This page provides information on designing a fractional factorial experiment using the JMP® DOE Screening Design platform. Note that the Custom Design platform can also be used to create efficient screening designs.

Create the Design
(DOE > Classical > Screening Design)

1. Specify the Response(s):
   - Double-click on Y, under Response Name, to name the response.
   - If needed, change the response Goal and Upper and Lower Limits.
   - Click Add Response to add additional responses.

2. Specify the Factors:
   - Add the desired number of Continuous (2-level) and 2- or 3-Level Categorical factors.
   - Double-click to change the factor names.
   - Tab to change the values for each factor.

3. Click Continue > Choose from a list of fractional factorial designs.

4. From the Design List, select the desired design and click Continue.

   Note that Plackett-Burman screening designs, and Incomplete Block Designs (with a value under Block Size) are also available.

5. Specify the Run Order (default is Randomize), the Number of Center Points and the Number of Replicates (the number of additional sets of runs for each design point).

   We will design an unreplicated fully randomized $2^{5-2}$ fractional factorial design with 3 center points, totaling 11 runs.

6. Select Make Table to generate the design table (or Back to make changes).

   Screening and Model scripts will be saved to the data table (top left), and the design specification window stays open to change or regenerate the design.

Notes: Screening designs can also be generated from the Custom Design platform. For more details, search for “fractional factorial” or “screening designs” in the JMP Help or see the Design of Experiments Guide (under Help > Books).