

CONCEPT: NAMING ALKANES WITH SUBSTITUENTS

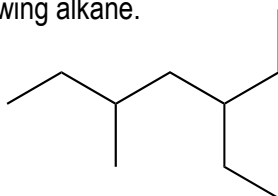
• When naming compounds, name consists of: _____ chain, name of *substituents* and their _____.

□ **Substituent:** any alkyl group that _____ off the parent chain.

- Name format:

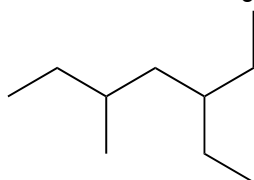
location-substituent-parent

EXAMPLE: Give systematic name of the following alkane.



STEP 1: Find the _____ carbon chain (parent chain) and assign name according to the prefixes.

□ If a tie between longest chains, choose chain with more substituents.

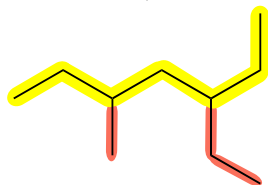


STEP 2: Assign name to all the substituents.

STEP 3: Start numbering the chain from the _____ substituent.

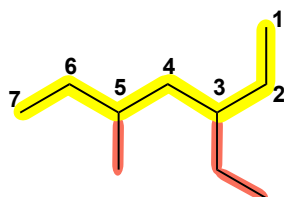
□ If a tie between substituents, compare the next closest substituent.

□ If still a tie, number in _____ order.



STEP 4: Assign _____ (location) for each substituent.

□ When more than 1 identical substituents, use prefixes: _____ 2, _____ 3, _____ 4.



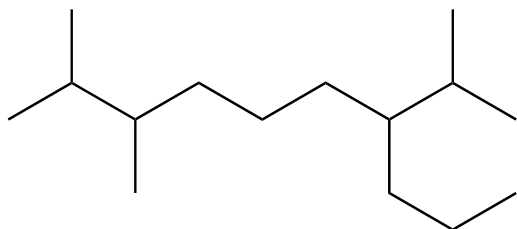
STEP 5: Name substituents in _____ order; prefixes do not count.

STEP 6: Use _____ to separate numbers from numbers, and _____ to separate letters from numbers.

□ Letters are not separated from letters.

CONCEPT: NAMING ALKANES WITH SUSTITUENTS

PRACTICE: Provide a systematic name for the molecule.



PRACTICE: Draw a structure for 2,6-dimethyl-4-propylnonane.

PRACTICE: Draw a structure for 4-tert-butyl-3-isopropyl-2-methyloctane.