



## Teacher's Answer Key

What's Happening? Challenge:

# Chemical Reactions

The porcelain dish contains sucrose, sodium bicarbonate, sand and isopropyl alcohol. The scientist ignites the isopropyl alcohol, it combusts and provides the energy needed to thermally decompose and combust the sucrose and thermally decompose the sodium bicarbonate. The snake is composed of carbon atoms that result from the decomposition of the sugar, the snake is propelled away from the dish, or grows, owing to the production of carbon dioxide gas.

### Question:

Is this a chemical change or a physical change - how do you know? How could you determine the mass of gas generated by the reaction?

### Answer:

This is an example of a chemical change because there is clear evidence that the composition(s) of the starting substances are changing. In order to determine the mass of gas lost during the reaction we could measure the mass of the reaction system prior to the reaction and then again after the reaction. The difference would be the mass of gas lost.

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