Organic #1 **History, Sources & Isomers** Name: _____

1. Classify the following as organic or inorganic:

| $C_4H_{10}$ | NaCN | $C_2H_5OH$ | $K_2CO3$ | $CH_3F$ | $CO_2$ | $CH_3NH_2$ | $NH_3$ |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

2. Fill in the blanks:

a) _____ believed in 'Vitalism'.

b) _____ accidentally discovered urea.

c) _____ classified chemicals into 'organic' and 'inorganic'.

d) _____ compounds come from mineral or non-living matter.

e) _____ have the same chemical formula but different structural formulas

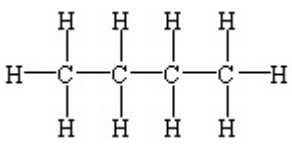
3. List the three sources of organic chemicals:

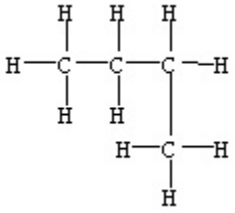
_____ _____ _____

4. Matching:

| | |
|---|---|
| _____urea | A. Contains at least one benzene ring |
| _____aliphatic | B. Have at least one double bond |
| _____aromatic | C. Only single bonds between carbon atoms |
| _____derivative | D. First organic compound made in the lab |
| _____alkane | E. Contain only C and H atoms |
| _____alkene | F. Contain C, H, and another nonmetallic atom |
| _____alkyne | G. Contains single, double, or triple bonds |
| _____hydrocarbon | H. Have at least one triple bond |

5. When asked to draw two isomers of $C_4H_{10}$, a student gave these diagrams.





Explain why these two diagrams represent the same molecule.

_____

_____

_____

b) Draw the two isomers of $C_4H_{10}$.

6. Draw three isomers of $C_5H_{12}$.