

Percent Yield Worksheet

- 1) Write the equation for the reaction of iron (III) phosphate with sodium sulfate to make iron (III) sulfate and sodium phosphate.

- 2) If I perform this reaction with 25 grams of iron (III) phosphate and an excess of sodium sulfate, how many grams of iron (III) sulfate can I make?

- 3) If 18.5 grams of iron (III) sulfate are actually made when I do this reaction, what is my percent yield?

- 4) Is the answer from problem #3 reasonable? Explain.

- 5) If I do this reaction with 15 grams of sodium sulfate and get a 65.0% yield, how many grams of sodium phosphate will I make?

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33 grams

- 3) If 18.5 grams of iron (III) sulfate are actually made when I do this reaction, what is my percent yield?

$$(18.5 / 33) \times 100\% = 56\%$$

- 4) Is the answer from problem #3 reasonable? Explain.

Yes. Any yield under 100% is reasonable under the law of conservation of mass.

- 5) If I do this reaction with 15 grams of sodium sulfate and get a 65.0% yield, how many grams of sodium phosphate will I make?

According to the stoichiometry, the theoretical yield is 11.5 grams. Multiplying this by 0.650, you get 7.48 grams.