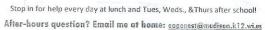
limiting reactant & percent yield

CheMistry: http://genest.weebly.com





 (Circle answers). You calculate the theoretical yield by converting the amount of each of the reactants / products) into the amount of just one of the (reactants / products).

2. The reactant that gives the least product is called the LIMITING REACTANT

3. The formula for finding percent yield is:

**YIELD = ACTUAL YIELD ** 100

The balanced reaction we used in lab: $2 \text{ Al}(3) = 2 \text{ KOH}(3q) + 4 \text{ H2SO4}(3q) + 22 \text{ H2O}(3) \rightarrow 2 \text{ KA1}(\text{SO4})2^{\bullet}12\text{H2O}(3) + 3 \text{ H2}(3)$

4. Using a periodic table and the information above, fill in these conversion factors:

1 mole of potassium hydroxide = 56 grams

1 mole of H₂SO₄ = 3 moles of H₂

2 mole of H₂SO₄ = 3 moles of H₂

2 mole of AI = 2 moles of KAI(SO₄)₂-12H₂O

2 × (12-3) = 26 · 98

2 × (32-6) = 64 · 12

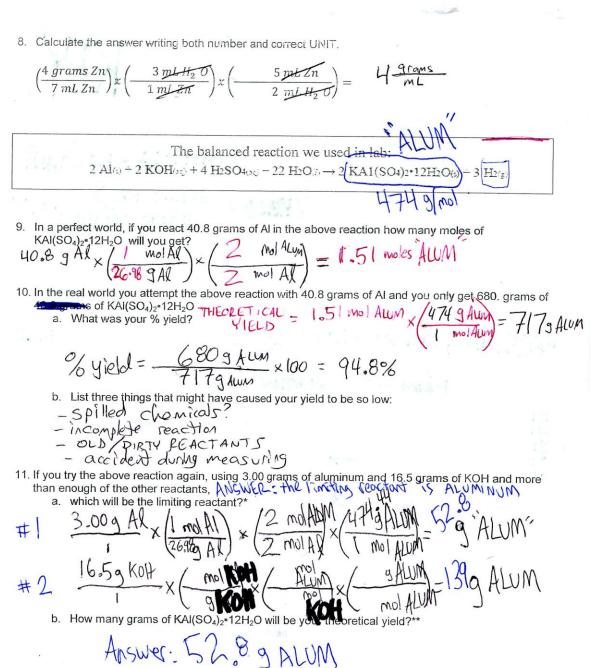
2 × (1-3) = 21.24

1 mole of KAI(SO₄)₂-12H₂O = 474 · 449

5. In a perfect world, if you react 808 moles of H₂SO₄ in the above reaction how many moles of H₂ will you get?

6. In the real world, Bobby Brown does the above reaction with 808 moles of H₂SO₄ and he only gets 501 moles of H₂. What was Mr. Brown 9 % yield?

7. If Mr. Brown tries the experiment again, 123 grams of aluminum and 123 grams of KOH and more than enough of the other reactants. An Succe 1 for the control of the other reactants. An Succe 1 for the control of the control of the control of the other reactants. An Succe 1 for the control of the c



c. If you only get 30.6 g of KAl(SO₄)₂•12H₂O, what was your % yield?

*Strategy: Try converting grams of the first reactant into grams of product, Then do the same for the second reactant. The limiting reactant will be whichever reactant gives the least product
**Strategy: Do a conversion, using the grams of your limiting reactant as the starting point and trying to finish up in grams of your

product.