

Directed Reading Activity: George's Marvellous Medicine

Subject Area: Reading / Science
Concept / Skill: Safe / unsafe science

Grade Level: 4th
Target Audience: Regular Class
Time Frame: 60 minutes

Objective: Students will be able to discriminate between safe and unsafe practices.

Resources:

- Dahl, R. (1991). *George's Marvellous Medicine*. New York: Puffin Books.
- (2000). *The American Heritage Dictionary of the English Language, Fourth Edition*. New York: Houghton Mifflin Company.

A. Background: Begin by asking students if they have ever read anything by Roald Dahl (You may want to mention titles, such as *The BFG*, *Charlie and the Chocolate Factory*, *Matilda*, *James and the Giant Peach*). After a brief discussion of Dahl's writing style, give a brief background of his life (he wrote books for adults and for television before he wrote for children). Ask students how they think his ethnic background influences his writing. Use this discussion as a jumping point (all but 'aerosol' are Northern European in origin) for vocabulary introduction and discussion.

B. Vocabulary:

- aerosol - A substance, such as paint, detergent, or insecticide, packaged under pressure with a gaseous propellant for release as a spray of fine particles.
- currant cake - A sweet baked food made [principally] of flour, liquid, eggs, and [a fruit like small raisins]...
- horseradish - A sharp condiment made from the grated roots of a coarse Eurasian plant (*Armoracia rusticana*) in the mustard family, having a thick, whitish, pungent root, large basal leaves, and white flowers...
- marmalade - A clear, jellylike preserve made from the pulp and rind of fruits, especially citrus fruits.
- paraffin - A waxy white or colourless solid hydrocarbon mixture used to make candles, wax paper, lubricants, and sealing materials.
- thrush - Any of numerous migratory songbirds of the family *Turdidae*, usually having brownish upper plumage and a spotted breast and noted for a clear melodious song.

C. Purpose: Consider the products and consequences of mixing unknown chemicals or performing experiments without knowing what might happen.

D. Selected Reading:

1. Pages 1-9

Before reading: Establish characters. Watch for names, personalities, and relationships with one another.

After reading: Who has been presented in the story? What are they like? Would you take grandma's advice?

2. Pages 10-26

Before reading: Describe chemical reactions. Look for descriptive words the author uses when ingredients are added.

After reading: What happens when everything is mixed (bubble/fizz/smoke/etc)? How can the different types of materials be described (solid/liquid/powder/aerosol)? What do you think will happen?

3. Pages 27-47

Before reading: Determine the results of George's experiments. Watch for what happens when George tries his experimental new medicine.

After reading: What happened to grandma? What happened to the hen? Did they react differently? How does the fire fit into the reactions? What do you think will happen next?

4. Pages 48-67

Before reading: Watch parental reactions. When George's parents arrive, they have differing reactions – pay close attention to how each parent reacts.

After reading: Did George's parents react as expected? Do you think they will be successful in their quest?

5. Pages 68-89

Before reading: Monitor consequences. While reading, make a list of what happens when the different variations of the medicine are used.

After reading: What happened to the animals each time the formula was modified? Did grandma deserve what happened to her? Did the story end happily?

E. Discussion: What would happen in real life if George's experiment was repeated? What are some alternate consequences to giving grandma this medicine? Who should you talk to before mixing anything if you don't know what to expect?

IL.13.A.1a - Use basic safety practices.

F. Skill Practice: Predict what will happen when various materials are mixed. Include mostly harmless combinations, as well as a few that students should know to avoid.

IL.13.A.1a - Use basic safety practices.

G. Progressions:

- Perform some chemistry experiments in the classroom and discuss why they should not be performed at home.

IL.13.A.1a - Use basic safety practices.

- Write an alternate ending to the book.

IL.3.C.2a - Write for a variety of purposes and for specified audiences...

- Look in a records book at the largest animals/etcetera in history.

IL.12.A.1b - Categorize living organisms using a variety of observable features.