

2026 MCAS Sample Student Work and Scoring Guide

Grade 5 Science and Technology/Engineering

Question 8: Constructed-Response

Reporting Category: Physical Science

Practice Category: Evidence, Reasoning, and Modeling

Standard: [4.PS.3.2](#) Make observations to show that energy can be transferred from place to place by sound, light, heat, and electric currents.

Item Description: Use information from a model to identify a type of energy in a system and describe two types of energy conversions in the system.

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.

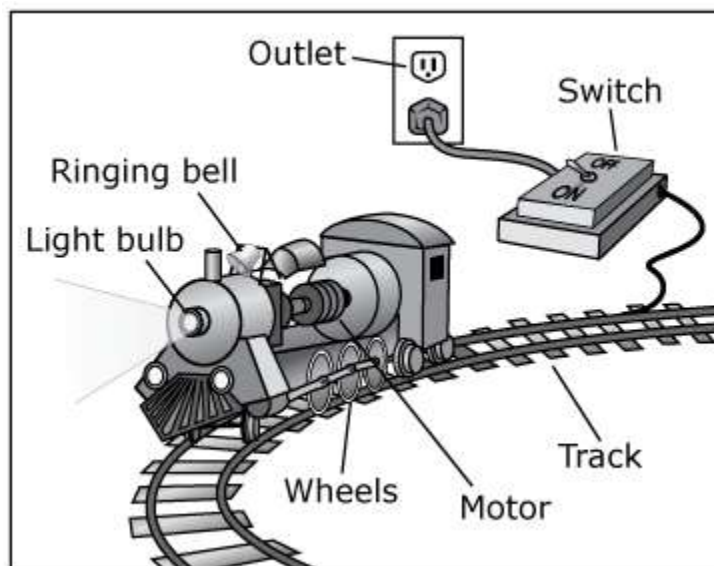
Score*	Description
3A 3B	The response demonstrates a thorough understanding of different forms of energy and how energy can be transferred and converted from one form to another. The response correctly identifies the type of energy that moves from the outlet to the switch. The response also clearly describes two examples of energy being converted from one form to another in the train set.
2	The response demonstrates a partial understanding of different forms of energy and how energy can be transferred and converted from one form to another.
1	The response demonstrates a minimal understanding of different forms of energy and how energy can be transferred and converted from one form to another.
0	The response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.

*Letters are used to distinguish between sample student responses that earned the same score (e.g., 3A and 3B).

Question Introduction

This question has three parts.

A toy train set is shown in the diagram. The train set plugs into an outlet. While the switch is on, the light bulb gives off light, the bell rings, and the train moves on the track. Energy is converted from one form into another when the train set is on.



Score Point 3A

Part A

Identify the type of energy that moves from the outlet to the switch.

The type of energy that moves from the outlet to the switch is electrical.

Part B

Describe **one** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

One example of energy conversion in the train set is from electric energy to kinetic energy. This conversion happens in the motor when using electricity from the outlet, the motor is activated, producing motion, or kinetic energy.

Part C

Describe **another** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

Another conversion of energy in the train set is electric energy to light energy. This conversion happens in the headlights of the train when using electricity from the outlet, the lightbulbs in the headlights are activated, producing light energy.

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Score Point 3B

Part A

Identify the type of energy that moves from the outlet to the switch.

Electrical energy is the thing that moves from the outlet to the switch.

Part B

Describe **one** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

One example of a type of energy converted into a different type of energy is when electrical energy is converted into sound energy when the bell rings.

Part C

Describe **another** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

Another example is when electrical energy is converted into light energy with the lightbulb.

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Score Point 2

Part A

Identify the type of energy that moves from the outlet to the switch.

The type of energy that moves from the outlet to the train is electric energy.

Part B

Describe **one** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

One example is the light bulb. The energy is first transported through the outlet which is electric energy, then turns the light bulb on and also turns into light energy.

Part C

Describe **another** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

Another example is the wheels. The first type of energy is electricity, and the second type is force.

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Score Point 1

Part A

Identify the type of energy that moves from the outlet to the switch.

The type of enegy is electricity.

Part B

Describe **one** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

The part were the wire is conacted to the motor.

Part C

Describe **another** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

another example is when the wire conects to the switch.

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Score Point 0

Part A

Identify the type of energy that moves from the outlet to the switch.

the weels move and the motor makes the toy train move.

Part B

Describe **one** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

the motor makes the weels move the motor help the weels move the train.

Part C

Describe **another** example of a type of energy being converted into a different type of energy in the train set. In your description, be sure to include

- the part of the train set where energy is being converted, and
- the **two** types of energy involved.

the bell is ring that is because of the weels wen the weels are moving that cosis moshin that moshin cosis the bell to ring

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