

## Assignment 4: Benzene Ring

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### Student learning outcomes:

1. Students will create an artistic illustration of a molecule as opposed to a scientific one.
2. Students will apply SVG gradients to objects fills and strokes.
3. Students will use an online tool to accurately calculate the location of six images to be spaced evenly around the center of the page (with centers located at the vertices of a regular hexagon).

### Real world applications:

1. Employers expect graphic artists to understand color, matching lightness and darkness of colors, and creating subtle backgrounds.

### Assignment requirements

- Draw six circles in six different colors. Each circle will use a radial gradient to create a 3D effect of a sphere.
- Create six different radial gradient definitions.
- Draw atomic bonds between the atoms. Some of the bonds are double bonds.
- Create the double bonds by duplicating and offsetting the bonds slightly to the right and left, or up and down.
- Bonds that are located on a diagonal can use a line with a thick stroke.
- Bonds that are strictly vertical or horizontal may need to use an equivalent narrow rectangle. Students will calculate the rectangle coordinates necessary to replace the lines that don't work (due to a pervasive browser bug or obscure SVG setting).
- Create a shading on the bonds using linear gradients that go horizontally, vertically, and on both diagonals.
- Create a radial gradient background that has several stops that alternate between two subtle colors, creating a ripple pattern.

