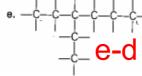
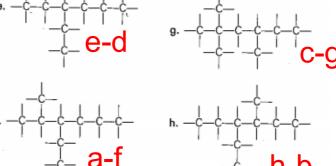
### 3.2 Naming Hydrocarbons Assignment



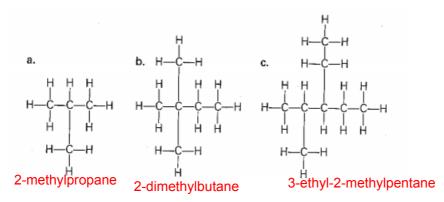
# 3.2 Assignment KEY

- 1. Match each name in a-d below with the correct structure in e-h.
  - a. 3-ethyl-2-methylhexane
- c. 2,2,4-trimethylhexane
- b. 3-ethyl-4-methylhexane
- d. 3-ethylhexane

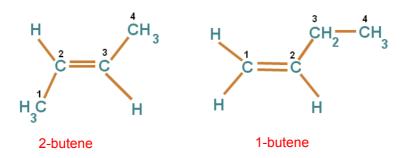




2. Write the names of the following alkanes



3. Distinguish between 1-butene and 2-butene by drawing their structural formulas.



- 4. Challenge! Which of the following would have the highest boiling point?
- a. butane
- b. ethene
- c. butanol

## 3.2 Naming Hydrocarbons Assignment



# 3.2 Assignment KEY

### 5. Complete the following table

IUPAC Name	Complete Structural Formula	Condensed Chemical Formula
butane	H H H H H-C-C-C-C-H I I I H H H H	C <sub>4</sub> H <sub>10</sub>
2-methylhexane	H-C-H H-C-C-C-C-C-H H-H-H-H-H-H	C <sub>7</sub> H <sub>16</sub>
3-ethyl-2-methylnonane	CH <sub>3</sub> CH <sub>3</sub> CH <sub>3</sub> CHCHCH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> I CH <sub>2</sub> CH <sub>3</sub>	C <sub>12</sub> H <sub>26</sub>
propene	HC=CCH <sub>3</sub>	C <sub>3</sub> H <sub>6</sub>
4-methyl-2-heptene	ĆH₃ĆHĆH₂ČH—ĆHĊH₃ ĆH₃	C <sub>8</sub> H <sub>16</sub>
ethyne	$H-C\equiv C-H$	$C_2H_2$
5,6-dimethyl-2-octyne	CH <sub>3</sub> I CH <sub>3</sub> C≡CCH <sub>2</sub> CHCHCH <sub>2</sub> CH <sub>3</sub> I CH <sub>3</sub>	C <sub>10</sub> H <sub>18</sub>

#### 3.2 Naming Hydrocarbons Assignment



# 3.2 Assignment KEY

6. Name the following hydrocarbons.

$$CH_2-CH_3\\ |\\ a) \quad CH_3-CH-CH_2-CH-CH-CH_3\\ |\\ CH_2 \quad CH_3 \quad 3,4,6-trimethyloctance\\ |\\ CH_3$$

- d)  $CH \equiv C CH_3$  propyne
- e) CH<sub>3</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH=CH-CH<sub>3</sub> 2-hexene
- f) CH<sub>2</sub>=CH-CH<sub>2</sub>-CH=CH-CH<sub>3</sub> 1,4-hexadiene
- g)  $CH_3 CH_2 C \equiv C CH_2 CH_3$  3-hexyne