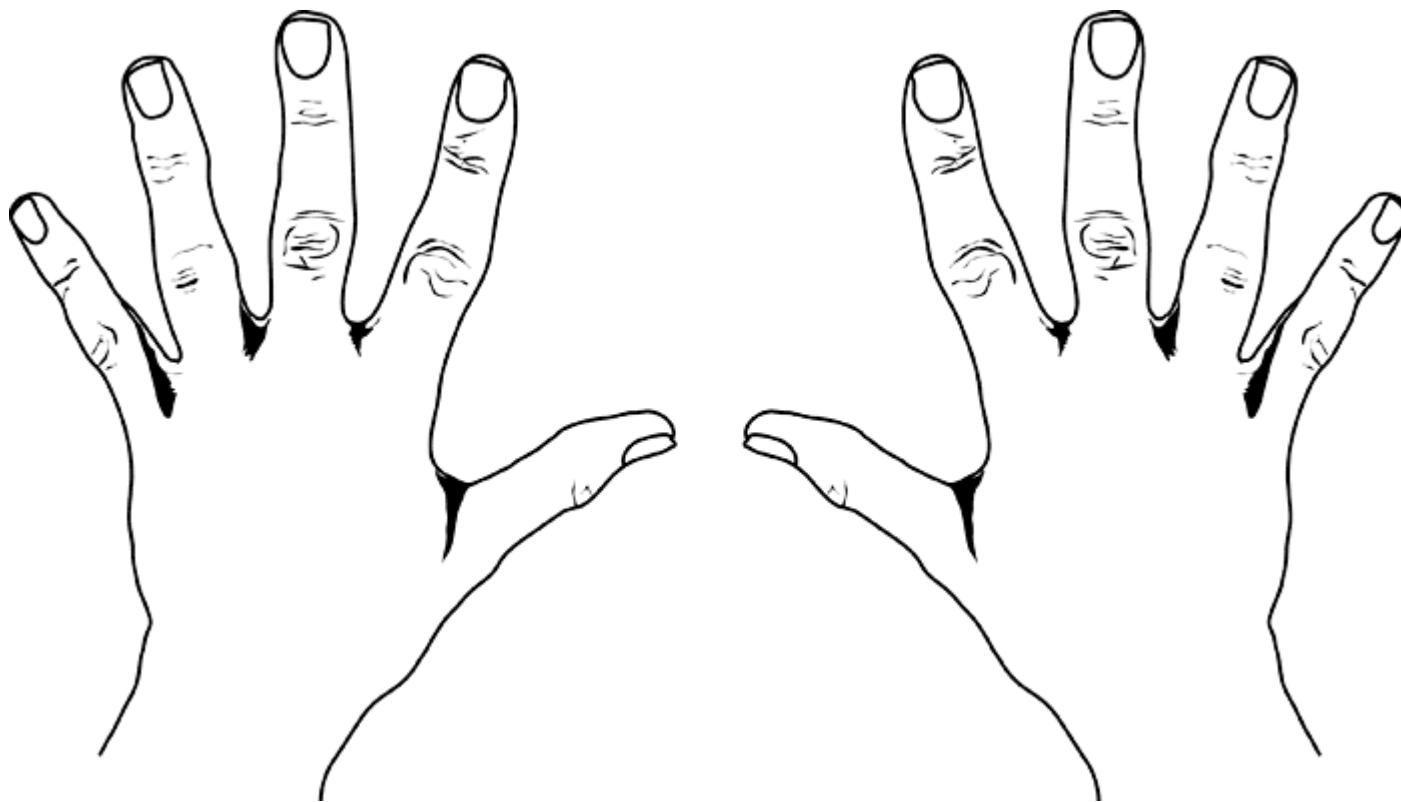


Isomers



Outcome:

Name, draw & construct molecular models of isomers for alkanes up to 6 carbons long.

Structural Isomers:

- Compounds that have the same **NUMBER** and **KIND** of atoms, but have different **STRUCTURAL FORMULAS**.
 - Their **MOLECULAR** formulas are the **SAME**, but they have a **DIFFERENT STRUCTURE** and a **DIFFERENT NAME**.
- Their different **STRUCTURAL ARRANGEMENT** gives them **DIFFERENT PROPERTIES**.

Activity:

1. Use the modelling kits to build Pentane (C_5H_{12})
2. Once you have built pentane, use the same materials to build two new molecules (isomers). They must:
 - Have the same number of carbons & hydrogens
 - Have **different names** pentane

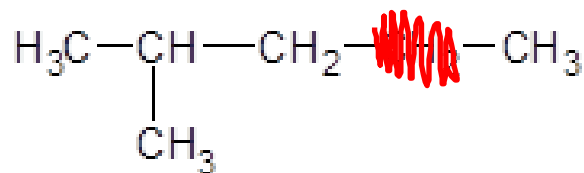
Structural Isomers:

Example:

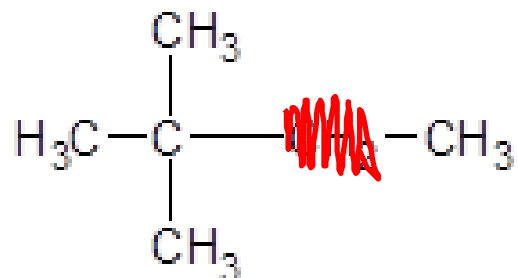
Pentane (C₅H₁₂) has 3 isomers:



PENTANE



2-METHYLBUTANE



2,2-DIMETHYLPROPANE



Structural Isomers:

Note:

As the number of carbons increases, the number of possible isomers increases rapidly...

Number of Carbon Atoms	Number of Isomers
4	2
5	3
6	5
10	75
40	62,491,178,805,831

Structural Isomers:

Try this one...

Draw and name the 2 possible isomers for butane?

