

2026 MCAS Sample Student Work and Scoring Guide

Grade 5 Science and Technology/Engineering

Question 11: Constructed-Response

Reporting Category: Earth and Space Science

Practice Category: Evidence, Reasoning, and Modeling

Standard: [5.ESS.1.2](#) Use a model to communicate Earth’s relationship to the Sun, Moon, and other stars that explain (a) why people on Earth experience day and night, (b) patterns in daily changes in length and direction of shadows over a day, and (c) changes in the apparent position of the Sun, Moon, and stars at different times during a day, over a month, and over a year.

Item Description: Describe how to fix the error in a model showing day and night on Earth and explain the cause of day and night.

This item can be found in the released item sets on the [MCAS Resource Center](#).

Scoring Guide

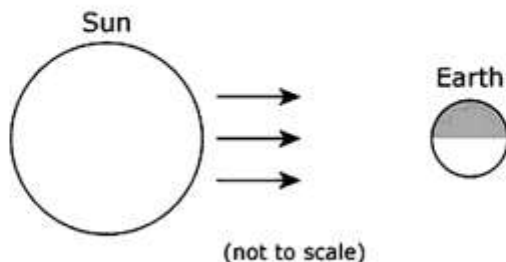
Select a score point in the table below to view the sample student response.

Score	Description
2	The response demonstrates a thorough understanding of Earth's relationship to the Sun and why people on Earth experience day and night. The response clearly describes how to correct the error in the model. The response also clearly explains what causes day and night to occur in a 24-hour period.
1	The response demonstrates a partial understanding of Earth's relationship to the Sun and why people on Earth experience day and night.
0	The response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.

Score Point 2

This question has two parts.

A model of the Sun shining on Earth is shown. The shading represents the part of Earth experiencing night. The model contains an error.

**Part A**

Describe how to fix the error in the model to correctly show day and night on Earth.

To fix the model all you have to do is show the light side of the "Earth" facing towards the sun while the dark side of the earth facing away from the sun.

Part B

Explain what causes day and night to occur in a 24-hour period on Earth.

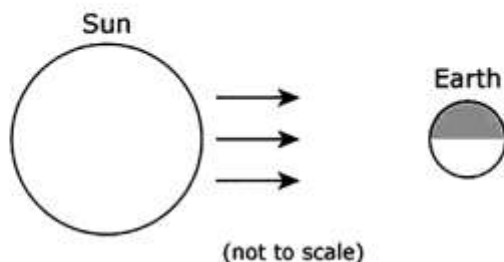
Day and night is the rotation of the Earth on it's axis. When one side of the earth is facing towards the sun, that called day. When the other side is facing away from the earth, that's called night. Day and night switches from one side to the other because of the Earth's rotation.

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Score Point 1

This question has two parts.

A model of the Sun shining on Earth is shown. The shading represents the part of Earth experiencing night. The model contains an error.

**Part A**

Describe how to fix the error in the model to correctly show day and night on Earth.

You have to rotate so the shading is facing right and the light is facing left.

Part B

Explain what causes day and night to occur in a 24-hour period on Earth.

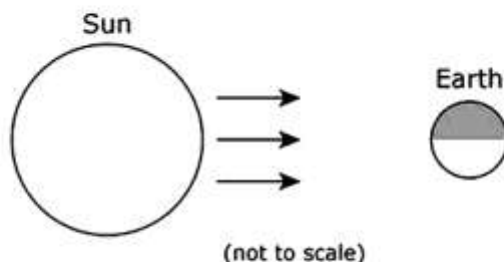
It is because the earth is tilted, and the seasons change.

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Score Point 0

This question has two parts.

A model of the Sun shining on Earth is shown. The shading represents the part of Earth experiencing night. The model contains an error.

**Part A**

Describe how to fix the error in the model to correctly show day and night on Earth.

An error on the earth that the shading part is the wrong way it has to go the other way because that is how the real model of the earth would look like

Part B

Explain what causes day and night to occur in a 24-hour period on Earth.

What causes a 24 hour period on earth is how long a day is and that is a 24 hour period on earth

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