Use to build non-linear models describing the relationship between an explanatory variable and an outcome variable.

**Fit Curve**

1. Select **Analyze > Specialized Modeling > Fit Curve**.
2. Select a continuous variable from **Select Columns**, and add to **Y, Response**.
3. Select a continuous explanatory variable for **X, Regressor**.
   
   Add a categorical variable to **Group** to have a separate model fit for each value of a grouping variable (optional). Here we have eight specimens sampled (two from each of four treatments).
4. Click **OK**.
   
   JMP displays a plot of the response vs. predictor values for all the data, and separate graphs for each group if a grouping variable was used.

   **Note:** The **red triangle** next to **Fit Curve** displays a collection of non-linear models that can be fit.

   See “Statistical Details for the Fit Curve Platform” in **JMP Help** to see visual representations for different families of nonlinear models to help choose an appropriate one for your data.

   The 4-parameter logistic sigmoid model was chosen here. Additional models can be fit and compared.

5. Select **Custom Inverse Prediction** under the **red triangle**.
   
   Insert values for the response variable (**Algae Density**) to produce predictions and corresponding confidence intervals for the value of the predictor variable (**Days**) estimated to result in a given amount of the response variable. Here we chose an Algae Density of 2.

   JMP displays **predicted values** and **confidence intervals** for the explanatory variable. An **Analysis of Means** graph comparing these predictions across groups is produced if a grouping variable was used.

   Additional options, such as **Actual by Predicted** and **Residual by Predicted plots**, **Save Prediction and Residual Formula**, are under the **red triangle** for each fitted model.

   **Note:** For more information on nonlinear models, see “Fit Curve” and “Nonlinear Regression” in **JMP Help**.