3. **Write word equations** below as chemical equations and then **balance** them (use your periodic table):

    a. Zinc metal and a solution of lead (II) nitrate react to form a solution of zinc nitrate and lead.

    b. Solutions of sodium phosphate and calcium chloride react to form solid calcium phosphate and a solution of sodium chloride.

    c. Calcium hydroxide and phosphoric acid react to form calcium phosphate and water.

    d. Aluminum and hydrochloric acid react to form aluminum chloride and hydrogen gas.

4. What is the difference between Reactants and Products? Write an equation to show me!

5. Why do you need to think about the Law of Conservation of Mass in Chemistry?
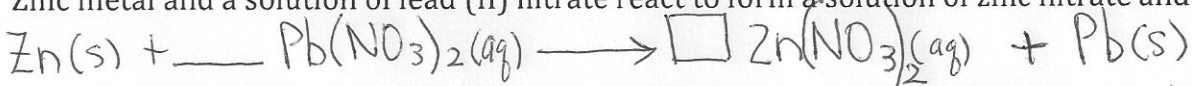
6. What questions do you have before you retest on ALT4a?

7. Predict the score you will get on the retake (1 2 3 4)

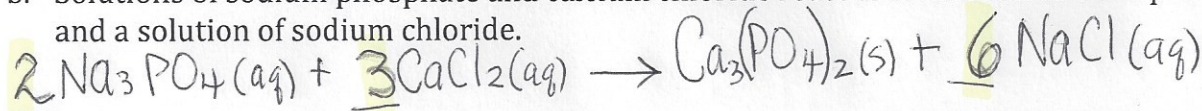3. **Write word equations** below as chemical equations and then **balance** them (use your periodic table):

Balanced

a. Zinc metal and a solution of lead (II) nitrate react to form a solution of zinc nitrate and lead.

$$Zn_{(s)} + \underline{\quad} Pb(NO_3)_{2(aq)} \longrightarrow \boxed{} Zn(NO_3)_{2(aq)} + Pb_{(s)}$$
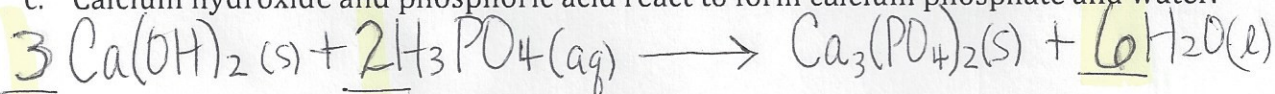
⟶ Remember you can treat polyatomics as one thing when it is on both sides.

b. Solutions of sodium phosphate and calcium chloride react to form solid calcium phosphate and a solution of sodium chloride.
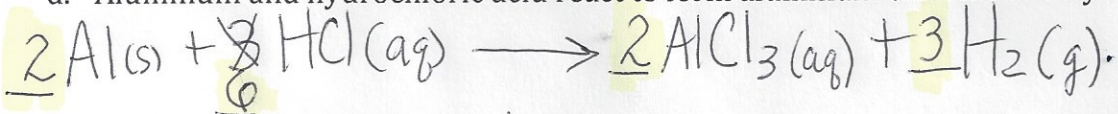
$$\underline{2}Na_3PO_{4(aq)} + \underline{3}CaCl_{2(aq)} \longrightarrow Ca_3(PO_4)_{2(s)} + \underline{6}NaCl_{(aq)}$$

c. Calcium hydroxide and phosphoric acid react to form calcium phosphate and water.

$$\underline{3}Ca(OH)_{2(s)} + \underline{2}H_3PO_{4(aq)} \longrightarrow Ca_3(PO_4)_{2(s)} + \underline{6}H_2O_{(l)}$$
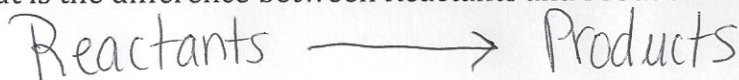
⟹ Key here is to treat PO_4 as <u>one</u> thing in your inventory.

d. Aluminum and hydrochloric acid react to form aluminum chloride and hydrogen gas.

$$\underline{2}Al_{(s)} + \underset{6}{\cancel{8}}HCl_{(aq)} \longrightarrow \underline{2}AlCl_{3(aq)} + \underline{3}H_{2(g)}$$

Trick here is to begin with $AlCl_3$ to get an <u>even</u> # of Cl on products.

4. What is the difference between Reactants and Products? Write an equation to show me!

$$Reactants \longrightarrow Products$$

5. Why do you need to think about the Law of Conservation of Mass in Chemistry?

This law states matter cannot be created or destroyed. It makes it possible to use measurement in chemistry and to write chemical formulas showing the correct ratio of elements in a compound.

6. What questions do you have before you retest on ALT4a?

It is also necessary to balance chemical equations to learn the correct ratio of reactants to get products.

7. Predict the score you will get on the retake (1 2 3 4)