

2021 MCAS Sample Student Work and Scoring Guide

Grade 5 Science and Technology/Engineering Question 5: Constructed-Response

Reporting Category: Physical Science

Practice Category: Mathematics and Data

Standard: [5.PS.1.3](#) - Make observations and measurements of substances to describe characteristic properties of each, including color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility.

Item Description: Use data to determine which objects were made from the same substance based on their characteristic properties and explain the reasoning using evidence.

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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 characteristic properties of substances. The response correctly identifies two objects made of the same substance and clearly explains the reasoning using data from the table to support the answer.
1	The response demonstrates a partial understanding of characteristic properties of substances.
0	The response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.

Score Point 2

A scientist tested four objects: W, X, Y, and Z. Two of the objects were made of the same substance, and the other objects were made of different substances. The scientist collected the data in the table.

Object	Mass	Shape	Soluble in Water?	Conducts Electricity?
W	10 g	cube	yes	no
X	10 g	ball	yes	yes
Y	15 g	ball	yes	no
Z	15 g	cube	no	yes

Identify the two objects that were made of the same substance. Explain your reasoning **and** include data from the table to support your answer.

The two objects that are made out of the same substance are object w and y . I know this because the table says they both are soluble in water and they both do not conduct energy.

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Score Point 1

A scientist tested four objects: W, X, Y, and Z. Two of the objects were made of the same substance, and the other objects were made of different substances. The scientist collected the data in the table.

Object	Mass	Shape	Soluble in Water?	Conducts Electricity?
W	10 g	cube	yes	no
X	10 g	ball	yes	yes
Y	15 g	ball	yes	no
Z	15 g	cube	no	yes

Identify the two objects that were made of the same substance. Explain your reasoning **and** include data from the table to support your answer.

I think two objects that were made of the same substance is W and Y because they are very alike.

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Score Point 0

A scientist tested four objects: W, X, Y, and Z. Two of the objects were made of the same substance, and the other objects were made of different substances. The scientist collected the data in the table.

Object	Mass	Shape	Soluble in Water?	Conducts Electricity?
W	10 g	cube	yes	no
X	10 g	ball	yes	yes
Y	15 g	ball	yes	no
Z	15 g	cube	no	yes

Identify the two objects that were made of the same substance. Explain your reasoning **and** include data from the table to support your answer.

x and y because there both a ball and their both soluble in water.

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