Le Châtelier's Principle

Instructions: Login to the computer and go to http://phet.colorado.edu. Click on "Play With Sims," then find the chemistry section, and click on "Reactions and Rates." Choose the "Rate Experiments" tab. As you play with the sim, answer the questions below.

Questions:

1. In the previous lab ("Exploring Equilibrium") you investigated the effect of temperature on equilibrium position; you may have found that temperature did not affect equilibrium in quite the way you expected. Add 80 A's and 80 BC's to the box for the first reaction and begin the experiment; let the reactions run until equilibrium is reached. Knowing Le Châtelier's Prinicple, now **predict** and **explain** what will happen to the equilibrium position when the temperature is raised and lowered. Then test your ideas using the sim and explain your observations. Give numerical data to support your claims.
2. There are three other reactions you can play with under the "Select a Reaction" menu. For each of the three other reactions, **predict** what will happen to the equilibrium position when the temperature is raised or lowered. Be sure to explain the differences between the four reactions. Test your ideas using the sim; give numerical data to support your explanations.
3. Reset the simulation and return to the first of the four reactions. Begin with 50 A's and 50 BC's and let the simulation run to equilibrium. **Predict** what will happen to the equilibrium position when more BC's are pumped into the container. Test your ideas using the sim and explain your observations. Give numerical data to support your claims.
4. Assuming this reaction is taking place in the gas phase, what would be the effect on equilibrium position of increasing the pressure inside the container?