1. Draw Lewis structures for these common ions. Indicate the charge on the counterions.

NaOH, NaNH₂, KH, Na₂CO₃, NaHCO₃, CH₃COOK, LiN[CH(CH₃)₂]₂

2. Indicate polar bonds in these molecules with bond dipole arrows:
3. Draw a resonance structure (including lone pairs) based on the given arrows.

\[
\begin{align*}
\text{H}_2\text{N} & \xrightleftharpoons{\text{C}} \text{C} & \text{NH}_2 \\
\text{H}_2\text{N} & \xrightleftharpoons{\text{C}} \text{C} & \text{NH}_2 \\
\text{H}_2\text{C} & \xrightleftharpoons{\text{C}} \text{C} & \text{C} & \text{O} \\
\text{H}_2\text{C} & \xrightleftharpoons{\text{C}} \text{C} & \text{C} & \text{O} \\
\end{align*}
\]

4. Why are these arrows wrong (and therefore lead to a wrong structure)?

\[
\begin{align*}
\text{H}_2\text{C} & \xrightleftharpoons{\text{C}} \text{C} & \text{NH} \\
\text{H}_2\text{C} & \xrightleftharpoons{\text{C}} \text{C} & \text{NH} \\
\end{align*}
\]

The student forgot the implicit lone pair!
5. For each structure, draw all acceptable resonance structures. Draw appropriate arrows and describe the pattern you recognized.

\[ \text{Notice:} \, \text{This bond is isolated, so no resonance.} \]

\[ \text{Notice:} \, \text{Same pattern even though structures are different.} \]