

Name:

Food Science, 15 points possible

## Introduction to Gums & Use as Additives

### Part 1: Introduction to Gums & Pectins

Use the [Gums & Pectins: Part 1- Gums presentation](#) and your textbook complete the following:

#### Carbohydrate Gums and Pectins

- Used as \_\_\_\_\_ agents, \_\_\_\_\_ & \_\_\_\_\_
- Both \_\_\_\_\_
- **Gums**
  - \_\_\_\_\_ in water and extracted from \_\_\_\_\_
- **Pectins**
  - Found in \_\_\_\_\_ cells and made of \_\_\_\_\_ derivatives of \_\_\_\_\_ called \_\_\_\_\_

#### Gums

- Soluble in \_\_\_\_\_
- Extracted from \_\_\_\_\_

#### Gums in Food Production

- \_\_\_\_\_ mixtures
- Trap \_\_\_\_\_
- Trap \_\_\_\_\_
- Maintain \_\_\_\_\_ texture of products like \_\_\_\_\_

### Part 2: Gums Used as Food Additives

Research the following gums used as food additives. Be sure to include a minimum of TWO traits and TWO functions of each. See example for alginates (must still include 1 and 1 additional function)s.

Gum	Source it comes from	Traits	Functions
<b>Alginates</b>	Brown algae derived from alginic acid	1. Odorless  2.	1. Gives texture to baked goods  2.
<b>Guar gum</b>		1.  2.	1.  2.

<b>Gum agar</b> (also known as agar agar)		1.	1.
		2.	2.
<b>Gum arabic</b>		1.	1.
		2.	2.
<b>Locust bean or carob bean gum</b>		1.	1.
		2.	2.
<b>Xanthan gum</b>		1.	1.
		2.	2.

Using food labels found at home or within our school cabinets, find 2 products that include a gum in its ingredients. Write down the type of gum, product it is contained in, and what you hypothesize is its purpose based on the information from the chart above.

<b>Gum</b>	<b>Food Item</b>	<b>Purpose</b>
1.		
2.		

### Part 3: **Spherification**

Watch one or both of the [How to Package Liquids | WIRED](#) and [Intro to Spherification](#) videos.

**Summarize what you learned from the video(s) in 2-3 complete sentences.**

Using the [Mountain Dew/Juice Spherification lab](#) as your basis, think of a liquid or sauce you would like to possibly turn into spheres and answer the following:

1. What liquid (school appropriate) would you like to try with this experiment?
2. How would you use your spheres? Example: Garnish, topping for ice cream/frozen yogurt, topping for salad, topping for a main entree, etc.