

Activity Series of Common Metals

Metal Oxide Reactions		Reactions with water & acids		
Oxides of these metals do not produce the metal when reacted with Hydrogen gas (ex. $K_2O + H_2 \rightarrow$ No reaction)	Li	Reacts with cold water to produce Hydrogen gas. (Replace 1/2 the hydrogen in cold water to produce a metallic hydroxide & hydrogen gas) (ex. $2 Na + 2 H_2O \rightarrow 2 NaOH + H_2$)		
	K			
	Ba			
	Sr			
	Ca			
	Na	Reacts with steam to produce Hydrogen gas. (ex. $2 Zn + 2 H_2O \rightarrow 2 ZnOH + H_2$)		
	Mg			
	Al			
	Mn			
	Zn			
	Cr			
	Fe			
Oxides of these metals produce the metal when reacted with Hydrogen gas (ex. $PbO + H_2 \rightarrow H_2O + Pb$)	Cd	Reacts with Acids to produce Hydrogen gas (ex. $Ni + 2 HCl \xrightarrow{\Delta} NiCl_2 + H_2$)		
	Co			
	Ni			
	Sn			
	Pb			
	H	<i>React with Oxygen to produce oxides (Copper and up)</i> (ex. $2Ca + O_2 \rightarrow 2CaO$) Requires very strong acids to dissolve		
	Sb			
	As			
	Bi			
	Cu			
Oxides of these metals are produced very slowly, if at all. Oxides are decomposed by heat.	Hg			
	Ag			
	Pd			
	Pt			
	Au			

** A more active metal can reduce a less active metal **

Nonmetal Activity Series

$F > Cl > Br > I$