# CAR Unit Template

## Unit Title: Mathematics – Linear Models for Scatter Plots and Two-Way Tables – Unit 4

**Grade level: Grade 8**

**Timeframe:**

## Essential Questions

## Standards

### Standards (Taught and Assessed):

**8.SP.A.1** Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities.

Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

**8.SP.A.2** Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit (e.g. line of best fit) by judging the closeness of the data points to the line.

**8.SP.A.3** Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is* *associated with an additional 1.5 cm in mature plant height.*

**8.SP.A.4** Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

**Key**: Major Cluster Supporting Cluster Additional Cluster

### Highlighted Career Ready Practices and 21st Century Themes/Skills

### Social-Emotional Learning Competencies

## Instructional Plan

Pre-Assessment and Reflection

| **Pre-Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

| **SLO – WALT**  **We are learning to/that** | **Student Strategies** | **Formative Assessment** | **Activities and Resources** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
| --- | --- | --- | --- | --- |
| **8.SP.A.1 – WALT** construct scatter plots |  |  |  |  |
| **8.SP.A.1 – WALT** interpret scatter plots to investigate patterns of association between two quantities |  |  |  |  |
| **8.SP.A.1 – WALT** describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association |  |  |  |  |
| **8.SP.A.2 – WALT** straight lines are used to model relationships between two quantitative variables |  |  |  |  |
| **8.SP.A.2 – WALT** informally fit a straight line for scatter plots that suggest a linear association |  |  |  |  |
| **8.SP.A.2 – WALT** informally assess the fit of the line for a scatter plot by judging the closeness of the data points to the line |  |  |  |  |
| **8.SP.A.3 – WALT** interpret the slope and intercept in the context of bivariate measurement data using the equation of a linear model |  |  |  |  |
| **8.SP.A.4 – WALT** two-way tables can be used to show patterns of association in categorical data |  |  |  |  |
| **8.SP.A.4 – WALT** construct a two-way table summarizing data on two categorical variables collected from the same subjects |  |  |  |  |
| **8.SP.A.4 – WALT** interpret a two-way table by identifying joint frequencies and calculating marginal frequencies |  |  |  |  |
| **8.SP.A.4 – WALT** use relative frequencies calculated for rows or columns to describe possible association between the two variables |  |  |  |  |

Benchmark Assessment 1

| **Benchmark Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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Benchmark Assessment 2

| **Benchmark Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
| --- | --- |
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Summative Assessments (add rows as needed)

| **Summative Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
| --- | --- |
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Interdisciplinary Connections

| **Interdisciplinary Connections** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
| --- | --- |
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