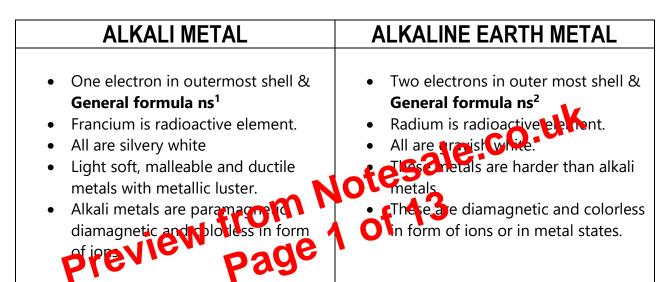
s-Block Elements

Physical properties of s-block elements

Physical State



Atomic Size

ALKALI METAL	ALKALINE EARTH METAL
 Biggest in their respective period (except noble gas element) Size increases from Li to Fr due to addition of an extra shell. Li < Na < K < Rb < Cs < Fr 	 Smaller than IA group elements, since extra charge on nucleus attracts the electron cloud. Size increases gradually from Be to Ra. Be < Mg < Ca < Sr < Ba In s-block elements : Be is the smallest, Cs is the biggest

Formation of amalgam

ALKALI METAL	ALKALINE EARTH METAL
 Alkali metals give amalgam with Hg. These metals react with other metals to give mixed metals (alloys) 	 Shows same properties.

Sulphates

ALKALI METAL	ALKALINE EARTH METAL
 Alkali metals forms M₂SO₄ type sulphates. All alkali metal sulphates are ionic. lonic properties increase from Li to Cs. Li₂SO₄ < Na₂SO₄ < L₂SO₄ < Rb₂SO₄ < Cs₂SO Li₂SO₄ is least soluble in vate. These sulphates on burning with C forms suphides M₂SO₄ + 4C→ M₂S + 4CO Except lithium, sulphates of IA group reacts with sulphates of trivalent metals like Fe⁺³, Cr⁺³, Al⁺³ etc. gives double salts called alum. I III M₂SO₄.M₂(SO₄)₃.24H₂O 	 Alkaline earth metals ion is MSO₄ type subjected. Carcolature of alkaline metal sulphate increased from Be to Ba. BeSC4 < MgO₄ < CaSO₄ < SrSO₄ < BaO₄ Solubility decreases from BeSO₄ to BaSO₄ as Be⁺² and Mg⁺² are of small size so their hydration energy is high Hydration Energy > Lattice Energy Order of solubility – BeSO₄ > MgSO₄ > CaSO₄ > SrSO₄ > BaSO₄ Order of thermal stability – BeSO₄, MgSO₄, CaSO₄, SrSO₄, BaSO₄ Order of thermal stability – BeSO₄, MgSO₄, CaSO₄, SrSO₄, BaSO₄