

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

## 12.1 Practice

1. Which compound is a saturated hydrocarbon?

- \_\_\_\_\_ (1) propanal (2) propane  
(3) propene (4) propyne

2. Which condensed structural formula represents an unsaturated compound?

- \_\_\_\_\_ (1)  $\text{CH}_3\text{CHCHCH}_3$   
(2)  $\text{CH}_3\text{CH}_2\text{CH}_3$   
(3)  $\text{CH}_3\text{CH}_3$   
(4)  $\text{CH}_4$

3. Which formula represents an organic compound?

- \_\_\_\_\_ (1)  $\text{CaH}_2$  (2)  $\text{C}_4\text{H}_8$   
(3)  $\text{H}_2\text{O}_2$  (4)  $\text{P}_2\text{O}_5$

4. Which formula represents an unsaturated hydrocarbon?

- \_\_\_\_\_ (1)  $\text{CH}_4$  (2)  $\text{C}_2\text{H}_4$  (3)  $\text{C}_3\text{H}_8$  (4)  $\text{C}_4\text{H}_{10}$

5. A molecule of an unsaturated hydrocarbon must have

- \_\_\_\_\_ (1) at least one single carbon-carbon bond  
(2) at least one multiple carbon-carbon bond  
(3) two or more single carbon-carbon bonds  
(4) two or more multiple carbon-carbon bonds

6. Which formula represents an unsaturated hydrocarbon?

- \_\_\_\_\_ (1)  $\text{C}_3\text{H}_{12}$  (2)  $\text{C}_6\text{H}_{14}$  (3)  $\text{C}_7\text{H}_{16}$  (4)  $\text{C}_8\text{H}_{14}$

7. Which compound is classified as a hydrocarbon?

- \_\_\_\_\_ (1) butanal (2) butyne  
(3) 2-butanol (4) 2-butanone

8. A carbon-carbon triple bond is found in a molecule of

- \_\_\_\_\_ (1) butane (2) butanone  
(3) butene (4) butyne

9. Which compound is an alkyne?

- \_\_\_\_\_ (1)  $\text{C}_2\text{H}_2$  (2)  $\text{C}_2\text{H}_4$  (3)  $\text{C}_4\text{H}_8$  (4)  $\text{C}_4\text{H}_{10}$

10. Which element is present in all organic compounds?

- \_\_\_\_\_ (1) carbon (2) hydrogen  
(3) nitrogen (4) oxygen

11. Which atoms can bond with each other to form chains, rings, or networks?

- \_\_\_\_\_ (1) carbon atoms (2) hydrogen atoms  
(3) oxygen atoms (4) nitrogen atoms

12. Which formula represents an unsaturated hydrocarbon?

- \_\_\_\_\_ (1) 
$$\begin{array}{c} \text{H} \quad \text{O} \\ | \quad || \\ \text{H}-\text{C}-\text{C}-\text{H} \\ | \\ \text{H} \end{array}$$
  
(2) 
$$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ | \quad | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$$
  
(3) 
$$\begin{array}{c} \text{H} \quad \text{H} \\ | \quad | \\ \text{H}-\text{C}-\text{C}=\text{C}-\text{H} \\ | \quad | \\ \text{H} \quad \text{H} \end{array}$$
  
(4) 
$$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ | \quad | \quad | \\ \text{H}-\text{C}-\text{O}-\text{C}-\text{C}-\text{H} \\ | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$$