

Which of these is a complex text for a CTE Culinary class

Starches gelatinize.

Starches usually begin to gelatinize when a liquid and heat is introduced to the food. As the starch granules are heated, they begin to absorb the liquid and swell, soften and clarify. The liquid then starts to thicken because the starch itself has taken up most of it and occupies more space. The most common examples of this are rice, potatoes and wheat. This process happens in cakes as well. When dry cake ingredients are introduced to liquid ingredients and heated, the starches begin to gelatinize and absorb the liquids during baking. This causes some of the firming and drying of the cake. Gelatinization gradually occurs between 150 – 212 degrees Fahrenheit.

Types of Starch Granules

There are two types of starch granules: amylose and amylopectin. The amylose molecules are about seven times larger than the amylopectin molecules. The two molecules work simultaneously- the larger amylose granules absorb more liquid; the amylopectin has better pasting properties. (The pasting of the swollen starch cells results in gelatinization of liquid. Gelatinization is the formation of jelly-like substance when moistened starch is cooled. You can observe the process by suspending starch in cold water and applying heat – the starch goes from opaque to white and then becomes translucent. The starch cells swell as they are heated in a liquid and are then pasted when the gelatinization is complete, which generally occurs when the liquid temperature is between 160o to 195oF. During the pasting process, additional liquid is absorbed.

Factors That Affect Starch Cookery

The starch must be suspended in the liquid to allow even absorption. the suspension or separation can be achieved by stirring.

Sugar and acids inhibit gelatinization.

Fats such as butterfat and egg yolks inhibit the pasting properties of starch.

Starches Gelatinize 11.1

Gelatinization is the proper term for the cooking of starches. Starches are complex carbohydrates present in plants and grains such as potatoes, wheat, rice and corn. When a mixture of starch and liquid is heated remarkable changes occur. The starch granules absorb water, causing them to swell, soften and clarify slightly. The liquid visibly thickens because of the water being absorbed into the starch granules and the granules themselves swelling to occupy more space.

Gelatinization occurs gradually over a range of temperatures-1 50F to 212Th (66C-100C)- depending on the type of starch used. Starch gelatinization affects not only sauces or liquids to which starches are added for the express purpose of thickening, but also any mixture of starch and liquid that is heated. For example, the flour (a starch) in cake batter gelatinizes by absorbing the water from egg, milk or other ingredients as the batter bakes. This causes part of the firming and drying associated with baked goods.

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Which of these is a complex text for a High School Biology class?

Surprise Scientists find most of human DNA molecule carries out important functions.

The tiniest, most complicated set of instructions just got a little easier to read, thanks to a giant scientific project called ENCODE, which recruited more than 400 scientists from all over the world. Those instructions reside in a long molecule called DNA. And one copy of this DNA resides within almost every cell, telling it how to operate.

About 80% of the genome has tasks to do, the new study suggests. In addition to the 21,000 protein-making genes, about 30,000 different portions of the DNA make various types of RNA. These molecules do several different things. Some may assist in making proteins or perform other jobs, such as packaging DNA. Some may also act as switches that turn genes on and off. Understanding these switches is important, since such changes can cause or prevent diseases.

“Junk DNA Holds Clues to Common Diseases”

Called the Encyclopedia of DNA Elements (ENCODE), the group is focused on understanding not just the elements of the genome but also how they work together. “The complexity of our biology resides not in the number of our genes but in the regulatory switches,” Eric Green, director of the National Human Genome Research Institute and collaborator on the ENCODE project, said in a press briefing September 5. Through more than 1,600 separate experiments, analysis of more than 140 cell types and a massive amount of data analysis, the group found about 4 million of these so-called switches and can now assign functions to more than 80 percent of the entire genome. Compare that to the roughly 2 percent of the genome that is responsible for the protein-coding genes that researchers have been relying on to look for diseases and traits. “The genome project was about establishing the set of letters that make up the blueprint.” Green said. “When we finally put the blueprint together, we realized we could only really understand very little of it.

Searching for Genes

Only a small part of a of a human DNA molecule is made up of genes. In fact, one of the genome’s scientific surprises was how few genes it seems to contain –possibly as few as 25,000. Since the genome of the fruit fly contains approximately 14,000 genes and that of a tiny worm roughly 20,000, man researchers had expect to find far more in our own DNA. The final number, however, is far from certain.

Research groups around the world are analyzing the huge amount of information in the DNA sequence, looking for genes that may provide useful clues to some of the basic properties of life. In addition to its scientific significance, understanding the structure and control of key genes may have commercial value. Biotechnology companies are rushing to find genetic information that may be useful in developing new drugs and treatments for diseases.

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Which of these is a complex text for a High School Government class?

How did the Framers envision the presidency?

The Framers envisioned the president as an official above partisan politics, that is, a person not devoted to a particular political party. Publius explained in Federalist 68 that they wanted the president to be a person who had earned the esteem and confidence of the entire nation, with a character “preeminent for ability and virtue.” They designed the Electoral College to identify people of such character, as there was no expectation that candidates would campaign for the office. Though the Framers thought that the president should remain above partisan politics, their expectations were unmet even during President Washington’s administration, when factions arose that led to the development of political parties. The Framers did not want the president to have the powers of a monarch, yet they did want the president to be “energetic,” a quality they contrasted with legislative “deliberation.” “Energy” refers to the capacity of one person to act efficiently and vigorously on behalf of the nation. The Framers feared what they called a “feeble executive.” As Alexander Hamilton argued in Federalist 70, “A feeble execution is but another phrase for a bad execution; and a government ill executed, whatever it may be in theory, and must be, in practice, a bad government.”

Electoral College

The founders who drew up the Constitution in 1787 were not willing to allow ordinary citizens to vote for their president directly. Among other things, the founders were afraid that the people would not be well informed enough to choose wisely. They feared people would simply back candidates they knew from their own state. Rather, the founders believed that a selected group of electors should pick the president.

The founders thought that electors should be allowed to vote as they pleased. But during John Adams' term as president (1797-1801), political parties became much stronger than they had been before. The parties nominated candidates for president and vice president and then picked electors to vote for them. Electors were expected to vote for their party's choice. Thus in most cases the voting procedure merely became a formality. The person who received the most votes from the electors would become president. The one with the next highest number of votes would be vice president. That system lasted until 1800. In that year, Aaron Burr and Thomas Jefferson got exactly the same number of electoral votes. The system had to be changed. The Twelfth Amendment to the Constitution (ratified in 1804) clarified the Electoral College procedure. It provided that each elector would vote for one person for president and another for vice president.

Federalist 68

It was desirable that the sense of the people should operate in the choice of the person to whom so important a trust was to be confided. This end will be answered by committing the right of making it, not to any pre-established body, but to men chosen by the people for the special purpose, and at the particular conjuncture.

It was equally desirable, that the immediate election should be made by men ... acting under circumstances favorable to deliberation, and to a judicious combination of all the reasons and inducements which were proper to govern their choice... selected by their fellow-citizens from the general mass, will be most likely to possess the information and discernment requisite to such complicated investigations.

It was also peculiarly desirable to afford as little opportunity as possible to tumult and disorder. This evil was not least to be dreaded in the election of a magistrate, who was to have so important an agency in the administration of the government as the President of the United States. But the precautions which have been so happily concerted in the system under consideration, promise an effectual security against this mischief. The choice of *several*, to form an intermediate body of electors, will be much less apt to convulse the community with any extraordinary or violent movements, than the choice of *one* who was himself to be the final object of the public wishes. And as the electors, chosen in each State, are to assemble and vote in the State in which they are chosen, this detached and divided situation will expose them much less to heats and ferments, which might be communicated from them to the people, than if they were all to be convened at one time, in one place.

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking

Components of Text Complexity

- Purpose
- Text Structure
- Text Features
- Knowledge Demands
- Inter-textuality
- Language
- Vocabulary
- Contains rich text that supports the development of questions to promote higher order thinking