



5 minutes

Whole-Class Seatwork: Teacher provides instructions for summarizing results

The teacher starts the lesson by telling the class they will be summarizing results from yesterday's experiment, which involved iodine and Benedict's solution. He writes on the chalkboard, "Name of experiment: Examination of the Digestive Process Caused by Saliva" and asks students to copy this in their notebooks. The teacher describes starch as a long molecule and sugar as a short molecule; he gives students a hint that this information may be helpful when discussing the conclusion. He tells the class to "summarize the result of your group, how the iodine resulted from A to D and how the Benedict's solution changed."



19 minutes

Independent Seatwork: Students work in groups of four or five on summarizing their experimental results

Students reposition their individual desks towards one another to form groups of four or five. They refer to their data of the four different test tubes labeled A, B, C, and D from yesterday's experiment. The teacher visits one group at a time, focusing their attention to the color differences (e.g., bluish purple, reddish brown) and the conditional differences (e.g., saliva, temperature). He talks them through their results so they identify A and C staying the same color throughout the experiment, but B and D turning a different color and at different rates. In two cases, groups did not have observable differences so the teacher showed them photographs of the expected results for them to discuss. He goes around to each of the eight different groups during this time.



10½ minutes

Whole-Class Seatwork: Class presents experimental results

The teacher announces to the class they will be reporting their results and models what he wants them to do. He calls on four different groups, starting with Group 4. One student from this group stands and reads his paper. The teacher follows-up with questions based on the student's response. He then summarizes and calls on Group 5. A student stands and reads his results and the teacher responds in similar fashion. This continues with Group 6 and Group 7. The teacher then formally summarizes the results himself. He shows results from another class in the form of large photographs posted on cardboard. He describes A and C as being bluish purple because there was starch in those test tubes. Even though there were temperature differences the starch remained, which is indicated by the steady bluish purple color over time. However, there were reactions in B and D indicated by the reddish-brown color. This is because saliva was added. The saliva changed the starch into something else (sugar) and it occurred faster at warmer temperatures. The teacher tells the class to include this information in their conclusions, starting first with the results with iodine and then the results with Benedict's solution.



7 minutes

Whole-Class Seatwork: Class summarizes the results

The teacher now calls on the four remaining groups to present their conclusions, starting with Group 8. A student stands and reads his conclusion aloud. The teacher then calls on Group 1, followed by Group 2 and Group 3. Students respond in a similar fashion. After some of the groups presented their conclusions the teacher formally summarizes the information verbally and in writing. He writes on the chalkboard, "Summary - saliva has the function of dissolving starch into sugar. Saliva's function of dissolving the starch into sugar works best when the temperature is close to body temperature" and instructs students to copy this in their notebooks. They talk about saliva's function and the relationship to temperature.



8½ minutes

Whole-Class Seatwork: Class reviews textbook information

The students turn to page 94 of their textbook and underline important sentences about digestive fluids and enzymes. The teacher instructs them which sentences to underline and says he will summarize this information since it is hard for them to understand otherwise. He subsequently writes on the chalkboard, "Digestive fluid - fluid which has the function of digesting food. Example: saliva, gastric juice, etc. Digestive enzymes have specific food components to dissolve. Example: saliva (amylase) works only on starch - glucose. Gastric juice (pepsin) works only on protein - amino acid." They talk about this and will go in more detail in the next lesson.



1 minute

Science Organization: Students prepare to leave

Students prepare to leave. They stand and bow to the teacher. They also turn in their reports from the experiment.