During our last lab period, as a group of four, you will give a 10–15 minute oral presentation on the results of your final lab experiment, as outlined below. You will give the presentation to me (*not* the class), and will ***not*** be allowed to use pre-prepared slides. You can print out a one-page (both sides) handout for me that summarizes the key points.

Category	Points	Grade
Theory: What did you predict? • For the four elimination reactions, do they go by an E1 or E2 mechanism, or are both involved? Explain. • For any reactions where substitution occurred, did it go by an S_N1 or S_N2 mechanism, or are both involved? Explain. • On the dry erase board, be able to give the electron-pushing mechanism for any of the predicted substitution and elimination products. (You will be asked to do some of these.) • For each of the four reactions, indicate all of the possible substitution and elimination products, and—for the elimination products only—their relative thermodynamic stabilities. Based on stability, which elimination product should be formed most readily? For each reaction, rank all products (substitution and elimination) in order of expected prevalence.	20	
Experiment: What did you get? • Create your own *professional* table(s) and/or graph(s) to summarize the GC data from the experiments. Focus on the following aspects: ○ The relative abundance of each different elimination products formed for each reaction (1- vs. 2-pentene, and *cis*- vs. *trans*-2-pentene) ○ Determine the relative abundance of any substitution products versus all elimination products ○ The relative abundance of unreacted starting reagent and all products • Address the following questions: ○ How do 1-bromopentane and 2-bromopentane yield different results in each of the substitution and elimination experiments? Does this match your expectations? ***Explain***. ○ How do ethoxide and *tert*-butoxide yield different results in each of the substitution and elimination experiments? Does this match your expectations? ***Explain***. ○ Report an approximate percent conversion for the reaction based on the relative amounts of reactants and products	60	
Questions: • I will ask each group an individualized question regarding substitution and elimination reactions, expecting you to take your knowledge from the current experiment and apply it to another experiment or set of conditions.	10	
Presentation Quality: • Presentation was clear, well-organized, and engaging • Appropriate chemical language was used. • Graph/table(s) were of professional quality. • ***All*** four group members made significant contributions to the presentation.	10	
Total:	100	

Assigned Groups for Presentation

Kellie Arter
Mitch Keller
Alex Joslyn
Lauren Marino

Robby Weingart
Brittany Perry
Carlo Clavenna
Kelly Frazier

Aprile Doubt
Courtney Lynn
Cathy Li
Meghan Bagley

Gabe Mitchell
Leanne Kelley
Jordan Kibler
Caitlin Lutz

Lin Teng
Aedin Brennan
Kate Benson
Jimmy Conroy

John Baird
Dalia Ishaq
Sarah McKendry
Ashley Rudolph

Bryan Margaria
Chelsea Saunders
Kristy Kopystynsky
Rebecca Rabb