



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

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| Name(s) Kelsey N. Patch | Project Number J0618 |
| Project Title Remember to Chew: Chew to Remember | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this experiment was to test if chewing gum helps improve memory.</p> <p>Methods/Materials To test this, approximately 70 to 80 middle-school students (6th, 7th, or 8th grade) students from the same private school were asked to read select information on a subject for two minutes and then take a test of their recollection of the material studied. Each Participant took two tests of similar difficulty (same amount of time, similar length of reading material, comparable subject matter, and same number of test questions). During one test, the Participants were asked to chew gum while studying and taking the test. On the other test, Participants did not chew gum while studying and taking the test. The order in which the tests were administered (with or without gum) was alternated, so that approximately half of the participants start with gum and the other half without gum. This was done to eliminate any bias related to improvement from taking similar tests back to back and also mitigate any difference in the results that can be attributed to differences in difficulty between test #1 and test #2.</p> <p>Results Based upon the data collected in the experiment, chewing gum while reading and answering questions related to the reading material appears to increase the Participants' recollection of information. The average Participant increased their Memory Test score by 8.87% (mean increase), while the median and mode of the Memory Test scores also increased by 9.09%.</p> <p>Conclusions/Discussion Chewing gum while studying improves memory by an average of 8.87%, which support the hypothesis that chewing gum improves memory and acts as a cognitive enhancer. We all know that it is important to "remember to chew" but this experiment shows that we might also want to "chew to remember."</p> | |
| Summary Statement This project tests whether chewing gum while reading helps improve the recollection of information (memory). | |
| Help Received Four middle school students assisted in administering the tests to the participants, including distributing test packets, timing of the reading and question answering sections, and collecting completed tests. | |