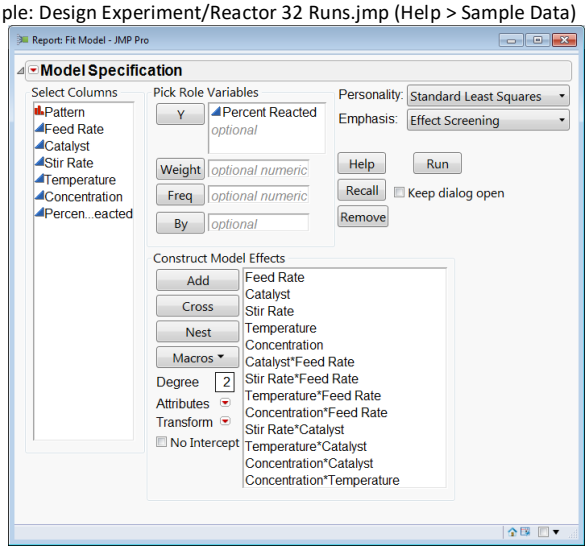
DOE Full Factorial Analysis

This page provides information on analyzing a full factorial experiment. For design of full factorial experiments, see **DOE Full Factorial Designs**.

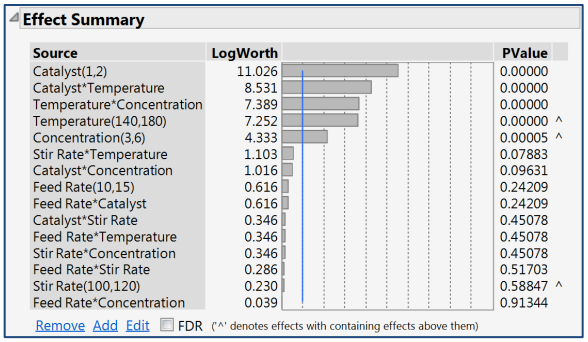
Specify the Model and Analyze

Example: Design Experiment/Reactor 32 Runs.jmp (Help > Sample Data)

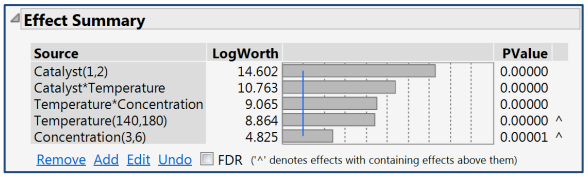


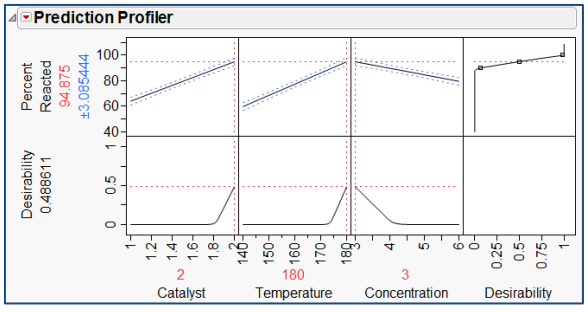
1. From an open JMP® table (for a completed full factorial experiment) select **Analyze > Fit Model**.
2. In the **Model Specification** window:
   - Click on the response under **Select Columns**, and click **Y** (under **Pick Role Variables**).
   - Select the factors of interest. Under **Macros**, select **Full Factorial** to enter all main effects and interactions into the model.
   - To remove higher-order interactions, select the interactions under **Construct Model Effects** and hit **Remove**.
3. Click **Run**. JMP will display the following results:
   - The Actual by Predicted plot.
   - The Effect Summary (shown).
   - Some diagnostics plots.
   - The Lack of Fit table (if replicates were used).
   - Parameter estimates and effect tests.
   - The Prediction Profiler and more.

   Other options are available under the **top red triangle**.



4. To **reduce the model**, remove non-significant terms bottom-up. To remove a term:
   - In the Effect Summary, select the least significant term(s).
   - Click **Remove**.
   - Effect Heredity: Keep lower-order components with containing effects above them (indicated by '^' in the right-most column).
   - Repeat until the model has been reduced.
   - Use the **Prediction Profiler** to explore the model, to optimize, and/or to simulate response values.





Notes: Designs created in JMP will have a saved **Model** script in the **Tables** panel (top left). For more details on designing or analyzing full factorial experiments, search for "full factorial" in the JMP Help or see Chapter 6 in the book ***Design of Experiments Guide*** (under **Help > Books**).