

U. S. Curriculum Correlations by State

Arkansas

Grades 9, 10, 11, 12

STRAND 1: Physical Systems

CONTENT STANDARD 1: Students will demonstrate an understanding of physical systems as a process of inquiry.

PS.1.1. Understand that science is a process based on the scientific method which leads to a deeper understanding of real world situations.

PS.1.2. Follow procedures for a scientific inquiry using step-by-step instructions, mathematical formulas, flow diagrams, and/or sketches.

PS.1.4 Evaluate the process that scientists use to construct and validate scientific theory, such as data collection, prediction, experimentation (controls and variables), bias elimination, and replication.

PS.1.5. Make objective observations and perform error analysis on collected data.

PS.1.6. Formulate valid conclusions.

PS.1.7. Communicate and defend in writing a scientific argument.

PS.1.8. Critique and interpret scientific data on charts and graphs.

PS.1.9 Recognize that theories are models and may be revised when new data is introduced.

CONTENT STANDARD 3: Students will demonstrate an understanding of the connections and applications of physical science.

PS.3.4. Understand that mathematics is the precise language of communication and problem solving in science (conversions logarithms, inverse square law, etc.). (Measure and calculate using SI units.)

PS.3.7. Understand broad themes of Project 2061. Such themes include systems, patterns of change, interactions, energy equilibrium, models, and scale (e.g., relative dimensions such as Solar System size).

Starry Night Lesson Plans

In order of relevance

All Starry Night lesson plans and computer exercises.

These objectives are embedded within Starry Night's hands-on activities, computer exercises, and SkyGuide tutorials.

B2 D1 D3 F1 G1 H1 H2 I2

All Starry Night lesson plans and computer exercises.

U. S. Curriculum Correlations by State

Arkansas Continued

STRAND 3: Earth/Space Systems

CONTENT STANDARD 1: Students will demonstrate an understanding of the inquiry process through the study of Earth and space systems.

ES.1.1. Understand that science is a process based on the scientific method which leads to a deeper understanding of real world situations.

ES.1.2. Follow procedures for a scientific inquiry using step-by-step instructions, mathematical formulas, flow diagrams, and/or sketches.

ES.1.4 Evaluate the process that scientists use to construct and validate scientific theory, such as data collection, prediction, experimentation (controls and variables), bias elimination, and replication.

ES.1.5. Make objective observations and perform error analysis on collected data.

ES.1.6. Formulate valid conclusions.

ES.1.7. Communicate and defend in writing a scientific argument.

ES.1.8. Critique and interpret scientific data on charts and graphs.

ES.1.9 Recognize that theories are models and may be revised when new data is introduced.

CONTENT STANDARD 2: Students will explore, demonstrate, communicate, apply and evaluate knowledge of the properties of Earth and space systems.

ES2.1. Evaluate the historical and multicultural contributions to the scientific body of knowledge in the Earth and space sciences. Topics may include expanding Universe, plate tectonics, composition of the Earth and stars, and geologic time; and works of Galileo, Copernicus, Kepler, and Wegener.

ES.2.2. Understand that the Sun is the source of energy for the Solar System.

ES.2.13. Compare Earth's Sun to other stars in size, mass, temperature, energy source, position on HR diagram, and stages in a star's existence.

ES.2.14. Locate common constellations.

ES.2.15 Describe the organization of the known Universe (Solar System, galaxy, cluster, supercluster).

ES.2.16. Analyze the impact of modern technology on the study of the Earth and Universe (telescopes, space probes, robotic arms, weather satellites, Doppler radar, sonar, seismographs).

Starry Night Lesson Plans

In order of relevance

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Included in the introduction and objectives of Starry Night lesson plans, computer exercises, and SkyGuide tutorials.

F1 F2 F3 C1

G2 G1

E1 E2 E3

B1 B2 C1 C3 G1 H1 H2

I1 I2

U. S. Curriculum Correlations by State

Arkansas Continued

CONTENT STANDARD 3: Students will demonstrate an understanding of the connections and applications of Earth/Space Systems.

ES.3.1. Analyze the role science plays in every day life and compare different careers in the Earth/Space sciences.

ES.3.4. Understand that mathematics is the precise language of communication and problem solving in science.

ES.3.5. Apply technology as an appropriate tool for solving problems (electronic balances, computers, digital cameras, pH meters, spectrophotometers, telescopes, and barometers, etc.).

ES3.7. Understand the broad themes of Project 2061. Such themes include systems, patterns of change, interactions, energy equilibrium, models, and scale (relative dimensions of the Solar System size).

Starry Night Lesson Plans
In order of relevance

Section 1 Page 9

B2 D1 D3 F1 G1 H1 H2 I2

All Starry Night computer exercises.

All Starry Night lesson plans and computer exercises.