

## Section 3A: Petroleum: Breaking and Making Bonds

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

Prefixes:

1 = \_\_\_\_\_

5 = \_\_\_\_\_

8 = \_\_\_\_\_

2 = \_\_\_\_\_

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Part 1: Petroleum

1. Define and describe petroleum.
2. Define crude oil.
3. What is the main use of petroleum? What is the second main use of petroleum?
4. Explain two problems with burning of petroleum.
5. Which two elements do hydrocarbons contain?
6. Define viscosity.
7. List a substance with low viscosity. List a substance with high viscosity.
8. Describe how fossil fuels are formed.
9. What is your carbon footprint?

Part 2: Alkanes

10. What makes a compound an alkane?

11. How many bonds can carbon make? \_\_\_\_\_ How many bonds can hydrogen make? \_\_\_\_\_
12. What does a structural formula show? Draw an example.
13. What is the general formula for alkanes.

Part 3: Distillation

14. Define intermolecular forces.
15. Define distillation.
16. Define fractional distillation.
17. Which characteristic is used by fractioning towers to separate the components of crude oil?
18. List three things affected by intermolecular forces.
19. Define isomer.
20. Explain the difference between a straight chain alkane and a branched alkane. Draw an example of each.