**Alkane Resources Pre-Quiz Answer Key**

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| **Consider your own background experience and knowledge to describe the chemistry meaning of the following words: (If you do not know, write your best guess.)** |
| element: A chemical substance that cannot be broken down by chemical means. |
| compound: A substance formed by the chemical bonding of two or more chemical elements in a fixed ratio. |
| hydrocarbon: A compound consisting of only carbon and hydrogen atoms. |
| alkane: A hydrocarbon with no double bonds and no ring formations. |
| chemical reaction: A process of chemical change in which chemical bonds are broken and reformed, resulting in new substances. |
| monomer: A relatively small molecule which can be covalently bonded to other like monomers to form a polymer. |
| oligomerization: The formation of an oligomer from a monomer. An oligomer is 2-100 monomers chemically joined together. |
| renewable resource: A natural resource that is replenished by natural processes at a rate comparable to its rate of consumption. |
| non-renewable resource: A natural resource that will not return, (renew), or will only return after a long period of time |
| Matter cannot be created or destroyed (this is the Law of Conservation of Matter). In chemistry, this means we must **BALANCE** our written chemical reactions by making sure each side of the arrow has the same number of atoms of each element. Try to balance the reaction below. |
| 2 C2H4 → C4H8 |
| The reaction shown above contains both elements and compounds. List the elements and compounds found in that reaction. |
| Elements: carbon (C) and hydrogen (H) |
| Compounds: ethylene (C2H4) and butylene (C4H8) |
| Describe the main characteristic of alkanes as compared with other hydrocarbons. |
| Alkanes are hydrocarbons with no double bonds (or rings), as contrasted with both ethylene and butylene, which both contain one double bond. |