Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Assign: 2

**Carbon compounds can take on all three states of matter. The number of carbons in the compound can determine the state of matter it exists in.**

|  |  |  |
| --- | --- | --- |
| **Name** | **# of Carbon Atoms** | **Uses** |
| Methane | 1 | Fuel in electrical generation. Produces least about of carbon dioxide. |
| Ethane | 2 | Used in the production of ethylene, which is utilized in various chemical applications. |
| Propane | 3 | Generally used for heating and cooking |
| Butane | 4 | Generally used in lighters and in aerosol cans |
| Pentane | 5 | Can be used as solvents in the laboratory and in the production of polystyrene. |
| Hexane | 6 | Used to produce in glue for shoes, leather products, and in roofing |
| Heptane | 7 | The major component of gasoline |
| Octane | 8 | An additive to gasoline that reduces knock, particularly in its branched forms |
| Nonane | 9 | The component of fuel, particularly diesel |
| Decane | 10 | A component of gasoline, but generally more important in jet fuel and diesel |



**Name the following alkanes. Next to name label as a solid, liquid, or gas**

1. C-C-C-C

1. C-C-C-C-C-C

1. C-C-C-C-C-C-C-C-C-C
2. C

1. C-C-C
2. C-C-C-C-C

**Draw the following alkanes. Next to name label as a solid, liquid, or gas**

1. Ethane

1. Butane

1. Pentane

1. Heptane

1. Nonane

**Draw the following alkenes and alkynes:**

1. Oct-2-ene
2. Prop-1-yne
3. Dec-3-ene
4. Hex-1-yne
5. But-2-ene

**Draw the structure of the following:**

1. 2-methyl pentane
2. 3-methyl hexane
3. 4-ethyl octane
4. 4-propyl octane
5. 4-propyl pentane