

Name: \_\_\_\_\_

## Lab: Organic Chemistry Basics

### Lab Credit Sheet

For Teacher Use Only:

Minutes \_\_\_\_\_

Approved \_\_\_\_\_

Answer the following questions with thoughtful, detailed answers in complete sentences. *Cite specific examples from your observations and results of the lab activity.*

### Part 1: Saturated Hydrocarbons - Alkanes

1. Where do most alkanes come from and what do we use them for? \_\_\_\_\_

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2. Write the combustion equation for the burning of butane. Include ENERGY in your equation and balance it.

3. What is a hydrocarbon? \_\_\_\_\_

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4. What does it mean for a hydrocarbon to be *saturated*? \_\_\_\_\_

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5. Write the *molecular*, *condensed*, and *structural* formulas for heptane.

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### Part 2: Isomers of Alkanes

6. What is an *isomer*? How is it different from an *isotope* and an *allotrope*? \_\_\_\_\_

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7. Draw structural formulas for 3 isomers of heptane (besides straight chain heptane) and NAME each of them.

### Part 3: Unsaturated Hydrocarbons – Alkenes & Alkynes

8. What makes a hydrocarbon *unsaturated*? \_\_\_\_\_

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9. What does the phrase “homologous series” mean, like it says on Table Q? \_\_\_\_\_

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10. Draw structural formulas for 3 isomers of 2-heptene (not including 2-heptene) and NAME each of them.