# **Case Details**

### **Case Title:**

The Ultimate Merger

#### **Author(s):**

Laurissa London, Clark Atlanta

Laurenee London, Clark Atlanta University

Malissa Summers, McNair Middle School

Deirdre Mitchell, McNair Middle School

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## **Grade Level(s):**

Middle School

#### **Subject(s):**

Physical Science

## **Summary:**

If it had a mind you can reason with it, if it had a face you can look it in the eye, if it had a body you can shoot it. Now man is no longer the Supreme Being on this planet. Terror has no shape! Can you and your friends figure out what it is?

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## **Learning Objectives:**

- 1. Describe the four states of matter
- 2. Recognize physical and chemical properties
- 3. Distinguish between changes in matter as physical or chemical development of a gas, formation of precipitate
- 4. Identify and demonstrate the law of conservation
- 5. Describe the difference between pure substances (compounds and mixtures).

#### **National/State Standards:**

Georgia Performance Standards

S8P1. Students will examine the scientific view of the nature of matter.

- b. Describe the difference between pure substances (elements and compounds) and mixtures.
- c. Describe the movement of particles in solids, liquids, gases, and plasmas states.
- d. Distinguish between physical and chemical properties of matter as physical (i.e., density, melting point, boiling point) or chemical (i.e., reactivity, combustibility).
- e. Distinguish between changes in matter as physical (i.e., physical change) or chemical (development of a gas, formation of precipitate, and change in color).

g. Identify and demonstrate the Law of Conservation of Matter