EXPERIENCE ASTRONOMY

Scope & Sequence

Lesson 1: Course Introduction
Looks at the purpose of the course, a review of how the classes work each week, the difference between astronomy and astrology, reasons why we should study astronomy, and the reasons why God created the sun, moon, and stars.

Lesson 2: The Movement of the Sun
Investigates the movement of the sun through the sky, the ancient vs. modern understanding about why the sun moves, some basic observation terms for observing the sun, and sun worship in ancient Egypt.

Lesson 3: The Summer Constellations
Teaches students how to locate key summer constellations and explores the historical and mythological stories behind these star patterns.

Lesson 4: The Magnitude of Stars
Explores the celestial sphere, including the celestial poles, the celestial equator, and all the various modern constellation groupings.

Lesson 5: The Northern Constellations
Focuses on identifying major northern constellations—Ursa Major, Ursa Minor, and Cassiopeia—and discusses the stories and significance associated with them.

Lesson 6: The Planet Saturn
Examines Saturn's characteristics, structure, and rings, with a look at what space exploration has revealed about this gas giant.

Lesson 7: The Seasonal Skies (Part 1)
Explains Earth's orbit around the sun and how this affects seasonal changes and the visibility of stars and constellations.

Lesson 8: The Seasonal Skies (Part 2)
Continues the in-depth study of Earth's revolution and how it shapes our view of the sky throughout the year.

Lesson 9: The Fall Constellations
Teaches how to locate autumn constellations and explores the historical and mythological narratives behind them.

Lesson 10: The Zodiac (Part 1)
Introduces the 12 constellations of the Zodiac and discusses their significance in historical and astronomical contexts.

Lesson 11: The Zodiac (Part 2)
Continues the exploration of the Zodiac, focusing on constellations visible during late fall.

Lesson 12: The Planet Jupiter
Studies Jupiter's features and its many moons, highlighting discoveries made through modern space missions.

Lesson 13: Orion
Investigates one of the most identifiable constellations in the night sky: Orion.

Lesson 14: The Heliocentric Model
Examines the transition from the geocentric to heliocentric model of the solar system, highlighting the astronomers who challenged prevailing views.

Lesson 15: Review for the Midterm Exam
Reviews key concepts and content covered in the first half of the course to prepare students for the midterm exam.

Lesson 16: The Winter Constellations
Discusses at length the different constellations visible during the winter months, including some of the ancient stories behind these constellation patterns.

Lesson 17: Deeper Into Space (Part 1)
Begins a study of deep space, discussing the various objects scientists have found looking through telescopes at the edge of the solar system.

Lesson 18: Deeper Into Space (Part 2)
Continues exploring deep space phenomena, including different types of stars like main sequence stars, supergiants, white dwarfs, and black holes.

Lesson 19: The Planet Mars
Investigates the great red planet, Mars, and what modern exploration has taught us about.

Lesson 20: Dwarf Planets and Asteroids
Explores lesser-known solar system bodies such as dwarf planets (including Pluto), asteroids, and meteoroids.

Lesson 21: Rising Stars
Explains heliacal and acronical risings of stars and how ancient civilizations used these events for timekeeping and agriculture.

Lesson 22: The Southern Constellations
Looks at some of the constellations you can only see when you travel south of the equator.

Lesson 23: Axial Precession
Explores axial precession—the very slow rotation of the earth's axis—and some of the other northern constellations we can see.

Lesson 24: The Phases of the Moon
Explains why the moon goes through phases and describes each phase in detail.

Lesson 25: Exploration of the Moon
Examines mankind’s exploration of the moon, especially the Apollo missions and what they accomplished.

Lesson 26: The Biblical Calendar
Explores the Hebrew calendar, its lunar basis, and how moon phases relate to biblical festivals and timekeeping.

Lesson 27: The Modern Calendar
Discusses how the modern calendar was developed based on astronomical observations, including contributions from the Egyptians, Romans, and early Church leaders.

Lesson 28: The Spring Constellations
Highlights spring constellations and explores the cultural and mythological stories behind them.

Lesson 29: The Planets Venus and Mercury
Examines Venus and Mercury—the two planets closest to Earth and the Sun—and what modern science has revealed about them.

Lesson 30: Comets and Meteor Showers
Begins looking at special sky objects that can be seen periodically: comets and meteor showers.

Lesson 31: Lunar Eclipses
Explains what causes lunar eclipses and how to observe them.

Lesson 32: Solar Eclipses
Describes solar eclipses, how they occur, and their impact on ancient and modern observers.

Lesson 33: The Zodiac (Part 3)
Completes the study of the Zodiac with a look at the spring constellations and their stories.

Lesson 34: Review for the Final Exam (Part 1)
Looks back through the course to review what the Bible has to say about astronomy.

Lesson 35: Review for the Final Exam (Part 2)
Provides a comprehensive review of the course material in preparation for the final exam.