Name: _____ Date: _____ Period: _____

Murder and a Meal Wk #: _____

A murder has occurred right here at Kenwood Academy High School! As a biology student, you have been asked to assist in the investigation. In order t identify a suspect, the police must establish the whereabouts of the victim on the day of his death. This will allow detectives to question the individuals with whom the victim came into contact with. An autopsy was performed on the victim's body, and it revealed that the victim ate a large meal just prior to the time of death. After questioning the victim's friends, detectives working the case have learned that the victim had three favorite restaurants.

Table 1. The victim's favorite restaurants and meals

Restaurant	Name of Entree	Description
Lou Malnati's Pizza	Meat Lovers Deep Dish	Deep dish pizza with sausage, pepperoni, bacon, ground beef, and mozzarella cheese
Buffalo Wild Wings	Wings with Vegetables	Chicken wings, celery, and creamy blue cheese dressing
Cheesecake Factory	Fettuccini Alfredo	A rich cheese cream sauce with pasta

Directions: Use the food reference guide to determine which macromolecules are present in each meal.

Table 2. Identification of macromolecules found in the victim's favorite meals

Meal	Macromolecules Present
Lou Malnati's Meat Lovers Deep Dish	Pizza Dough-
	Meat-
	Cheese-
	Pizza Sauce-
Buffalo Wild Wings Chicken Wing with Vegetables	Chicken Wings-
	Celery-
	Creamy Blue Cheese Dressing-
Cheesecake Factory's Fettuccini Alfredo	Cheese Cream Sauce-
	Pasta-

Name: _____ Date: _____ Period: _____

In order to determine which macromolecules are present in foods, tests with indicator solutions are used. An indicator solution simply provides a pathologist with a positive or negative result. Table 3. details how the scientist tests for macromolecules during autopsies.

Table 3. Positive and negative results for the presence of organic macromolecules

Macromolecule	**Chemical Test**	**Positive Test Result**	**Negative Test Result**
Lipids	Paper Bag Smear	Translucent or grease spots	No translucent or grease spot
Proteins	Biuret	Purple	Blue
Simple Carbs (Sugars)	Benedict's	Orange	Blue
Complex Carbs (Starches)	Iodine	Dark Purple/Black	Amber

The scientist has removed the contents of the victim's stomach and conducted the indicator tests. Table 4. provides with results that need to be analyzed in order to determine where the victim had his last meal.

Table 4. The results of the stomach content testing

Macromolecule	**Test Result**	**Positive or Negative?**
Lipids	Grease Spots on Paper Bag	
Proteins	Blue	
Simple Carbs (Sugars)	Blue	
Complex Carbs (Starches)	Black	

1. (IOD 301) Which macromolecules were found in the victim's stomach? _____
2. (IOD 501) According to Table 2. and Table 4., which restaurant did the victim frequent before his murder? Explain your answer.

   _____

   _____

On a separate piece of paper, copy the table below. In the first column labeled "Meal" identify the food items in your ideal dinner. (Do not complete the remainder of the table yet!)

Name: _____ Date: _____ Period: _____

Ideal Dinner	Macromolecules	How is this meal benefitting you?