the formation of the light elements in stars and the heavier elements (what astronomers call “metals”) in supernova explosions.

G2

PO 6. Explain the evolution and life cycles of galaxies.

H1 H2 H3 I3

Starry Night Lesson Plans

In order of relevance