

A Typical 3-D Graph

This table illustrates typical steps involved in producing 3-D scenes containing either data graphs or models of 3-D objects. Example applications include pseudocolor surfaces illustrating the values of functions over specific regions and objects drawn with polygons and colored with light sources to produce realism. Usually, you follow either step 4 or step 5.

Step	Typical Code
1. Prepare your data.	<code>Z = peaks(20);</code>
2. Select window and position plot region within window.	<code>figure(1) subplot(2,1,2)</code>
3. Call 3-D graphing function.	<code>h = surf(Z);</code>
4. Set colormap and shading algorithm.	<code>colormap hot shading interp set(h, 'EdgeColor', 'k')</code>
5. Add lighting.	<code>light('Position', [-2, 2, 20]) lighting phong material([0.4, 0.6, 0.5, 30]) set(h, 'FaceColor', [0.7 0.7 0], ... 'BackFaceLighting', 'lit')</code>
6. Set viewpoint.	<code>view([30, 25]) set(gca, 'CameraViewAngleMode', 'Manual')</code>
7. Set axis limits and tick marks.	<code>axis([5 15 5 15 -8 8]) set(gca, 'ZTickLabel', 'Negative Positive')</code>
8. Set aspect ratio.	<code>set(gca, 'PlotBoxAspectRatio', [2.5 2.5 1])</code>
9. Annotate the graph with axis labels, legend, and text.	<code>xlabel('X Axis') ylabel('Y Axis') zlabel('Function Value') title('Peaks')</code>
10. Print graph.	<code>set(gcf, 'PaperPositionMode', 'auto') print -dps2</code>

