Activity: Drawing, visualizing and interpreting 3-D molecular structure

Learning objectives:
Students will be able to:
1. Write the formula for a molecule based on a 3-D structure.
2. Draw a molecule based on a 3-D structure.
3. Convey 3-D structure of a molecule in a drawing.
4. Translate molecular connectivity to a drawing that conveys 3 dimensions.
5. Create digital drawings of molecules using Chemdraw or similar chemical drawing software.

Activity:
Part A: Five, 3-D molecules will be displayed in the classroom. For each, write the chemical formula, draw the connectivity, and draw the structure in a way that conveys the 3-D shape.

Formula	Connectivity Drawing	Drawing with 3-D

Formula	Connectivity Drawing	Drawing with 3-D

Part B: Once you have completed all of the above, open up Chemdraw, and create a digital version of the tables in this worksheet. Pay close attention to quality of the presentation.

Part C: Draw the following molecule in Chemdraw. Write the answers to the questions in Chemdraw using a text box.

- Use "View > Analysis window" to determine the molecular weight, formula, and elemental analysis.
- Use "Structure > convert structure to name" to determine the IUPAC name.
- Do a google search to determine the common name of this molecule
- What is this molecule used for?