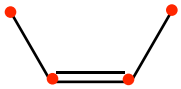
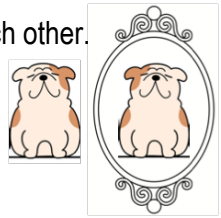
CONCEPT: ISOMERS

- **Isomers** are molecules with the _____ molecular formula, but _____ connectivity or spatial orientation.
- **Structural (Constitutional) Isomers:** same molecular formula but different _____.
- **Stereoisomers:** same molecular formula and connectivity but different _____ orientation.

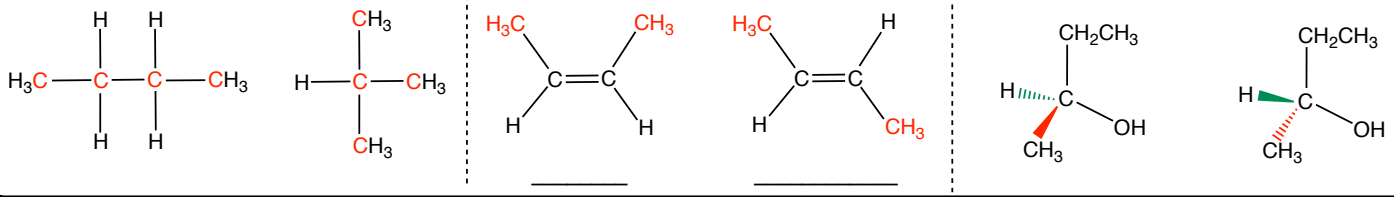
Structural Isomer	C_4H_{10}	Stereoisomer
		

- **Stereoisomers** are further divided into ____ types.
  - □ **Geometric stereoisomers:** molecules with different spatial arrangements around a _____ bond.
  - □ **Optical stereoisomers:** molecules that are *nonsuperimposable* _____ images of each other.
    - **Nonsuperimposable:** mirror image cannot be placed one _____ the other.

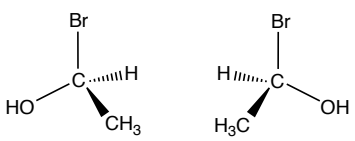


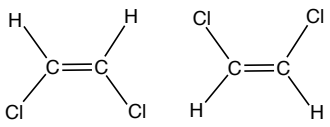
Types of Isomers

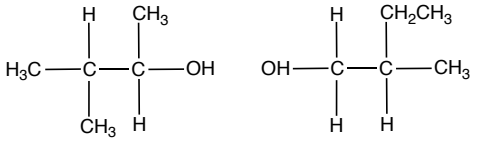
Isomers
- Structural isomers
- Stereoisomers
  - Geometric
  - Optical



EXAMPLE: Based on the pair of molecules, identify as structural, optical, geometric isomers or identical.

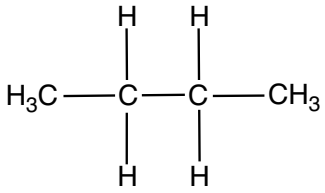
i) 

ii) 

iii) 

CONCEPT: ISOMERS

PRACTICE: Draw a constitutional isomer of butane.



PRACTICE: Draw all structural isomers for C_3H_8O.

PRACTICE: Provide a cis isomer for the following compound.