**Chapter 2: Formative Assessment**

1. You need to know and be able to use the generic formulas for: (2 Questions)

* Acyclic alkanes:
* Cycloalkanes:

2. You need to be able to name organic compounds and draw the correct structure given the name.
(10 Questions)

* Name an acyclic molecule with 8 carbon atoms in its longest chain:
* Name a cycloalkane with 9 carbons:
* Draw a 1,2 dimethyl hexane:
* Draw a 1ethyl cyclopropane

3. You need to be able to name complex branches and halogen substitutions. (7 Questions)

* Draw 2,2,3 trichloropentane
* Draw the complex branch of 3 ethyl 4 (1 ethyl 2 methyl propyl) octane

4. Fill in the table below regarding isomers: (6 Questions)

|  |
| --- |
| Types of Isomers |
|  | Structural | Configuration | Conformer |
| How do these form? (How do you recognize them) |  |  |  |
| Example |  |  |  |



5. Boiling Points: See Review Questions 5 and 6 from notes. (2 Questions)

6. Boats and Chairs (2 Questions)

|  |  |  |
| --- | --- | --- |
|  | Draw a Boat | Draw a Chair |
| Label Each with Axial and Equatorial Markings | Skip |  |
| Put a Chlorine atom on Carbon 1 Axial and Carbon 3 Equatorial. | Skip |  |
| Are the molecules Cis/Trans? | Skip |  |
| Ring flip the molecule. Does that change the initial Cis/Trans label? | Skip |  |

7. Hydrogen Bonding: (1 Question)

* What molecules do not engage in hydrogen bonding? Why?
	+ Is there another force at play?
* What molecules do engage in hydrogen bonding? Why?

8. Newman Projections:

* How does stability tie into Newman projections?
* Draw a Newman projection of heptane using Carbon 3 and 4 as a lens. (3 Questions)

9. Combustion Reactions (1 Question)

* Write the equation for the combustion of cyclobutane using abbreviated formula.

10. Oxidation (1 Question)

* How do you calculate oxidation levels?

11. Halogenation (4 Questions)

* Write the overall equation for the monofluorination of butane. Use **abbreviated** formula.
* Show me labeling each step, initiation, propagation, and termination the monofluorination of butane. There should be 3 different termination possibilities included. \* Use **abbreviated** formula. \* Use **arrows** to show electron movement. \*Show **bond** being broken.
* Write the overall equation for the complete fluorination of butane.