



CW High School

Statistics

1. Exploring Distribution (16.67%)

Learning Targets

1.1 I can compose a statistical comparison of data from two or more box plots.

Learning Target	Descriptor	Definition
4	Proficient	I can compose a statistical comparison of data from two or more box plots.
3	Developing	I can interpret the information given by the box plot of the data.
2	Basic	I can create a box plot it fit a set of data.
1	Minimal	I can generate the 5 number summary and IQR for a set of data.
0	No Evidence	No evidence shown.

1.2 I can generate statistical inferences by comparing data from two or more dot plots.


Learning Target	Descriptor	Definition
4	Proficient	I can generate statistical inferences by comparing data from two or more dot plots.
3	Developing	I can interpret data from a dot plot and identify its shape.
2	Basic	I can identify which dot plot would fit a set of data.
1	Minimal	I can create a dot plot for a set of data.
0	No Evidence	No evidence shown.

1.3 I can generate statistical inferences using a histogram.

Learning Target	Descriptor	Definition
4	Proficient	I can generate statistical inferences using a histogram.
3	Developing	I can describe the shape of a histogram.
2	Basic	I can create a histogram from a frequency table.
1	Minimal	I can create a histogram for a set of data.
0	No Evidence	No evidence shown.

1.4 I can calculate and explain the effect of outliers and how they influence our choice of measure of center and spread.

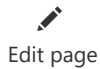
Learning Target	Descriptor	Definition
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Learning Target	Descriptor	Definition
4	Proficient	I can calculate and explain the effect of outliers and how they influence our choice of measure of center and spread.
3	Developing	I can explain the effect rescaling and re-centering has on the measures of center and spread.
2	Basic	I can explain what the measures of spread are and which measure of center they are paired with.
1	Minimal	I can calculate the mean, median, and mode for a set of data.
0	No Evidence	No evidence shown.



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2. Normal Distribution (16.65%)

Learning Targets

2.1 I can compare and contrast different sets of data by interpreting their z-scores.

Learning Target	Descriptor	Definition
4	Proficient	I can compare and contrast different sets of data by interpreting their z-scores.
3	Developing	I can compute a z-score , given a mean and standard deviation.
2	Basic	I can utilize the chart to calculate a z-score, given a percentage or percentile.
1	Minimal	I can utilize a z-score and the chart to find the percentage it represents.
0	No Evidence	No evidence shown.

2.2 I can compute the endpoints for a specified interval of data.

Learning Target	Descriptor	Definition
4	Proficient	I can compute the endpoints for a specified interval of data.
3	Developing	I can compute the value of a specific data point given mean, standard deviation, and z-score.
2	Basic	I can determine what percent of the data is higher than a given data point.
1	Minimal	I can determine what percent of the data falls below a given data point.
0	No Evidence	No evidence shown.

2.3 I can calculate the standard deviation of a set of data, by hand.

Learning Target	Descriptor	Definition
4	Proficient	I can calculate the standard deviation of a set of data, by hand.
3	Developing	I can explain what standard deviation is in relation to a set of data.
2	Basic	I can compute the standard deviation of a set of data given the mean and z-score.
1	Minimal	I can generate the standard deviation of a set of data using a graphing calculator.
0	No Evidence	No evidence shown.



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3. Bivariate Data (16.67%)

Learning Targets

3.1 I can characterize a scatterplot by its shape, trend, and strength and estimate the correlation between the bivariate data.

Learning Target	Descriptor	Definition
4	Proficient	I can characterize a scatterplot by its shape, trend, and strength and estimate the correlation between the bivariate data.
3	Developing	I can characterize the shape of a scatterplot as linear, curved, fanned, or scattered.
2	Basic	I can characterize the strength of a scatterplot as strong, moderate, weak, or neutral.
1	Minimal	I can characterize the trend of a scatterplot as positive, negative, or neither.
0	No Evidence	No evidence shown.

3.2 I can generate, interpret, and use the least square regression line for a set of bivariate data.

Learning Target	Descriptor	Definition
4	Proficient	I can generate, interpret, and use the least square regression line for a set of bivariate data.
3	Developing	I can interpret the meaning of the y-intercept of the least square regression line in the context of the problem.
2	Basic	I can interpret the meaning of the slope of the least square regression line in the context of the problem.
1	Minimal	I can utilize my calculator to generate the equation of the least square regression line for a set of bivariate data.
0	No Evidence	No evidence shown.

3.3 I can generate the sum of the squared errors (SSE) of a set of data by hand.

Learning Target	Descriptor	Definition
4	Proficient	I can generate the sum of the squared errors (SSE) of a set of data by hand.
3	Developing	I can interpret the meaning of the coefficient of determination (r^2) in the context of the problem.
2	Basic	I can Interpret the meaning of the correlation coefficient (r) in context of the data.
1	Minimal	I can generate the correlation coefficient (r) and coefficient of determination (r^2) values with my calculator.
0	No Evidence	No evidence shown.



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4. Probability Models (16.67%)

Learning Targets

4.1 I can characterize two outcomes as dependent or independent events based on the probable outcomes.

Learning Target	Descriptor	Definition
4	Proficient	I can characterize two outcomes as dependent or independent events based on the probable outcomes.
3	Developing	I can compute conditional probabilities for discrete events.
2	Basic	I can compute compound probability of two outcomes occurring when they are joined using and/or.
1	Minimal	I can compute a simple probability from a two-way table.
0	No Evidence	No evidence shown.

4.2 I can generate a two-way table using the Multiplication Rule and use it to predict outcomes.

Learning Target	Descriptor	Definition
4	Proficient	I can generate a two-way table using the Multiplication Rule and use it to predict outcomes.
3	Developing	I can utilize the Addition Rule to calculate the probabilities of events which are not mutually independent.
2	Basic	I can calculate the probability of mutually independent events without replacement, using the Addition Rule.
1	Minimal	I can calculate the probability of mutually independent events with replacement, using the Addition Rule.
0	No Evidence	No evidence shown.

4.3 I can design, perform, and interpret a simulation using random numbers.

Learning Target	Descriptor	Definition
4	Proficient	I can design, perform, and interpret a simulation using random numbers.
3	Developing	I can perform a simulation using a random digit table and the model indicated for the stated assumption.
2	Basic	I can select the proper model for the simulation using either single or double digits.
1	Minimal	I can write an assumption for the simulation using proper terminology and context of the problem.
0	No Evidence	No evidence shown.

5. Inference of Proportions (16.67%)

Learning Targets



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5.1 I can interpret the results of a confidence interval in the context of the situation and state the margin of error.

Learning Target	Descriptor	Definition
4	Proficient	I can interpret the results of a confidence interval in the context of the situation and state the margin of error.
3	Developing	I can generate the sample size needed in order to ensure a specified level of confidence and margin of error.
2	Basic	I can calculate the margin of error for my confidence interval.
1	Minimal	I can compute the confidence interval for a single proportion by hand and with a graphing calculator.
0	No Evidence	No evidence shown.

5.2 I can interpret the results of the test statistic and p-value in the context of the single proportion bivariate data.

Learning Target	Descriptor	Definition
4	Proficient	I can interpret the results of the test statistic and p-value in the context of the single proportion bivariate data.
3	Developing	I can compute the test statistic and p-value for both one and two sided tests, with a graphing calculator.
2	Basic	I can write the proper null and alternative hypothesis for both one and two sided tests.
1	Minimal	I can list and assess the three conditions for conducting a test of significance.
0	No Evidence	No evidence shown.

5.3 I can interpret the results of a confidence interval, test statistic, or p-value in the context of two-proportion, bivariate data.

Learning Target	Descriptor	Definition
4	Proficient	I can interpret the results of a confidence interval, test statistic, or p-value in the context of two-proportion, bivariate data.
3	Developing	I can compute the confidence interval, test statistic, and p-value for both one-sided and two-sided tests for two-proportion bivariate data.
2	Basic	I can write the proper null and alternate hypothesis for both one-sided and two-sided tests for two-proportion bivariate data.
1	Minimal	I can establish that all conditions have been met to conduct tests on the bivariate data.
0	No Evidence	No evidence shown.



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6. Chi-Square Tests (16.67%)

Learning Targets

6.1 I can recognize, generate, implement, and interpret the chi-square test for goodness of fit in the context of the study being tested.


Learning Target	Descriptor	Definition
4	Proficient	I can recognize, generate, implement, and interpret the chi-square test for goodness of fit in the context of the study being tested.
3	Developing	I can calculate the degrees of freedom, chi square value and p-value for both equally likely and unequally likely probabilities.
2	Basic	I can create an "Outcome vs Expectation" chart and enter it in my calculator.
1	Minimal	I can determine if the goodness-of-fit test is appropriate for the situation and construct a meaningful null and alternate hypothesis.
0	No Evidence	No evidence shown.

6.2 I can recognize, generate, implement, and interpret the chi-square test of homogeneity in the context of the study being tested.

Learning Target	Descriptor	Definition
4	Proficient	I can recognize, generate, implement, and interpret the chi-square test of homogeneity in the context of the study being tested.
3	Developing	I can calculate the degrees of freedom, chi-square value and p-value for the hypothesis.
2	Basic	I can create a two-way chart and enter it in my calculator.
1	Minimal	I can determine if the test of homogeneity is appropriate for the situation and construct a meaningful null and alternate hypothesis.
0	No Evidence	No evidence shown.

6.3 I can recognize, generate, implement, and interpret the chi-square test of independence in the context of the study being tested.

Learning Target	Descriptor	Definition
4	Proficient	I can recognize, generate, implement, and interpret the chi-square test of independence in the context of the study being tested.
3	Developing	I can calculate the degrees of freedom, chi-square value and p-value for the hypothesis.
2	Basic	I can create a two-way chart and enter it in my calculator.
1	Minimal	I can determine if the test of independence is appropriate for the situation and construct a meaningful null and alternate hypothesis.

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Learning Target	Descriptor	Definition
0	No Evidence	No evidence shown.

Submitted on 2/1/2022 by Wendy Weaver