

# BUILDING 3-D HYDROCARBON MODELS

## I. Pre-lab questions : answer the following questions

1. What element does organic chemistry study ? \_\_\_\_\_
2. What are the only two elements that build hydrocarbon compounds ?  
\_\_\_\_\_
3. What is the difference between a *saturated* hydrocarbon and an *unsaturated* hydrocarbon ?  
\_\_\_\_\_
4. How many bonds do carbon and hydrogen atoms form to become stable ? (hint : for both elements, the number of bonds is the same as the number of electrons they contain)

Carbon \_\_\_\_\_

Hydrogen \_\_\_\_\_

**II. The Lab Activity : you will draw molecular model pictures of various hydrocarbons & create a 3-D model of each compound. Your 3-D model must be seen by your teacher ( your teacher will initial your paper if the model is correct).**

## DRAW AND CREATE THE FOLLOWING HYDROCARBONS

1. Methane
2. Ethane
3. Propane
4. Butane
5. Pentane

6. Ethene

7. Propyne

8. Butene

9. Pentyne

10. Isopentane

(2 methyl butane)

**III. Reflecting on the Lab Activity – Questions to answer in complete sentences.**

1. How did your models of pentane and isopentane differ? How are they the same? Explain
2. Based on your answer to question 1 and use of your textbook, what is an isomer?
3. Even though we draw molecular models on paper in a "straight line", what shape do these molecules really take? (use butane as your model to answer this)