

Class Starters & Enders

Making the Most of Instructional Time Five Minute Lessons

Class Starters and Enders help utilize the last minutes of class when a lesson ends but there is not enough time to start another, or for an interest approach at the beginning of class. Mini-lessons correlate to GPS in the programs areas below.

Collagen & Jell-O

Program Areas: Agriculture, Family & Consumer Sciences, Business, Marketing, Cosmetology, & Healthcare.

Instructions: Read the narrative and make notes of important points, answer questions, if provided, and be ready to discuss this topic.

You may have noticed the jelly-like substance in the pot after meat has been cooked. Any idea what it is? It is Jell-O! Well, more correctly, it's gelatin. Jell-O is a brand name synonymous with gelatin in the U.S. Gelatin manufacturers cook the skin, bones, hooves, and other animal parts, then collect and purify the gelatin. Gelatin is used to make hundreds of products.

Ancient civilizations used gelatin for many uses other than culinary. In 3000 BC, the Chinese cultures stained their fingernails with the substance, Egyptians mixed gelatin with beeswax and clay to create varnishes and enamels for ships. Gelatin has many uses, from creating various dishes to making skin more youthful and firm. In America, the word "jello" is generic for gelatin dessert; the name comes from the brand name of Jell-O.

Gelatin has a consistency unlike most products. It is formed by extracting collagen from the tissues, bones and skin of cattle and pigs. Collagen is the main protein of the connective tissue found in mammals. It gives elastic qualities to skin. Gelatin has many beneficial traits. It has several proteins and amino acids, which promote the feeling of fullness, help regulate metabolism, reduce joint pain, and help improve bones, teeth, and nails.

Hospitals often serve gelatin to patients. It has qualities that make dessert easy to digest, and it melts in the body as a liquid. This allows the body to take in calories without losing them, as some foods can trigger nausea if a patient has taken certain medication or undergone anesthesia. Eating gelatin can help patients recover faster.

Many gelatin products contain fruit or fruit juices to add flavor. The fruit may contain an enzyme that prevents gelatin from setting. The enzymes cut the molecules into peptides (protein fragments) that are too small to have the gelatin form a firm set.

Gelatin is used in a variety of everyday products, including gummy bears, jams and jellies, ice cream, and marshmallows. Aside from being a food additive, gelatin is also found in numerous cosmetics such as skin creams. Gelatin is additionally utilized in bacteriology as a culture medium, in medicine as a coating for capsules, pills, and some surgical dressings, and is even used in photo film and paper. Sheets of dyed gelatin are used in stage lighting as an inexpensive glass substitute; in agriculture, gelatin is employed as an ingredient of fertilizers and animal feeds. Collagen is also used in cosmetic surgery to enhance the skin's texture and add fullness to the lips and cheeks.

Gelatin is highly nutritious and easily digested and absorbed. It is colorless, transparent, odorless, and tasteless in a purified form. Gelatin dissolves in hot water and forms a gel or jelly upon cooling. Gelatin absorbs five to ten times its own weight and sets to a transparent mass.



Review

1. What is collagen?
2. How is gelatin obtained?
3. How does gelatin relate to agriculture?
4. How does the use of gelatin relate to healthcare?
5. How does the use of gelatin relate to cosmetology?
6. How do enzymes from fresh fruit alter gelatin?
7. What qualities does collagen add to the body?
8. What is the generic word in the US used for gelatin dessert?

Health Connection

Research and write a paragraph answering one or more of the following questions assigned by the teacher.

1. Why do hospitals and nursing homes serve so much Jell-O?
2. Many skin care companies heavily market products with collagen in them. Research different skin care products that contain collagen.
3. How do companies market/advertise these products?
4. What is the relationship between age of a person and collagen content?

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