# Organic Chemistry Related Articles

Name _____ Date _____ Mod_____

## Article 1: Chocolate: The New Health Food. Or is it?

1. At what temperature does chocolate melt?
2. Why is the above temperature a key to chocolates properties?
3. Approximately how may chemicals make up chocolate?
4. Name two of the well known chemicals in chocolate.
5. How do the formulas of the two chemicals in question 4 differ?
6. List the names of two chemicals produced by the brain which are also found in chocolate.
7. What are the physiological effects of the two chemicals in question 6?
8. What are "antioxidants" and how do they protect the body?
9. If chocolate can be shown to be one of the healthiest foods available, why is it often classified as a "junk" food?
10. Cocoa is rich in chemicals called flavanols. What are some of the health benefits of flavanols?
11. It is a popular belief that chocolate causes acne and other skin problems that afflict teenagers. According to the article, is this true? Explain.
12. Briefly describe the steps in chocolate production.
13. What is the chemical composition of cocoa butter?
14. What are scientists doing to find ways to make cocoa trees more resistant to pests and disease and provide healthier, more nutritious, and better tasting chocolate?

## Article 2: Coffee: Brain Booster to Go

1. What is the chemical name for caffeine?
2. What is the chemical formula for caffeine?
3. What characteristic do all the plants that are known to contain caffeine have in common?
4. How does caffeine work in the brain to keep you awake?
5. Is coffee a simple molecule? Explain.
6. What happens to coffee beans as they are roasted?
7. What happens in the Maillard reaction?
8. Can scientists identify all the chemicals responsible for the aroma and flavor of coffee?
9. What is the role of the antioxidants found in coffee?
10. What are nutraceuticals?
11. What are the beneficial effects of drinking a cup of coffee?
12. What are the potentially harmful effects of drinking too much coffee?
13. What's with the dancing goats?

## Article 3: The Forensics of Blood

1. What are two examples of tests that can be done to detect blood at a crime scene?
2. How can an investigator distinguish between human and non-human blood?
3. What makes the difference between blood samples of type A, type B, AB or O?
4. What test is used to identify blood types? What principle is utilized to make the test?
5. Why is blood so sticky?
6. What is the difference between plasma and whole blood?
7. What is the difference (in terms of function) between a red blood cell and a white blood cell?
8. Is a platelet a cell like red and white blood cells? What is the function of platelets?

## Article 4: Green Gasoline: Fuel from Plants

1. What are three advantages to using green gasoline?
2. Why is green gasoline preferred over other biofuels, such as ethanol?
3. Why has gasoline been the transportation fuel of choice for the past century?
4. What is a hydrocarbon?
5. What gases are heated in the internal combustion engine?
6. Why does green gasoline help reduce the problem of global climate change?
7. Why can't wood be used to fuel cars?
8. Why are carbohydrates poorer fuels than their corresponding hydrocarbons?
9. What is meant by the term, plant "leftovers"? What are some examples?
10. What is the role of a zeolite catalyst?
11. What logistical problems face the production and use of green gasoline?