



PERIOD 3 ELEMENTS

element	melting point (°C)	structure & bonding	reaction with water		reaction with oxygen	
			observation	equation	observation	equation
sodium (Na)	98	metallic	floats & moves on water, fizzes & may catch fire with yellow-orange flame	$2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$	burns with yellow-orange flame to produce white powder	$4\text{Na} + \text{O}_2 \rightarrow 2\text{Na}_2\text{O}$
magnesium (Mg)	650	metallic	Steam: burns with white flame giving white powder Water: very slow reaction	Steam: $\text{Mg} + \text{H}_2\text{O} \rightarrow \text{MgO} + \text{H}_2$ Water: $\text{Mg} + 2\text{H}_2\text{O} \rightarrow \text{Mg}(\text{OH})_2 + \text{H}_2$	burns with white flame to produce white powder	$2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
aluminium (Al)	660	metallic			burns with white flame to produce white powder	$4\text{Al} + 3\text{O}_2 \rightarrow 2\text{Al}_2\text{O}_3$
silicon (Si)	1414	giant covalent			burns with white flame to produce white powder	$\text{Si} + \text{O}_2 \rightarrow \text{SiO}_2$
phosphorus (P ₄)	44	molecular			burns with very bright white flame to produce white powder	$\text{P}_4 + 5\text{O}_2 \rightarrow \text{P}_4\text{O}_{10}$
sulfur (S ₈)	95	molecular			burns with blue flame & gives off choking gas	$\text{S} + \text{O}_2 \rightarrow \text{SO}_2$
chlorine (Cl ₂)	-102	molecular	Dissolves giving very pale green solution	$\text{Cl}_2 + \text{H}_2\text{O} \rightleftharpoons \text{HCl} + \text{HOCl}$		