

# Arizona

## Middle School

### Grade 5

#### STRAND SIX – EARTH AND SPACE SCIENCE

##### Concept 2: Earth's Processes and Systems

**Understand the processes acting on the Earth and their interaction with the Earth systems.**

PO 1. Describe how the Moon's appearance changes during a four-week lunar cycle.

A1-A3 C2 D3 F1-F3

A4

PO 2. Describe how Earth's rotation results in day and night at any particular location.

A1

PO 3. Distinguish between revolution and rotation.

A3 A1 A2

PO 4. Describe the role of gravity as an attractive force between celestial objects.

C2 F3 G3

##### Concept 3: Earth in the Solar System

**Understand the relationships of the Earth and other objects in the solar system.**

B1-B2 C2 D1-D3 F1-F3

PO 1. Identify the known planets of the solar system.

C1 C4

PO 2. Describe the distinguishing characteristics of the known planets in the solar system.

C1-C4

PO 3. Describe various objects in the sky (e.g., asteroids, comets, stars, meteors/shooting stars).

D1 D2 D3 G2 E1-E4

PO 4. Describe the change in position and motion of the following objects in the sky over time:

- real motion – Moon, planets

A3 A4 A5 C2 B1 F3

- apparent motion (due to the motion of the Earth) – Sun, Moon, stars

A1 A2 A4 E3 E2 E4

PO 5. Explain the apparent motion of the Sun and stars.

A1 A2 E3 E2 E4

PO 6. Describe efforts to explore space (e.g., Apollo missions, space shuttles, Hubble space telescope, space probes).

I1 I2

**Strand 2 - PO 3. Conduct simple investigations (e.g., related to forces and motion, Earth processes) based on student- developed questions in life, physical, and Earth and space sciences.**

All Starry Night Lesson Plans

## Starry Night Lesson Plans

*In order of relevance*

# Arizona

## Middle School (cont'd)

### Grade 7

#### STRAND SIX – EARTH AND SPACE SCIENCE

##### Concept 3: Earth in the Solar System

**Understand the relationships of the Earth and other objects in the solar system.**

PO 1. Explain the phases of the Moon in terms of the relative positions of the Earth, Sun, and Moon.

PO 2. Construct a model for the relative positions of the Earth, Sun, and Moon as they relate to corresponding eclipses.

PO 3. Explain the interrelationship between the Earth's tides and the Moon.

PO 4. Explain the seasons in the Northern and Southern Hemispheres in terms of the tilt of the Earth's axis relative to the Earth's revolution around the Sun.

PO 5. Identify the following major constellations visible (seasonally) from the Northern Hemisphere:

- Orion
- Ursa Major (Great Bear)
- Cygnus
- Scorpius
- Cassiopeia

PO 6. Explain the relationship among common objects in the solar system, galaxy, and the universe.

## Starry Night Lesson Plans

*In order of relevance*

B1-B2 C2 D1-D3 F1-F3

A4

A5

A3

A2

E1-E4

B1 B2 F1-F3 G1 G2 H1 H2 I2