

Quest Through the Archives

Directions: After reading the article "[Data back ban of artificial trans fats](http://www.sciencenews.org)," use the archives at www.sciencenews.org to answer these questions:

1. What are trans fats? Search for a *Science News* article that gives a general overview of what these substances are and describe their chemical and physical properties.
2. Search for a *Science News* article describing a "good" trans fat. Explain how the FDA might consider this information for their upcoming ban.
3. The U.S. Food and Drug administration is responsible for implementing the future ban on artificial trans fats. Search for a *Science News* article that describes another recent FDA ban. Explain.

Responses to Quest Through the Archives

1. **What are trans fats? Search for a *Science News* article that gives a general overview of what these substances are and describe their chemical and physical properties.** Possible student response: The article "[Trans Fats](#)," published 11/10/2001, tells us that trans fats transform vegetable oil into solid substances that are found in many foods. Fats get their name from the pattern of carbon chains in their molecules. A trans fat looks like a zigzag because it includes a double bond that creates a bend in the chain. To make oil solid, some of the double bonds are hydrogenated, creating single bonds. The resulting trans structure allows the molecules to stack and therefore become more dense. Unsaturated fats, such as those in corn oil, have a lower melting point and are liquid at room temperature, while saturated fats such as those in margarine are solid at room temperature.

2. **Search for a *Science News* article describing a "good" trans fat. Explain how the FDA might consider this information for their upcoming ban.** Possible student response: The article "[This trans fat is vindicated](#)," published 7/28/2008, discusses a natural trans fat called conjugated linoleic acid, or CLA, which can help fight cancer, weight gain, diabetes and arthritis. The article mentions that companies producing products containing CLAs have petitioned the FDA for a "generally regarded as safe" status for their products. The FDA may want to include an exemption in their ban for CLAs if they are generally considered to be safe.

3. **The U.S. Food and Drug administration is responsible for implementing the future ban on artificial trans fats. Search for a *Science News* article that describes another recent FDA ban. Explain.** Possible student response: The article "[FDA bans chemicals in antibacterial soap](#)," published 9/2/2016, discusses the FDA's recent ban on antibacterial soap products containing any of 19 specific active ingredients. The FDA asked antibacterial soap companies to present data that proved their products were safe to use every day and more effective than traditional soap. Research has suggested that some antibacterial ingredients, such as Triclosan, are associated with exposure to toxic compounds, so many soap companies have already removed it from their recipes.