

Missouri Science Scoring Rubric

Test: Physical Science

Item: 12

MLS Expectation: 9-12.PS1.B.3

Score	Description
1	<p>The response demonstrates a thorough understanding of constructing an explanation with evidence that atoms of oxygen and hydrogen on the reactant side are the same as on the product side.</p> <p><i>*The response is clear, complete, and correct.</i></p>

Exemplar Responses:

There are two hydrogen molecules and one oxygen molecule with a total of four hydrogen atoms and two oxygen atoms on the reactant side. There are two water molecules on the product side with a total of four hydrogen atoms and two oxygen atoms. The mass of hydrogen and oxygen used in the reaction has not changed after they reacted and combined to create water. This shows that mass is conserved in a chemical reaction and that no matter is created nor destroyed.

Test: Physical Science

Item: 25, Part B

MLS Expectation: 9-12.PS1.B.3

Score	Description
1	<p>The response demonstrates a thorough understanding that fission is the splitting or dividing of the nucleus.</p> <p><i>*The response is clear, complete, and correct.</i></p>

Exemplar Responses:

Part B (1 point)

A more massive element is broken apart into two less massive elements, thus splitting the nucleus of the initial massive element to create the two less massive elements.

OR

The nucleus of uranium splits to yield barium and krypton.