

## Practice: Selecting Variables Using Effect Summary

Open the file **VSSTeamData.jmp** in JMP. Make sure that the five outliers for **Yield** are hidden and excluded.

1. Fit a model for **MFI** and use only the continuous predictors (**SA** through **Ambient Temp**) and all possible two-way interactions for these continuous predictors. The model should have six main effects and 15 two-way interaction terms.
2. Use the Effect Summary table to slowly remove terms from the model, one at a time, until only significant terms (those with a  $p$ -value less than 0.05) remain. Remember that, if an interaction term is significant, the main effects for the interaction must be in the model.
  - a. How many interactions are in the reduced model? What are they?
  - b. How many main effects are in the final model? What are they?

- a. There are three interactions in the reduced model, **SA\*pH**, **SA\*Ambient Temp**, and **SA\*Xf**.

To fit the model, select **Fit Model** on the **Analyze** menu. Select **MFI** as the Y variable. Select **SA** through **Ambient Temp**, and then select **Factorial to Degree** on the **Macros** drop-down menu to add all possible main effects and two-way interactions. Click the **Effect Summary** table **Remove** button to remove terms from the model.

- b. There are five main effects in the reduced model, **M%**, **Xf**, **SA**, **pH**, and **Ambient Temp**. You cannot remove **pH** or **Ambient Temp** because they are involved in significant interactions.

Hide Solution

Close