

Student directions *Reactants, Products, and Leftovers* inquiry activity:

Limiting Reactants in Chemical Reactions

<http://phet.colorado.edu>
revised by Dr. S. Shields 2/3/2015

Discussion Activity

In this discussion board inquiry activity, you will be able to play a “game” designed to help you reinforce your understanding of stoichiometry and limiting reactants.

Your goals for this activity are as follows:

1. Predict the amounts of products and leftovers after reaction using the concept of limiting reactant
2. Predict the initial amounts of reactants given the amount of products and leftovers using the concept of limiting reactant
3. Translate from symbolic (chemical formula) to molecular (pictorial) representations of matter
4. Explain how subscripts and coefficients are used to solve limiting reactant problems.

Directions:

Step 1: Go to the link below and run the simulation using the “Run in HTML5” button.

<https://phet.colorado.edu/en/simulation/reactants-products-and-leftovers>



Feel free to download the simulation as an alternative, if you wish.

Step 2: Choose the “Game” button



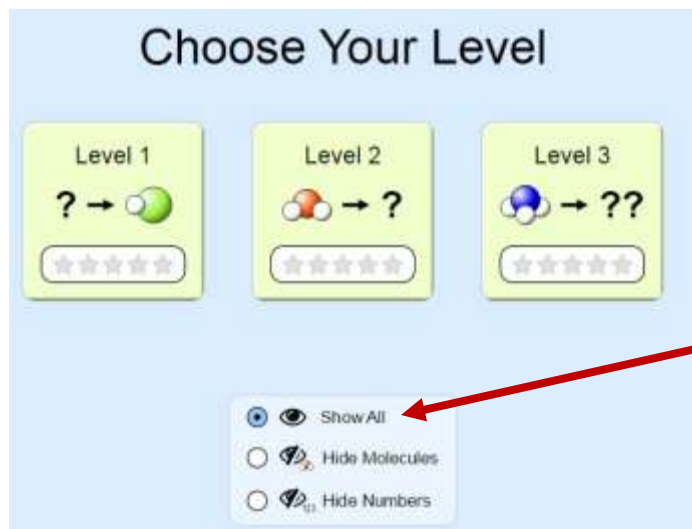
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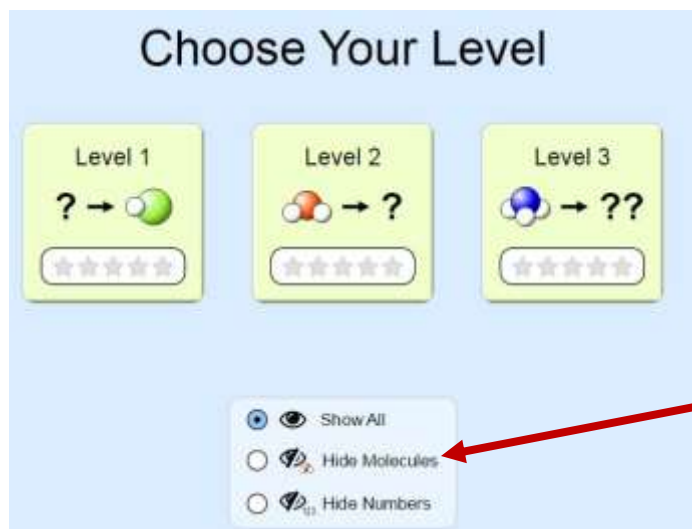
Step 3: Play all levels of the Game with “nothing” hidden and **record your scores**. *Play a few times if you feel you need to.*



First, play the game with everything shown. ☺

While you are playing, take notes about aspects of the game that are helping you understand the relationship between reactants and products. *Your answers should demonstrate comprehensive self-evaluation.*

Step 4: Play all levels of the Game with “molecules” hidden and **record your scores**. *Play a few times if you feel you need to.*



Now, play the game with the molecules hidden.

While you are playing, take notes about aspects of the game that are helping you understand the relationship between reactants and products. *Your answers should demonstrate comprehensive self-evaluation.*

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Step 5: Post on the Unit 3 discussion Board with the following information:

- a) Your scores from Step 3 and your *most important insight* from this step.
- b) Your scores from Step 4 and your *most important insight* from this step.
- c) Compose a 4-5 sentence paragraph explaining stoichiometry and limiting reactants to a friend. Be sure to include what you would tell them about how they might use subscripts and coefficients in their problem solving.

Original post due February 16, 2015 at 11:59 pm EST

No replies are required, but feel free if you'd like to post something.