

The Edible World CTY Course Syllabus

Day	Lesson Objectives	How and When
Day 1 Monday	<ol style="list-style-type: none"> 1. Greeting and Introductions 2. Review of CTY Honor Code/ Science Rules 3. Ice Breaker Activity 4. Pre-assessment 5. Nutrients and Nutrition 6. Learning to Keep a Science Notebook and Daily food Log 7. Testing foods for the nutrient starch 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Pass out and read over Edible World Newsletter with class. 2. Choose class monitors. 3. Do “Like Me” Ice Breaker activity. 4. Give Pre-assessment tool. 5. Show students examples of good lab book entries and not so good. 6. Review expectations for evaluation. 7. Define Nutrition and Nutrients. 8. Read Chapters 1-3 in <u>Food Rules</u>. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Do first lab – Testing liquids for starch content. 2. Have students begin to keep a daily food log of what they have eaten for that day.
Day 2 Tuesday	<ol style="list-style-type: none"> 1. Continue testing foods for starch content. 2. Introduce food pyramid and recommended serving amounts for each food group. 3. Define what an extra food is. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Pass out Dairy Council Booklets to class. Read and discuss food pyramid and what constitutes a serving from each group. 2. Have students do a sample daily food log to figure out serving amounts and decide whether minimum daily requirements were met for each food group. 3. Have students figure out serving amounts for what they ate the previous day from their food logs. 4. Do 2nd lab testing foods for starch. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Review results for starch test. 2. Classifying carbohydrates. Introduce sugar as one kind of carbohydrate. Students to learn about molecular structure of both starches and sugars and how body uses one particular kind of sugar (glucose). 3. Classify different kinds of sugars. 4. Test liquids for glucose.

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Day 3 Wednesday	<ol style="list-style-type: none"> 1. Testing foods for glucose. 2. Research on diabetes. 3. Learning about fats. 4. Classifying fats. 5. Testing foods for fat content. 6. Students practice with food groups and serving amounts. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Students to do “Sponge Bob’s” daily food log and determine whether he got a balanced diet. 2. Review results for glucose test of liquids. 3. Glucose lab – testing foods for glucose. Review results. 4. Assign Homework experiment to test different fruits for glucose content. 5. Student research in the library for diabetes. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Review diabetes research. 2. Word association game-fat. 3. Read about fats in <u>Food Rules Book</u>, and classify. 4. Testing liquids for fat content.
Day 4 Thursday	<ol style="list-style-type: none"> 1. Learning more about fats. 2. Learning about proteins. 3. Testing foods for protein content. 4. Student practice with food groups and serving amounts. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Students to do “Harry Potter” daily food log and determine whether he got a balanced diet. 2. Testing foods for fat lab. Review results. 3. Learning about how fat is used by your body. Students to conduct an experiment to see how fat protects or insulates body parts from cold or frigid conditions. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Reading about proteins – <u>Food Rules Book</u> and how the body uses proteins. 2. Testing liquids for protein lab.
Day 5 Friday	<ol style="list-style-type: none"> 1. Students to review their food journal for week #1 and analyze their diet. 2. Students to write a plan for improved diet choices for week #2. 3. Testing foods for protein lab. 4. Making Ice Cream Lab. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Students to do “Spiderman’s” daily food log and determine whether he got a balanced diet. 2. Students will analyze past four days of food log and determine whether they met the requirements for a balanced diet. 3. Students will use the results from #2 to come up with a list of goals for their diet in the coming week. 4. Testing foods for protein lab. Review results. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Making home made ice cream using a set formula.

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Day 6 Monday	<ol style="list-style-type: none"> 1. Learning about calories. 2. Food Log #2. Students will learn how to determine caloric value for foods eaten during the week. 3. Food and Culture. How culture determines what you eat. 4. Insects – the best source of protein. 5. What are vitamins? 6. What are organic foods? 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Students to read Edible World Newsletter for Week #2. 2. Students to do “Will Smith’s” daily food log and determine whether he got a balanced diet. 3. Students to read about what a calorie is and what the recommended minimum per day caloric intake for their age is in <u>Food Rules Book</u>. 4. Teacher to show students how to access the Internet and use “CaloriesPerHour.Com” to determine caloric value for what they ate for breakfast that morning. They will continue during the week at home to list foods eaten and count calories. 5. Students to begin reading the book, <u>It’s Disgusting and We Ate It</u>. 6. Students to sample different edible insects (optional tasting). <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Students to learn about the role of vitamins in our diet. <u>Food Rules</u> – Page 25-29. 2. Lab Activity – Testing different juices and drinks for Vitamin C content. 3. Assign for homework research – Organic Foods in preparation for Thursday’s trip to Whole Foods Market.
Day 7 Tuesday	<ol style="list-style-type: none"> 1. Student Assessment – Testing a marshmallow for the presence of different nutrients. 2. Learning about minerals. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Each student will test a marshmallow for the presence of starches, glucose, fat, and protein making use of what they learned and will try to figure out which of the 4 nutrients the marshmallow has. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Continue marshmallow evaluation as needed. 2. Read and learn about minerals in <u>Food Rules</u> – pages 30-32. 3. Divide class into teams to play the “Calcium Game”. 4. Watch Bill Nye video on Nutrition.

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Day 8 Wednesday	<ol style="list-style-type: none"> 1. Learning how to read and analyze food labels. 2. Research on vitamin and mineral deficiency diseases. 3. Begin experiment involving calcium from an egg. 4. Review results of Homework experiment on testing fruits for glucose content. 5. Students teams to experiment & come up with a modified recipe or the “perfect ice cream”. 6. Students to learn about the history of chocolate and will make their own chocolate. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Read and discuss Chapter 6 in <u>Food Rules</u> on understanding food labels. 2. Students to work in pairs with 4 snack bars to try and determine which snack bar is the most nutritious by reading the labels of each. 3. Students to do research on diseases caused by vitamin or mineral deficiency. Diseases include osteoporosis, rickets, scurvy, etc. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Class will divide into two groups. One group will write a recipe and create their own brand of ice cream and the other group will read about the history of chocolate with the P.A. in their book, <u>The official M&Ms History of Chocolate</u> and will make chocolate. Both groups will flip flop activities.
Day 9 Thursday	<ol style="list-style-type: none"> 1. Students to learn the difference between a physical and chemical change of a substance. 2. Students will learn about How Advertisers try to buy certain kinds of foods. 3. Student ice cream teams will use what they have learned to name their ice cream and create an advertisement poster, etc. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Students will experiment with Silly Putty and list its special properties. 2. Students will learn what constitutes a physical change of matter based on what they did with Silly Putty. 3. Students will observe and record what happens when sulfuric acid is added to sugar as an example of a chemical change in matter and learn that making ice cream is a physical change where as digestion is a chemical change. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Students will read about the Advertising and Selling of food in <u>Food Rules</u> and view prerecorded food commercials for kids and analyze sales techniques. 2. Student teams will create a poster advertising their ice cream based on what they learned.
Day 10 Friday	<ol style="list-style-type: none"> 1. Students to learn the difference between a physical and chemical change of a substance. 2. Students will learn about How Advertisers try to target them to buy certain kinds of foods. 3. Student ice cream teams will use what they have learned to name their ice cream and create an advertisement poster, etc. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Students will experiment with Silly Putty and list its special properties. 2. Students will learn what constitutes a physical change of matter based on what they did with Silly Putty. 3. Students will observe and record what happens when sulfuric acid is added to sugar as an example of a chemical change in matter and learn that making ice cream is a physical change where as digestion is a chemical change. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Students will read about the Advertising and Selling of food in <u>Food Rules</u> and view prerecorded food commercials for kids and analyze sales techniques. 2. Student teams will create a poster advertising their ice cream based on what they learned.

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Day 11 Monday	<ol style="list-style-type: none"> 1. Student teams will make their ice cream flavors and take samples to various CTY classes. Each class will complete a survey of how they liked or did not like the ice cream. 2. Class will learn about acids, bases, and neutrals and how they relate to what we eat and digestion. 3. Students will test various solutions using an indicator to determine whether the chemical is an acid or base. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Ice Cream Making and class surveys. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Students will review from previous labs what a chemical indicator is and does. 2. Students will learn that some plants like cabbage are natural indicators. 3. Students will boil cabbage leaves to make an indicator solution. 4. Students will use indicator solution to determine whether various juices and chemicals are either acids or bases by observing the color change of the cabbage juice. Students will also make predictions as to whether a chemical is an acid or base by looking for similarities in the data they collected. 5. Students will read about the role of acids and bases in digestion.
Day 12 Tuesday	Field Trip to Maryland Science Center and Whole Foods Market	All Day
Day 13 Wednesday	<ol style="list-style-type: none"> 1. Students will make chocolate and butter. Class will be divided into two groups. Both groups will do each activity, but at a different time. 2. Students will investigate acids/bases and neutrals using red cabbage juice. 3. Class will learn about acids, bases and neutrals and how they relate to what we eat and digestion. 4. Students will test various solutions using an indicator to determine whether the chemical is an acid or a base. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Chocolate/Butter making labs. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Continue chocolate and butter making labs. 2. Students will test an acid (lemon juice) and an alkaline (baking soda) and note color changes on the litmus paper. 3. Students will learn that changes in pH affect plants and animals by doing a homework experiment whereby they cook broccoli in a neutral solution, (control) acidic, and alkaline solution and will describe the effect on the broccoli.

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Day 14 Thursday	<ol style="list-style-type: none"> 1. Students will investigate how the pH of their mouth changes by eating different food and then using litmus paper to put in their mouth and compare to a pH chart. 2. Soda Lab - Students will have observed that when some acids and bases are combined carbonation occurs as there is fizzing and bubbling. Students will use this knowledge to create edible soft drink carbonated beverages. 3. Investigation of polymers by making polymer pudding. 4. Students will delve further into the role of digestion by investigating the role that different organs play in the digestive process. 5. Students will practice their oral presentations for their fruit or vegetable culmination. 	<p>Morning:</p> <ol style="list-style-type: none"> 1. Jamming Jelly and Polymer pudding. The class will be divided in half. One group will make polymer pudding with the Program Assistant and the other half will make an edible jelly like polymer. <p>Afternoon:</p> <ol style="list-style-type: none"> 1. Students will view a science digestion video by Bill Nye. 2. Students will learn the sequence of digestion and the role of each organ by making a model of the digestive system. 3. Oral Culmination Practice.
Day 15 Friday	<ol style="list-style-type: none"> 1. Students will do culmination presentations for parents based on their research project of fruits and vegetables. 	<p>Morning</p> <p>Afternoon (12:30 – 1:00)</p> <p>Culminating activities for The Edible World.</p>