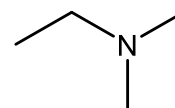
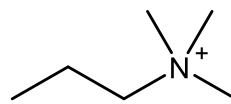
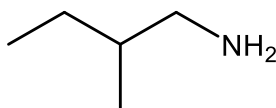
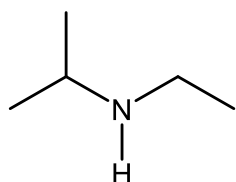


CONCEPT: CLASSIFYING AMINES

- Amines are classified based on how many ____ atoms are bonded to the ____ atom.
 - Classifications: primary (____), secondary (____), or tertiary (____).
- In a quaternary (____) ammonium ion, the N atom bonds to ____ C atoms and has a ____ charge.

Amine Classification			
____ Amine	____ Amine	____ Amine	____ Ammonium ion
$\begin{array}{c} \text{C} - \text{N} - \text{H} \\ \\ \text{H} \end{array}$	$\begin{array}{c} \text{C} - \text{N} - \text{H} \\ \\ \text{C} \end{array}$	$\begin{array}{c} \text{C} - \text{N} - \text{C} \\ \\ \text{C} \end{array}$	$\begin{array}{c} \text{C} \\ \\ \text{C} - \text{N}^+ - \text{C} \\ \\ \text{C} \end{array}$

EXAMPLE: Classify each structure as a primary, secondary, tertiary amine, or as a quaternary ammonium ion.



PRACTICE: In the following structure, identify each functional group as primary, secondary, tertiary amine, or as a quaternary ammonium ion.

