

Unit 8 – Inference for Categorical Data: Chi-Square

~10 – 11 Class Periods
2 – 5% Exam Weight

Day	Lesson and Objectives	Assignment
1	Notes 1 – Chi-Square Goodness of Fit Test <ul style="list-style-type: none"> ○ What is Chi-Square ○ Chi-Square Distribution ○ Chi-Square GOF Test 	
2	Finish Notes 1	HW 1
3	M&M Activity: Distribution of Colors	
4	Notes 2 – Chi-Square Test for Homogeneity <ul style="list-style-type: none"> ○ Chi-Square Test for Homogeneity ○ Follow Up Analysis 	
5	Finish Notes 2	HW 2
6	Unit 8 Quiz	
7	Notes 3 – Chi-Square Test for Association/Independence <ul style="list-style-type: none"> ○ Chi-Square Test for Association/Independence 	HW 3
8	Notes 4 – Comparing Three Chi-Square Tests <ul style="list-style-type: none"> ○ 2 Examples ○ Recap OR Unit 8 Summary <ul style="list-style-type: none"> • Unit 8 Summary Slides with Student Handout • Work on Test Review for the rest of class 	Unit 8 Test Review
9	Activity: Mad Libs	Study for the Test!
10	Unit 8 Test	

Prerequisite Knowledge

Students would have knowledge of one and two sample proportion inference from Unit 6. They will understand p-values and the four step process for performing inference up to this point.

Special Notes

- Each "Day" is approximately 50 minutes
- Blank days usually involve me finishing up the notes from the day before and then giving them time to start the assignment for that day.
- My pacing is usually under the recommended days from the College Board to allow for me to insert extra days in the unit where I need them (more time on notes; another day to go over homework; extra activities, etc.)
- In my class, I have the HW due the next day in class, the Test Review due the day of the test, and the Unit project due a week from when it was assigned.
- If you have any questions on content or pedagogy, please email me at goldiesmathemporium@gmail.com

Student-friendly learning targets:

- 8A: Students will be able to describe a chi-square distribution and its characteristics.
- 8B: Students will be able to set up the hypothesis and check conditions for a Chi-Square Goodness of Fit Test.
- 8C: Students will be able to calculate the chi-square test statistic, interpret the p-value, and justify a claim using the Chi-Square Goodness of Fit Test.
- 8D: Students will be able to calculate expected counts for two-way tables of categorical data.
- 8E: Students will be able to set up the hypothesis and check conditions for a Chi-Square Test for Homogeneity or Independence.
- 8F: Students will be able to calculate the chi-square test statistic, interpret the p-value, and justify a claim using the Chi-Square Test for Homogeneity or Independence.