

ACCELERATED CHEMISTRY

1st SEMESTER TEST

FORMULA SHEET

<u>Element</u>	<u>Reaction</u>	<u>Halogen</u>	<u>Reaction</u>
<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Li</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Rb</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">K</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Ba</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Ca</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Na</div> <div style="margin-right: 5px;">}</div> </div>	React with cold H_2O and acids, replacing hydrogen	<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">F_2</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Cl_2</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Br_2</div> <div style="margin-right: 5px;">}</div> </div>	Listed from most reactive to least
<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Mg</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Al</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Mn</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Zn</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Fe</div> <div style="margin-right: 5px;">}</div> </div>	React with acids or steam, but usually not liquid water to replace hydrogen	<h4 style="text-align: left; margin: 0;"><u>Solubility Rules</u></h4> <p>NO_3^{1-} All nitrates are soluble.</p> <p>Cl^{1-} All chlorides are soluble except $AgCl$, Hg_2Cl_2, $PbCl_2$</p> <p>SO_4^{2-} Most sulfates are soluble; exceptions include: $SrSO_4$, $BaSO_4$, and $PbSO_4$, $CaSO_4$ is slightly soluble.</p> <p>CO_3^{2-} All carbonates are insoluble except those in Group 1 elements and NH_4^+</p> <p>OH^{1-} All hydroxides are insoluble except those of Group 1 elements, $Sr(OH)_2$ and $Ba(OH)_2$; $Ca(OH)_2$ is slightly soluble.</p> <p>S^{2-} All sulfides except those of Group 1 and 2 elements and NH_4^+ are insoluble.</p>	
<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Ni</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Sn</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Pb</div> <div style="margin-right: 5px;">}</div> </div>	React with acids but not water, to replace hydrogen		
<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">H_2</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Cu</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Hg</div> <div style="margin-right: 5px;">}</div> </div>	React with oxygen to form oxides		
<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Ag</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Pt</div> <div style="margin-right: 5px;">}</div> </div> <div style="display: flex; align-items: center; margin-top: 2px;"> <div style="margin-right: 5px;">{</div> <div style="text-align: center; padding: 2px;">Au</div> <div style="margin-right: 5px;">}</div> </div>	Mostly unreactive		

