




# Claim-Evidence-Reasoning

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Scenario

Luke was making himself a cold drink with some water and lime drink mix. His mom was making a snack with cheese and tomatoes. His dad was taking an antacid by mixing it with water. Luke noticed how everyone in his family was mixing things and causing changes. He wondered if his family was actually creating anything new.

| Item 1   | Item 2   | Result  |
|--|--|---|
| <b>Effervescent antacid</b><br> | <b>Water</b><br>    |     |
| <b>Mozzarella cheese</b><br>  | <b>Tomato</b><br> |    |
| <b>Lime drink mix</b><br>     | <b>Water</b><br>  |  |



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## Prompt

Write a scientific explanation that describes which mixture caused a chemical reaction. State your evidence and reasoning to support your claim.

## Claim:

The first set of pictures shows a chemical reaction has occurred.

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## Evidence:

In the first row, the tablet (Item 1) had no bubbles and the water cup (Item 2) had no bubbles. When they were mixed, there were bubbles. In the second row, the cheese stayed the same and the tomato changed shape. In the third row, the lime drink mix dissolved in the water.

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## Reasoning:

The effervescent antacid and the water released gases when they were mixed together. The gas was a new substance that was created because it was not there before the items were mixed. The water was a liquid and the tablet was a solid. The new substance is a gas. This is evidence of a chemical reaction. In the second picture set, there is no new substance. The cheese slices stayed the same. The tomatoes changed shape, which is only a physical change. In the third picture set, the water changed color when the lime drink mix was added, but no new substance was formed, because the mix dissolving in the water is just a physical change.

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## Mixtures CER

### Rubric for Writing a Scientific Explanation

| Points Awarded   | 2   | 1  | 0   |
|------------------|---|--|---|
| <b>Claim</b>     | Student makes an accurate and complete claim.   | Student makes a claim that is inaccurate or incomplete.  | Student does not make a claim.  |
| <b>Evidence</b>  | Student provides two or more accurate pieces of evidence, uses labels, and addresses variables. | Student provides one to two accurate pieces of evidence.   | Student does not provide evidence or only provides inappropriate or vague evidence. |
| <b>Reasoning</b> | Evidence is connected to the claim and includes scientific principles and vocabulary.           | Student cites a reason, but it is inaccurate or does not support the claim. Student's reasoning does not use scientific terminology or uses it inaccurately. | Student does not connect the evidence to the claim.                                 |