

# Rhode Island

Middle School

## Starry Night Lesson Plans

*In order of relevance*

### EARTH AND SPACE SCIENCE

Grades 5-8

**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 (5-8) MAS –6

Compare and contrast planets based on data provided about size, composition, location, orbital movement, atmosphere, or surface features (includes moons).

C1-C4 B1-B2 I2

**ESS2 (5-6)-6 Students demonstrate an understanding of characteristics of the solar system by ...**

C1-C4 D1-D3 I1-I2 F1-F3

**6a** identifying and comparing the size, location, distances, and movement (e.g. orbit of planets, path of meteors) of the objects in our solar system.

C1-C4 D1-D3

**6b** comparing the composition, atmosphere, and surface features of objects in our solar system.

C1-C4 I2

**ESS2 (5-8) NOS –7** Explain how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system.

I1-I2 C1-C4 F2

**ESS2 (7-8) -7 Students demonstrate an understanding of how technological advances have allowed scientists to reevaluate or extend existing ideas about the solar system**

C1-C4 E1-E4 I1-I2 F2

**7a** identifying major discoveries from different scientists and cultures and describing how these discoveries have contributed to our understanding of the solar system (e.g. timeline, research project, picture book).

C1-C4 E1-E4 I1-I2 F2

#### ESS2 (5-8) SAE+ POC –8

**Explain temporal or positional relationships between or among the Earth, sun, and moon (e.g., night/day, seasons, year, tides) or how gravitational force affects objects in the solar system (e.g., moons, tides, orbits, satellites).**

A1-A5 C1-C4 D1-D3 I2

**ESS2 (5-6)-8 Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by ...**

A1-A5

**8a** using models to describe the relative motion/position of the Earth, sun and moon.

A1-A5

**8b** explaining night/day, seasons, year, and tides as a result of the regular and predictable motion of the Earth, sun, and moon.

A1-A5 E3 E4

**8c** using a model of the Earth, sun and moon to recreate the phases of the moon.

A4

**ESS2 (5-6) -8 Students demonstrate an understanding of gravitational relationships between or among objects of the solar system by ...**

C2 I2

**8d** defining the Earth's gravity as a force that pulls any object on or near the Earth toward its center without touching it.

C2 I2

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Middle School (cont'd)

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

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**ESS2 (5-8) SAE+ POC –8**

**ESS2 (7-8) -8 Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by ...**

A1-A5

**8a** using or creating a model of the Earth, sun and moon system to show rotation and

A1

A2

A3

**8b** explaining night/day, seasons, year, and tides as a result of the regular and predictable motion of the Earth, sun, and moon.

A1-A5

**8c** using a model of the Earth, sun and moon to recreate the phases of the moon.

A1-A5

**ESS2 (7-8) -8 Students demonstrate an understanding of gravitational relationships between or among objects of the solar system by...**

C2

F3

B1-B2

I2

**8d** describing the relationship between mass and the gravitational force between objects.

C2

**8e** describing the relationship between distance and the gravitational force between objects.

C2

F3

B1-B2

I2

**8f** explaining that the sun's gravitational pull holds the Earth and other planets in their orbits, just as the planet's gravitational pull keeps their moons in orbit.

C2

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

E1-E4

F1-F3

G1-G3

H1-H2

**ESS3 (5-6)–9 Students demonstrate an understanding of the structure of the universe by**

E1-E4

F1-F3

G1-G3

H1-H2

**9a** describing the apparent motion/position of the objects in the sky. (e.g. constellations,

E1-E4

**9b** identifying the sun as a medium-sized star located near the edge of a disk-shaped galaxy of stars.

F1-F3

G1-G3

H1-H2

**ESS3 (7-8)-9 Students demonstrate an understanding of the structure of the universe**

H1-H2

**9a** describing the universe as containing many billions of galaxies, and each galaxy contains many billions of stars.

H1-H2