

# 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.

### Fat Equals Flavor

**Program Areas:** Culinary Arts, Healthcare, Family & Consumer Sciences, Agriculture

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



The steak on the left has slight marbling, making it less flavorful and easier to overcook than the steak on the right, which has moderately abundant marbling.

Flavorful meat is a valuable source of nutrients such as zinc, iron, and vitamin B12, but many people shy away from eating tasty meats because of misconceptions about fat content. Most **consumers** want a low-fat meat because they do not realize there are different types of fat, and are disappointed with their lean meat purchase when it does not taste very good or is not tender. **Intramuscular fat** helps add flavor and increases the perception of tenderness. **External fat** acts as insulation to the animal, and **intermuscular fat** helps hold muscles and organs in place.

**Marbling** is the common name for intramuscular fat. The amount of marbling helps in **grading** meats, especially beef. Out of the commercial quality grades, prime beef has the most marbling and standard has the least. Marbling increases the perception of **juiciness** of meat, which causes more **salivation**. This makes the meat seem more **tender**. Marbling does not transfer heat as well as protein, so the more marbling there is in a cut of meat, the less likely the meat is to get overcooked. Overcooked meat is less tender and more dry than properly cooked meat.

Meat is 1.5 to 13 percent fat, depending on the species, age, and diet. There are three main types of fat — **saturated**, **monounsaturated**, and **polyunsaturated**. Because of its chemical structure, eating a lot of saturated fat has been associated with poor health as it is harder to break down. Saturated fats, like butter, are solids at room temperature, while monounsaturated and polyunsaturated tend to be more liquid, such as olive oil.

**Cholesterol** is also a type of fat. It can be produced by the body and also consumed in the diet. **Very Low Density (VLDL)** and **Low Density Lipoproteins (LDL)** are bad cholesterol which can block arteries, while **High Density Lipoproteins** are good cholesterol which absorb VLDL and LDL to make them digestible. Saturated fat can raise cholesterol levels, while other types of fat do not affect or can even lower cholesterol. Thirty-eight percent of the fat in meat is saturated fat, with 12 percent of that being **stearic acid**. Stearic acid, however, is a special kind of saturated fatty acid. It behaves like monounsaturated fat, and it does not affect cholesterol levels. In addition, most fat is in a **cis configuration** naturally, while some processed cooking oils are in **trans configuration**, making them more harmful than healthy.

#### Review Questions

1. What nutrients can be found in meat?
2. What are the differences between intramuscular and external fat?
3. How is marbling used to grade beef?
4. How does marbling increase the perception of juiciness?
5. How does marbling prevent overcooking?
6. What are the three main types of fat?
7. Where do humans get cholesterol from?
8. Why are HDLs “good cholesterol?”
9. What is so special about stearic acid?
10. Which beef grade would probably taste best?

Science Connection	
<i>Define the following terms in relation to the fat content of meat.</i>	
Beef Grading	Low Density Lipoproteins
Cholesterol	Marbling
Cis Configuration	Monounsaturated
Consumers	Polyunsaturated
External Fat	Salivation
High Density Lipoproteins	Saturated
Intermuscular Fat	Stearic Acid
Intramuscular Fat	Trans Configuration
Juiciness	Very Low Density Lipoproteins

Beef Quality Grades	
<b>Prime</b>	<ul style="list-style-type: none"> <li>• Most expensive</li> <li>• Most marbling</li> <li>• Highest quality</li> <li>• Highest monounsaturated to saturated fat ratio</li> </ul>
<b>Choice</b>	<ul style="list-style-type: none"> <li>• Most common in grocery stores</li> <li>• Second highest in marbling</li> <li>• Most popular for consumers</li> </ul>
<b>Select</b>	<ul style="list-style-type: none"> <li>• Lowest grade at grocery stores</li> <li>• Very lean but acceptable quality</li> <li>• Third highest in marbling</li> </ul>
<b>Standard</b>	<ul style="list-style-type: none"> <li>• Low quality</li> <li>• Little to no marbling</li> <li>• Lowest monounsaturated fat to saturated fat ratio</li> <li>• Economical</li> </ul>

Georgia CTAE Resource Network - Written by Dallas Duncan and Frank B. Flanders, Ed.D.

Portions of this text, originally from Wikipedia, were modified and the information independently verified. Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. See Terms of Use for details. - <http://creativecommons.org/licenses/by-sa/3.0/>