Here is the activity series of metals. The “top dog” is lithium and the runt or least liked is gold.

Use this table to understand what element can be replaced to determine if a single replacement reaction will actually take place.

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| **Activity Series of Metals:**LithiumPotassiumBariumStrontiumCalciumSodiumMagnesiumAluminumManganeseZincChromiumIronCobaltNickelTinLeadHydrogenCopperMercurySilverPlatinum Gold | **Predicting Products of Single Replacement reactions.**Zn + HCl 🡪BaCl2 + Mg 🡪Cu + HCl🡪 AlCl3 + Ca 🡪Fe + HCl 🡪 Cal2 + Fe 🡪Sn + KCl 🡪 MgCl2 + Na 🡪AgF + Mg 🡪Au + Na2SO4 🡪 | Determine if the reactions will take place.Hint: Can the element replace the cation in for compound? Is it ranked higher?Yes… Zn + 2HCl 🡪 ZnCl2 + H2No. Barium is more reactive than MgNo. Hydrogen is more reactive than CuYes… 2AlCl3 + 3Ca 🡪 3CaCl2 + 2AlYes…2Fe + 6HCl 🡪 2FeCl3 + 3H2No. Calcium is more reactive than FeNo. Potassium is more reactive than Sn Yes… MgCl2 + 2Na 🡪 2NaCl + MgYes… 2AgF + Mg 🡪 MgF2 + 2AgNo. Gold is least reactive and can’t replace. |

**Your turn to determine if a reaction will take place:** Yes or No

1. All3 + Fe 🡪 No reaction aluminum is more reactive
2. CaF2 + Ba 🡪 Yes it will replace
3. MgCl2 + Fe 🡪 No reaction magnesium is more reactive
4. Hl + Zn 🡪 Yes it will replace
5. Cul2 + Fe 🡪 Yes it will replace
6. Cal2 + Fe 🡪 No reaction calcium is more reactive
7. FeCl2 + Li 🡪 Yes it will replace
8. CaS + K 🡪 Yes it will replace
9. NaF + Ag 🡪 No reaction sodium is more reactive
10. H2S + Mg 🡪 Yes it will replace