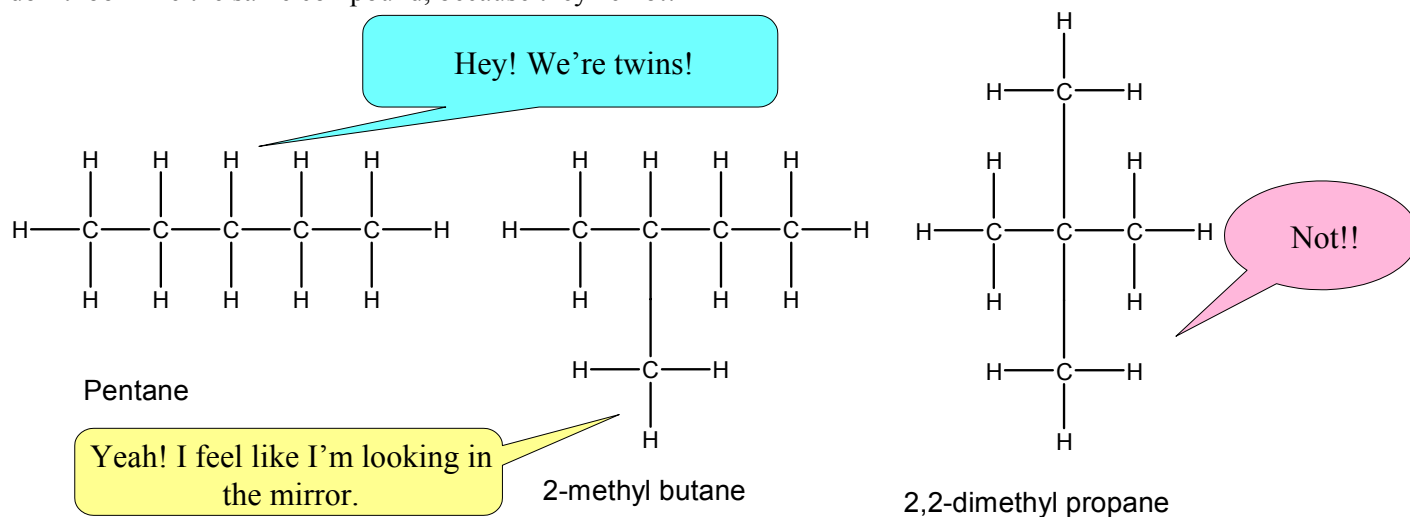
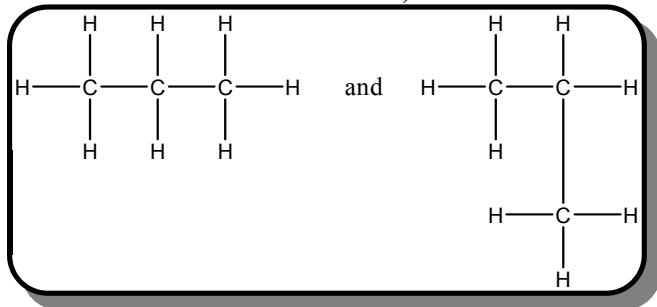


isomers

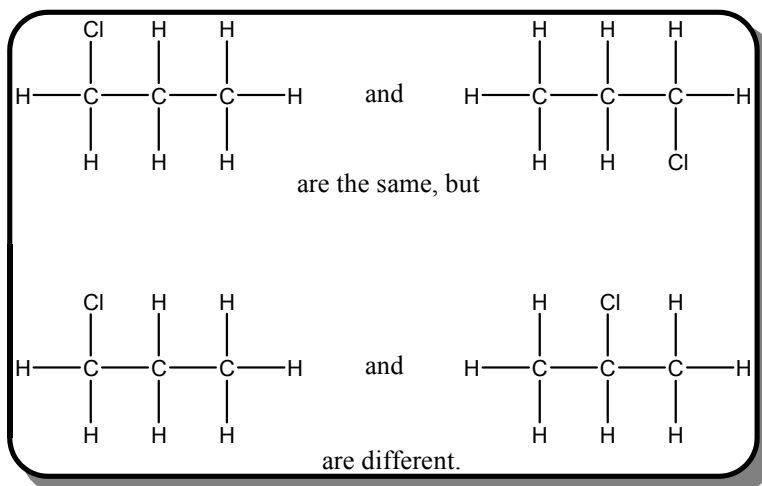
Isomers are compounds that have the same simple formula, but different structures. Below are three isomers of C_5H_{12} . They don't look like the same compound, because they're not!



The tricky part of recognizing isomers comes from the fact that on paper, all the bond angles are multiples of 90° while in three dimensions the bond angles are all 109.5° . On paper the following two structures for C_3H_8 look different, but they're not. The carbons in the drawing at the left appear to be at 180° to each other while the ones at the right appear to be at 90° . In fact, they are all 109.5° in three dimensions, but can't be drawn that way on paper.



Other structures may look different, but if they can be flipped and superimposed on top of each other, they are the same. See the drawing below.



In order for two compounds to be isomers, they must have the same simple formula, and they must be truly different. Looking different on paper is not enough!!

Answer the questions below based on the reading above, and on your knowledge of chemistry.

1. Draw the isomers for C_4H_{10} .

2. Draw the isomers of C_4H_9Cl .

3. Draw the isomers of $C_5H_{11}Cl$.

4. Draw the isomers of C_4H_8 .

5. Draw the isomers of C_4H_6 .

6. Draw the isomers of C_2H_6O .