

Rhode Island

High School

EARTH AND SPACE SCIENCE

Starry Night Lesson Plans

In order of relevance

ESS2 - The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.

All Starry Night lesson plans

ESS2 (Ext.) -X

Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon and the stars by...

E1-E4 I1-I3

Xaa explaining their role in navigation, beginning with ancient civilizations, advancing through 19th century mathematical celestial navigation, to current Global Positioning Systems.

E1-E4 I1-I3

ESS3 - The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time

C2 H1-H3 I1-I3 G1-G3 F1-F3

ESS3 (9-11) NOS-5

Explain how scientific theories about the structure of the universe have been advanced through the use of sophisticated technology (e.g., space probes; visual, radio and x-ray telescopes).

H1-H3 I1-I3 G1-G3 F1-F3

ESS3 (9-11)-5 Students demonstrate an understanding of the origins and evolution of galaxies and the universe by...

C2 H1-H3 I1-I3 G1-G3 F1-F3

5a using appropriate prompts (diagrams, charts, narratives, etc.) students will explain how scientific knowledge regarding the structure of the universe has changed over time due to advances in technology which accumulates new evidence to redefine scientific theories and ideas.

C2 H1-H3 I1-I3 G1-G3 F1-F3

Example Extension(s)

ESS3 (Ext.)-5 Students demonstrate an understanding of the origins and evolution of galaxies and the universe by...

F3 G1-G3 H2 H3 I3

5aa comparing the processes involved in the life cycle of stars (e.g. gravitational collapse, thermonuclear fusion, nova) and evaluate supporting evidence

F3 G1-G3

ESS3 (9-11) NOS-6 Provide scientific evidence that supports or refutes the "Big Bang" theory of how the universe was formed

H2 H3 I3

ESS3 (9-11)-6

Students demonstrate an understanding of the formation of the universe by...

H1-H3 I1-I3

6a using data (diagrams, charts, narratives, etc.) to explain how the "Big Bang" theory has developed over time citing evidence to support its occurrence (Doppler Effect/red shift).

H1-H3 I1-I3

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High School (cont'd)

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ESS3 (9-11) SAE -7

Based on the nature of electromagnetic waves, explain the movement and location of objects in the universe or their composition (e.g., red shift, blue shift, line spectra)

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H1-H3 I1-I3

ESS3 (9-11)-7

Students demonstrate an understanding of processes and change over time within the system of the universe (Scale, Distances, Star Formation, Theories, Instrumentation) by...

H1-H3 I1-I3

7a applying the properties of waves/particles to explain the movement, location, and composition of the stars and other bodies in the universe.

H2 H3 I3

ESS3 (9-11) POC+SAE – 8

Explain the relationships between or among the energy produced from nuclear reactions, the origin of elements, and the life cycle of stars.

G2

ESS3 (9-11)-8

Students demonstrate an understanding of the life cycle of stars by ...

G2 G3 F3

8a relating the process of star formation to the size of the star and including the interaction of the force of gravity, fusion, and energy release in the development of the star identifying and describing the characteristics common to most stars in the universe.

G2 G3 F3

8b Describing the ongoing processes involved in star formation, their life cycles and their destruction.

G2 G3 F3