

Ice, Cream... and Chemistry

Anticipation Guides

Anticipation guides help engage students by activating prior knowledge and stimulating student interest before reading. If class time permits, discuss students' responses to each statement before reading each article. As they read, students should look for evidence supporting or refuting their initial responses.

Directions: *Before reading*, in the first column, write "A" or "D" indicating your agreement or disagreement with each statement. As you read, compare your opinions with information from the article. In the space under each statement, cite information from the article that supports or refutes your original ideas.

Me	Text	Statement
		1. Residents of the United States eat about 30 liters of ice cream per person annually.
		2. More expensive ice cream brands have more air than less expensive brands.
		3. All ice cream is less dense than water.
		4. The temperature of food and drinks affects the amount of sweetness we taste.
		5. The fat in ice cream must come from milk.
		6. Ice cream contains at least two different kinds of emulsifiers.
		7. Lecithin molecules have a definite chemical structure.
		8. Ice cream freezes at 0°C.
		9. There is a physiological explanation for an ice cream headache (brain freeze).

		10. The whiter the soft-serve ice cream, the better the quality.
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Directions: As you read the article, complete the graphic organizer below, comparing the ingredients in ice cream.

Ingredient	What is its purpose?	How does the amount affect the taste or appearance of ice cream?
Air		
Sugar		
Fat		
Lecithin		
Gelatin		

Project:

1. Choose a brand and flavor of ice cream.
2. Investigate the ingredients.
3. Design a flyer for the ice cream you have chosen.
4. The flyer should include nutritional information, picture(s) of the ice cream, and any other type of advertisement for the chosen ice cream.
5. Design a flyer for a **new, made-up** type of medication for lactose intolerant people. Provide some background information on lactose on the flyer. Research products that are out on the market for ingredients and include those on your flyer. This product should/will enhance the sale of your ice cream.