	STEM Committee **Michigan Crossroads Council**	**Name:**	
	Supernova Activity Topic: Science **Household Chemistry: Diet Coke and Mentos Explosions**	**Troop:**	**Date:**

Supernova Activity Topic: Science

This activity can be done individually or in a group, but it is much more fun as a group. For this experiment, you will investigate how and why dropping a Mentos candy into a two-liter bottle of Diet Coke creates a massive explosion.

Part 1: Research and Experiment Design

Research this Diet Coke and Mentos phenomenon by doing the following:

1. Find out what others have discovered about how and why this experiment works. Note who discovered what about the experiment. Keep track of your references and resources.

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2. Formulate a hypothesis that you would like to test.

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3. Design an experiment to test your hypothesis. Be sure to get approval from your mentor prior to conducting your experiment. Make sure your plans for the experiment include an outside location, a list of supplies needed (which should be inexpensive, readily available, and safe), adequate safety protocols and equipment (safety goggles, etc.), plans for accurate and precise measurements, a list of stepby-step procedures, number of trials, and plans for recording and analysis of data.

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Part 2: Experiment and Report

Conduct your experiment. You might want to videotape your experimental trials and include some video clips in your final report.

1. Discuss the following with your mentor:

   A. What happened during the experiment.

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   B. How the evidence supported or contradicted your hypothesis.

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   C. Whether the experiment raised any new questions for you.

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   D. Whether something unexpected happened during the experiment. Tell how what happened might suggest about a future experiment on this same phenomenon.

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2. Create a report that describes your hypothesis, experiment, and conclusions. (For guidance, see "Report Format Options" earlier in this section.)

Supernova Mentor: _____Date: _____

Resources

Theodore Gray. *Theo Gray's Mad Science: Experiments You Can Do at Home- But Probably Shouldn't.* Black Dog & Leventhal Publishers, 2011.

Robert Bruce Thompson. *Illustrated Guide to Home Chemistry Experiments: All Lab, No Lecture.* O'Reilly Media, 2008.

Using your favorite search engine online (with your parent's or guardian's permission), enter search terms EepyBird, Mythbusters, and "Diet Coke and Mentos."