

Functional group	Name	Functional group	Name
R-CN	nitrile	R-NH ₂	amine
$\text{R}-\overset{\text{O}}{\underset{\text{O}^-}{\text{C}}}-\text{O}^-$	carboxylate ion	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{O}-\text{R}$	ester
$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{O}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{R}$	acid anhydride	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{NH}_2$	amide
$\text{R}-\overset{\text{O}}{\underset{\text{H}}{\text{C}}}-\text{H}$	aldehyde	$\text{R}-\overset{\text{O}}{\underset{\text{OH}}{\text{C}}}-$	carboxylic acid
$\text{R}-\overset{\text{O}}{\underset{\text{R}}{\text{C}}}-\text{R}$	ketone	R-X	haloalkane
R-OH	alcohol	R-O-R	ether

Gridlock 1 – answers

functional group		name	
$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{O}-\text{R}$	$\text{R}-\overset{\text{O}}{\underset{\text{O}^-}{\text{C}}}-\text{O}^-$	acid anhydride	aldehyde
$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{O}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{R}$	$\text{R}-\overset{\text{O}}{\underset{\text{H}}{\text{C}}}-\text{H}$	ester	carboxylate ion
carboxylate ion	acid anhydride	$\text{R}-\overset{\text{O}}{\underset{\text{H}}{\text{C}}}-\text{H}$	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{O}-\text{R}$
aldehyde	ester	$\text{R}-\overset{\text{O}}{\underset{\text{O}^-}{\text{C}}}-\text{O}^-$	$\text{R}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{O}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{R}$

Gridlock 2 – answers

functional group			name
$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{NH}_2 \end{array}$	R-CN	amine	ketone
R-NH ₂	$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{R} \end{array}$	nitrile	amide
nitrile	amide	$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{R} \end{array}$	R-NH ₂
ketone	amine	$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{NH}_2 \end{array}$	R-CN
name			functional group

Gridlock 3 – answers

functional group			name
R-X	R-OH	carboxylic acid	ether
R-O-R	$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{OH} \end{array}$	haloalkane	alcohol
alcohol	haloalkane	R-O-R	$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{OH} \end{array}$
carboxylic acid	ether	R-OH	R-X
name			functional group