

# Simple Linear Regression

Simple linear regression is used to model the relationship between two continuous variables.

## Simple Linear Regression Using Fit Y by X

1. From an open JMP® data table, select **Analyze > Fit Y by X**.
2. Click on a continuous variable from **Select Columns**, and click **Y, Response** (continuous variables have blue triangles).
3. Select a second continuous variable, and click **X, Factor**.
4. Click **OK** to generate a scatterplot.
5. To fit a regression line, click on the **red triangle** and select **Fit Line**.

By default, JMP will provide the following results:

- The regression equation (under Linear Fit).
- The Summary of Fit.
- Lack of Fit (if the data table includes replicates of X values).
- The ANOVA table.
- The parameter estimates.

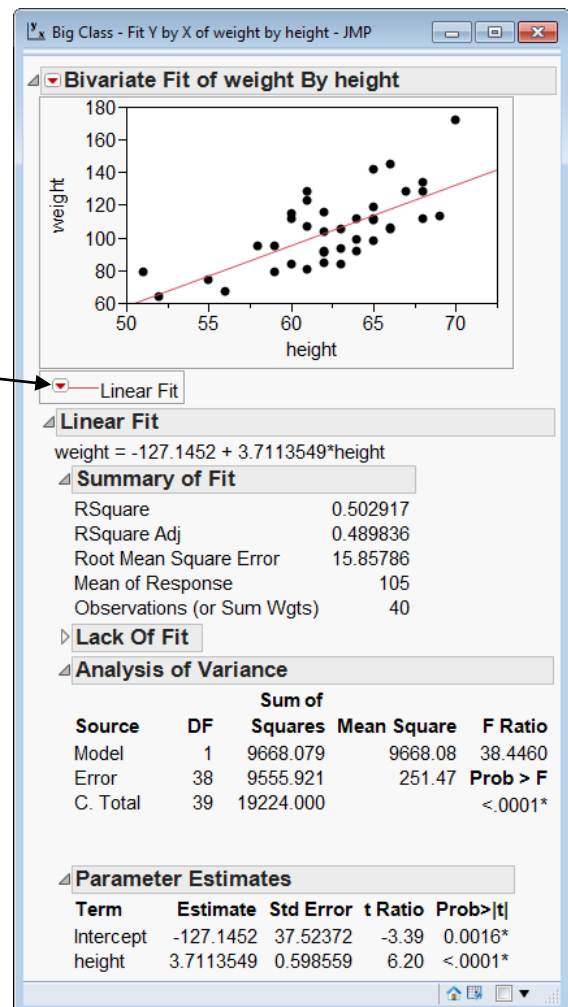
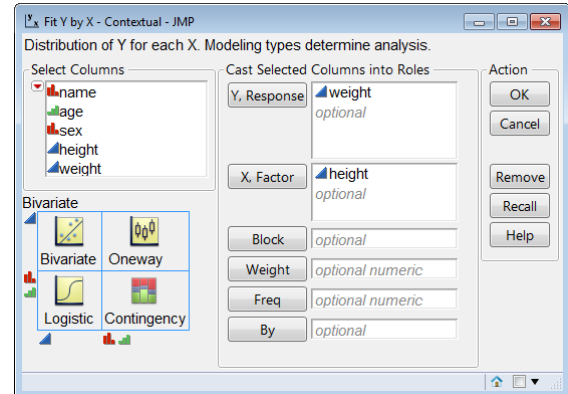
Additional options, such as **residual plots** and **confidence curves**, are available from the **red triangle** next to **Linear Fit** (directly under the graph).

Tips:

- For other fit options, such as **polynomial**, **transformation** (fit special) and **spline**, use the **top red triangle**.
- To add a legend, change markers, or make other changes to the graphical display, right-click on the graph.
- To fit separate lines for categories of a grouping variable, click on the **top red triangle**, select **Group By**, and choose a grouping variable. Then, click on the **top red triangle** and select **Fit Line**.

JMP will fit separate lines and provide results for each level of the grouping variable.

Example: Big Class.jmp (Help > Sample Data)



Notes: Simple linear regression can also be performed from **Analyze > Fit Model**. For more details on regression analysis, see the book **Basic Analysis** (under **Help > Books**) or search for “regression” in the JMP Help.