**Introduction:**

In NASCAR, driver rating is a metric used to evaluate the performance of drivers in races. It provides a comprehensive assessment of a driver's overall competitiveness, efficiency, and consistency during a race. The driver rating is based on several key performance factors and is designed to offer a more objective view of a driver's abilities. For this activity, you will be exploring the relationship between average position a driver finishes per lap over a season and their corresponding driver rating. Using data transformations techniques and polynomial regression to create different variations of linear models, you will enhance the capabilities of your models to make them more effective and accurate.

**Learning Goals:**

By the end of the activity, you will have practiced:

* Assessing simple linear regression model effectiveness
* Checking regression model assumptions
* Using log transformations to better fit a linear regression model
* Using polynomial regression to fit a curved relationship

**Methods:**

For this activity, students will need to use software to create scatterplots and plots of residual vs fitted values of models they will create. They will also need to create polynomial models and mutate the data by applying mathematic functions to columns.