

**Design 3D Models, and explain  $SP^3$  &  $SP^2$   
Hybridization in Methane, Ethane, and Ethylene molecules.**

**Dr. Mehat's Gifted and Honors Class Date March 25,2025**

**Standards- SC2 d.** Develop and use models to evaluate bonding configurations from nonpolar covalent to ionic bonding.

**Level 4 activity (DOK4)-** Students can design and build 3D models of methane, ethane, and ethylene molecules using a "ball and stick" approach, focusing on understanding bonding and molecular geometry, and then present their models and explain their structures.

1. **Rubric-** Make neat clay models
2. Carbon and Hydrogen atoms are differentiated with colors
3. Research paper for each molecule to be prepared.
4. Draw a neat diagram for each molecule and label them.
5. Summarize the construction of each molecule with the Hybridization.

• **Advantages of this Project-**

- College Career Readiness Activity
- • Personality Development
- • Dress for Success
- • Improve their research skills
- Improve their critical thinking skills.
- • Group will present a given Molecule
- • Each student acts like a Scientist.