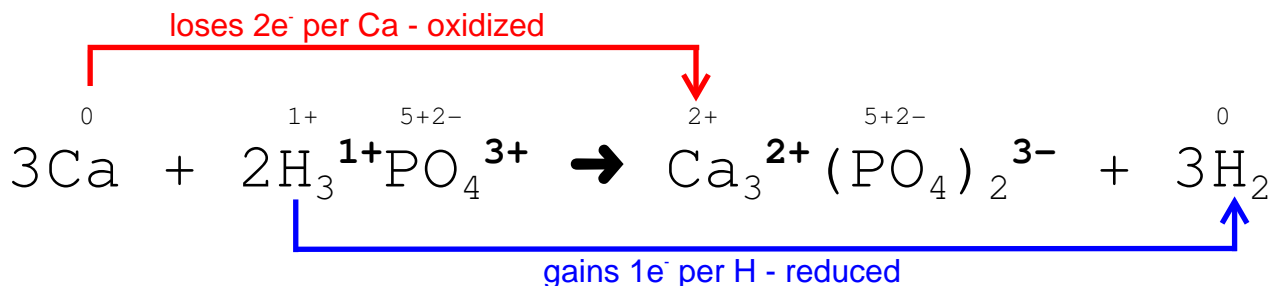


Name: _____

Relative Reactivity - SCH 3U

- Write a reaction between calcium metal and phosphoric acid (H_3PO_4) which will form the products of calcium phosphate and hydrogen gas. Determine all oxidation states for all atoms. Use these oxidation states to determine the ionic charges found in both phosphoric acid and the product calcium phosphate. Use these charges to determine the correct formula for calcium phosphate. Finally, balance the equation and show which elements have lost electrons (been oxidized) and which elements of gained electrons (been reduced).



- Which element Li or K should react faster with Cl_2 and why?
 - both Li and K would lose electrons to Cl_2
 - therefore the lower ionization energy of K would lose e^- more easily
 - therefore K would react faster
- Which element F_2 or Br_2 should react faster with As and why
 - both F_2 and Br_2 would gain electrons from As
 - therefore the higher electronegativity of F would gain electrons more forcefully
 - therefore F_2 would react faster
- For two bonus marks write one balanced chemical equation from #2 and one from #3

