

Grade 9 - Space Exploration - Pre-Assessment

Purpose:

This document is for grade 9 teachers to use as a pre-assessment for the “Space Exploration” unit. It assesses students understanding of the of the end of unit knowledge outcomes from the grade 6 “Space” unit.

Curriculum Comparison:

Grade 6 - Space	Grade 9 - Space Exploration
301-21 describe how astronauts are able to meet their basic needs in space	312-1 describe theories on the formation of the solar system
301-19 demonstrate how Earth’s rotation causes the day and night cycle and how Earth’s revolution causes the yearly cycle of seasons	312-2 describe and classify the major components of the universe
301-20 observe and explain how the relative position of Earth, the moon, and the sun are responsible for the moon phases, eclipses, and tides	312-3 describe theories on the origin and evolution of the universe
300-23 describe the physical characteristics of components of the solar system - specifically, the sun, planets, moons, comets, asteroids, and meteors	312-4 describe and explain the apparent motion of celestial bodies
302-13 identify constellations in the night sky	312-5 describe the composition and characteristics of the components of the solar system
	312-6 describe the effects of solar phenomena on Earth

Rubric Coding:

The purpose of an assessment is not to assign a “Mark” or a “Grade”. Rather, this document demonstrates to teacher the students previous understanding of the outcome. Each question assesses on specific knowledge outcome from the grade 6 unit that precedes the grade 9 “Space Exploration” unit.

Code 0 - Indicates that students do not understand the concept

Code 1 - Indicates that students understand the basic concept but either cannot elaborate in detail or have not considered more information could of been added

Code 2 - Indicates that students have a mastery of the concept.

*Please note that not all outcomes will allow for a Code 2 based on complexity.

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Grade 6 Space

Knowledge Outcomes and Curriculum Focus

301-21 describe how astronauts are able to meet their basic needs in space

- Focus - the challenges that astronauts face in zero gravity and confined to single vessel

301-19 demonstrate how Earth's rotation causes the day and night cycle and how Earth's revolution causes the yearly cycle of seasons

- Students need to be able to create a model of Earth's position in the solar system (Earth, moon, Sun)
- Students need to be able adjust the relative position of each component in various situations (day and night, year cycle)

301-20 observe and explain how the relative position of Earth, the moon, and the sun are responsible for the moon phases, eclipses, and tides

- Students need to be able to understand how the position of the moon relative to the earth creates tides.
- Students need to be able to predict the moon phase

300-23 describe the physical characteristics of components of the solar system - specifically, the sun, planets, moons, comets, asteroids, and meteors

- Students need to be able to explain the difference between the orbit of the planets and the orbit of a moon
- Students need to be able to explain the relative position of the Sun to the planets

302-13 identify constellations in the night sky

- Students should have an understanding that constellations have distinct connection to cultural history and their perception of the world at the time

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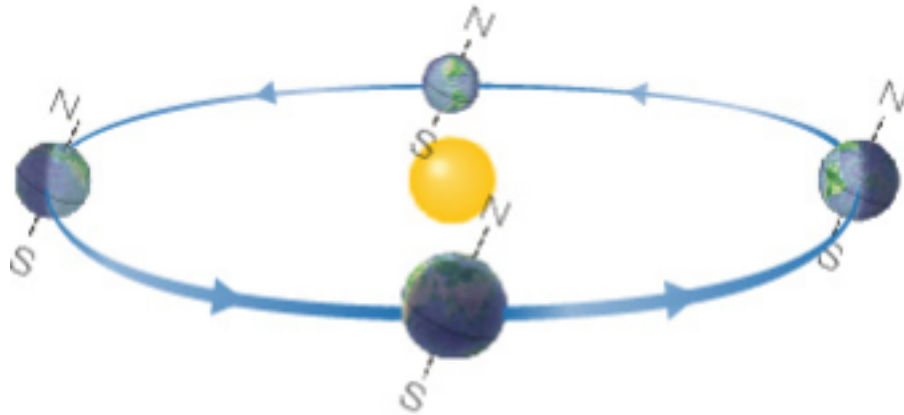
Name: _____

Teacher/Class: _____

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1. Draw a model of Earth's position in the solar system (Earth, moon, Sun, other planets in our Solar System)



2. Based on the model below of the Earth revolving around the Sun, identify the 4 seasons in the Northern Hemisphere.



3. The Earth rotates on its axis once every _____. While the Earth revolves around the Sun once every _____.

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4. Draw a position of the moon relative to the tide that has been created.



5. Complete the sequence of the phases of the moon below.



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Coding Rubric

1. Draw a model of Earth's position in the solar system (Earth, moon, Sun, other planets in our Solar System)

(301-19)

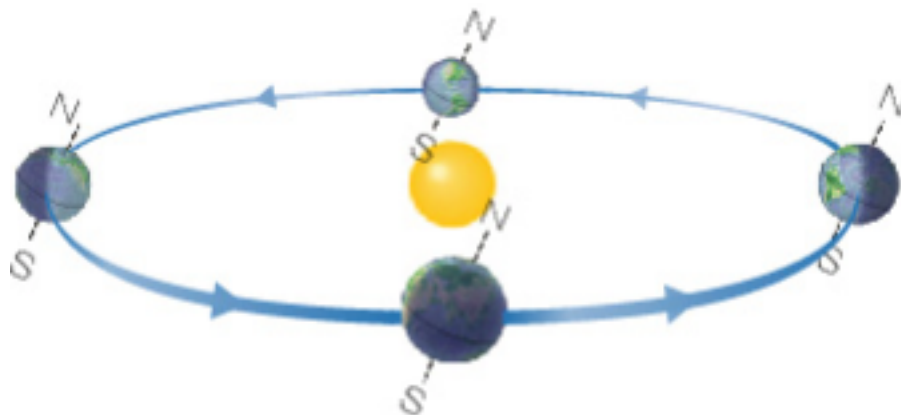
0 - Any other answer

1 - Correct placement and Scale size of Sun, Earth and moon

2 - Correct placement and Scale size of Sun, Earth and moon. As well as having all planets in the solar system in correct sequence (Sun, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune (Pluto is optional)).

2. Based on the model below of the Earth revolving around the Sun, identify the 4 seasons in the Northern Hemisphere.

(301-19)



0 - Any other answer

1 - Starting from the Left - Summer, Fall, Winter, Spring

3. The Earth rotates on its axis once every _____. While the Earth revolves around the Sun once every _____.

(301-19)

0 - Any other answer

1 - 24 hours, 365 days

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4. Draw a position of the moon relative to the tide that has been created. (301-20)

0 - Any other answer

1 - Having the moon drawn at either end of the "football" shape - in line with Sun and Earth

5. Complete the sequence of the phases of the moon below. (301-20)

0 - Any other answer

1 - Image should reflect Waxing Gibbous (name is not important)

