



## CULINARY CHEMISTRY

Tuesday, Jan 27-April 28 (no class Feb 17, April 7; 12 weeks)

9:30am-11:00am

Ages 11-14

**Step into the Food Science Lab and discover how chemistry, biology and real culinary skills shape what we eat. Throughout the semester, students test pH using butterfly pea flower, make boba through a chemical reaction, engineer homemade ice cream and even regrow fruits and vegetables to understand plant propagation. With hands-on experiments, kitchen tool training, safety practice, and edible results, students learn how food transforms on a molecular level, turning everyday ingredients into science you can taste.** Please be mindful of your student's dairy, soy, gluten, etc. allergies or constraints as we will be handling and cooking food. All lab costs are included in registration fee.

Instructor: Jessica Barnes, BSc

Location: STEM Lab (suite 21)

Course fee: \$275 OR \$25/lab

10% sibling discount

Register for full semester or individual labs.

### LAB SCHEDULE:

#### **KITCHEN SAFETY - Tuesday, January 27**

Students learn about everyday safety measures in order to stay safe in the kitchen as they learn about the chemical components of extinguishing a fire and handling kitchen tools.

#### **NUTRITION - Tuesday, February 3**

Students explore how the body processes food and the role of various essential vitamins and nutrients.

#### **CITRIC ACID - Tuesday, February 10**

We investigate the properties of sour foods and treats as we look at the chemical structure and uses of citric acid.

#### **SALTS & SUGARS - Tuesday, February 24**

Kids learn about the molecular structure of salts and sugars and how they chemically change the properties of food as they make rock candy and see how to preserve food by using salt.

#### **BUTTERFLY PEA FLOWER - Tuesday, March 3**



Students learn about the pH levels of various foods and how this powder indicator can be used to make color changing teas and drinks.

### **BOBA** - Tuesday, March 10

Students strengthen their chemistry skills by assembling boba bubbles in a chemical reaction.

### **PROPAGATING FRUITS & VEGGIES** - Tuesday, March 17

Students learn about growing and repurposing vegetables as they work to regrow their own food.

### **ICE CREAM** - Tuesday, March 24

This week, we learn about state change as we go from liquid to solid in order to make ice cream.

### **MOLECULAR GASTRONOMY** - Tuesday, March 31

Today, we discuss this branch of food science as we transform food ingredients in unconventional ways by focusing on the physical and chemical processes that arise when cooking.

### **SMOOTHIES** - Tuesday, April 14

Students learn about the basics of meal prep and how to safely use kitchen tools as we work on prepping fruits and veggies. *Food Handling Info: almond milk, spinach, strawberries, banana, and oats*

### **BAKING** - Tuesday, April 21

Students learn about measurements and conversions as we work on our baking techniques as we prepare a quick recipe manipulating chocolate. *Food Handling Info: flour and chocolate*

### **MEAT PREP** - Tuesday, April 28

Today, we discuss the proper way to handle raw proteins safely as we go over disinfecting, temperature, and a quick recipe to try at home. *Food Handling Info: chicken, soy, onions, bell peppers, and zucchini*