Anoka-Hennepin Secondary Curriculum Unit Plan

Department:	Science	Course:	IB Biology 11 SL (H)	Unit Title:	Statistical Analysis	Grade Level(s):	11
Assessed Trimester:		Pacing:		Date Created:		Last Revision Date:	9/2/2014

Course Understandings: *Students will understand that:*

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DESIRED RESULTS (Stage 1) - WHAT WE WANT STUDENT TO KNOW AND BE ABLE TO DO?

Established Goals

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Transfer

Students will be able to independently use their learning to: (product, high order reasoning)

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Meaning

Unit Understanding(s):	Essential Question(s):
Students will understand that: ● How to formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them ● How to select and use appropriate statistical methods to analyze data ● How to develop and evaluate inferences and predictions that are based on data ● And apply basic concepts of probability ● That statistics is just a guess	**Students will keep considering:** ●

Acquisition

Knowledge - Students will:	Skills - Students will:
● How to construct a spreadsheet ● The differences between mean, medium and mode ● When/how to use standard deviation ● What is a test of significance ● Expected values ● Normal distributions ● Probability models ● How to display a distribution with graphs ● Chi-square test ● Data ethics ● Scatterplots and correlation **Reasoning - Students will:** ●	● State that error bars are a graphical representation of the variability of data ● Calculate the mean and standard deviation of a set of values ● State that the term standard deviation is used to summarize the spread of values around the mean, and that 68% of the values fall within one standard deviation of the mean ● Explain how the standard deviation is useful for comparing the mans and the spread of data between two or more samples ● Deduce the significance of the difference between two sets of data using calculated values for t and the appropriate tables ● Explain that the existence of a correlation does not establish that there is a causal relationship between two variables

Common Misunderstandings	**Essential new vocabulary**
● Statistics are always correct ● You should never have a margin of error ● It's an exact number	● standard deviation ● mean ● medium ● mode ● t-chart