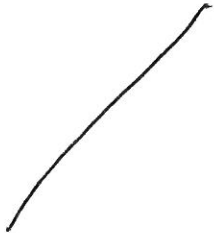
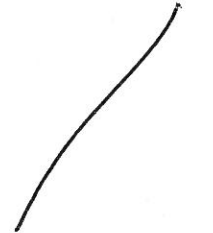
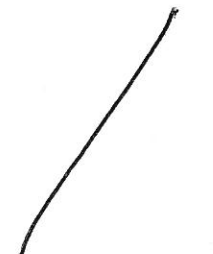


Physical Properties and Chemical Properties of Elements and Compounds

- A. As per Dr. Pete's demonstration you will analyze the chemical reactivity of the following elements with water, acid, and acid/heat combined. When a reaction occurs and a gas is released, you will test the gas to determine if the gas is hydrogen or oxygen. For no reaction use NR. For reactivity use +, ++, +++, to rate reactivity.

copper	iron	zinc	aluminum	calcium	
orange powder	dark powder gold flecks	Dark grey powder	dark, silver, grey powder	dark grey chunks. May be white coating	Observe substance. Write observations in box below symbol.
NR Hetero	NR Hetero	NR Hetero	NR Hetero	+++ Hetero	Add an equal volume H ₂ O. Write observations.
NR	NR	+++	NR	N/A	Add 5-6 drops of 6M HCl. Use NR, +, ++, +++ to indicate rxn.
NR	++	N/A	+++ given time	N/A	Gently heat mixture. Use NR, +, ++, +++ to indicate rxn.
-	+	+++	+++	+++	Test the reaction for hydrogen gas. Use + or -
-	popping sound	popping sound	popping sound	popping sound	If any rxn, write observation-what did you see happen.

B. As per Dr. Pete's demonstration.

Na_2CO_3 Transfer a stick of powder to a clean tube and add 20 drops water	MnO_4 Transfer 5 drops to clean tube	MnO_2 Transfer a stick of powder to a clean tube and add 20 drops water	K_2CrO_4 Transfer 5 drops to clean tube	
white Powder	Purple Solution	black Powder	yellow Solution	Observe substance.
NR Homo	NR Homo	NR the Hetero	NR Homo	Add H_2O . Write observations. Use NR for no rxn. Use +, ++, +++ for rxn.
NR	+++ O_2 by O_2 test hot coal ignites hot coal	+++ O_2 by O_2 test hot coal ignites hot coal	color darkened. If light heat- ing - O_2 forms O_2 test(+) by hot coal ignites ignites	Add H_2O_2 . Write observations. Use NR for no rxn. Use +, ++, +++ for rxn. Test any gases for hydrogen and oxygen. Label result gas + or -
+++ Not H_2 Not O_2				Add 6M HCL to Na_2CO_3 . DO NOT ADD ACID to the other compounds.