



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY**

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| Name(s) Isabelle Whetsel | Project Number J0523 |
| Project Title Glorious Gluten: An Experiment Measuring the Amount of Gluten in Different Flours | |
| <p style="text-align: center;">Abstract</p> <p>Objectives This experiment was created to measure the level of gluten in different flours. It was expected that the Bread flour would have the most gluten and the Gluten Free flour would have the least, by a large margin, because Bread flour is typically high in gluten and Gluten-Free should have none.</p> <p>Methods Multiple flours were tested, they were mixed with water to make a dough, kneaded for five minutes each, and then rinsed, so as to let the excessive flour wash away. Each type of flour had 5 trials, and the weight was recorded of each dough before and after it was washed, this was used to calculate the percentage of gluten per flour.</p> <p>Results The Bread flour had the highest gluten percentage at .32%, while the Almond Flour had the lowest at .003%.</p> <p>Conclusions The conclusion is that Almond flour has less gluten than Gluten Free Flour, this is interesting to learn because, as its name suggests, Gluten Free Flour should not have any gluten in it. Instead, Almond flour has significantly less gluten, probably due to the fact that it is a nut flour, and nuts do not have gluten. This misbranding is very dangerous for people who are gluten allergic or have Celiac disease</p> | |
| Summary Statement Measuring the amount of gluten in different flours. | |
| Help Received Emily Hoffman helped with editing and forms as well as guiding throughout the process. Anne Louit helped with materials, testing, and board production. | |