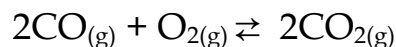
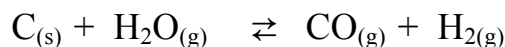


Le Chatelier's Principle Worksheet and Key

1. If the reaction below is initially at equilibrium, and then each of the following changes are made, predict which direction the reaction rate will be fastest until equilibrium is once again established: **forward, reverse, or no change**.



- The amount of O_2 is increased.
 - The amount of CO_2 is decreased?
 - The amount of oxygen gas is decreased.
2. If the reaction below is initially at equilibrium, and then each of the following changes are made, predict which direction the reaction rate will be fastest until equilibrium is once again established: **forward, reverse, or no change**.



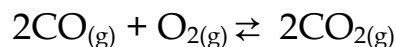
- adding $\text{H}_2\text{O}_{(g)}$
 - removing carbon
 - removing H_2
 - adding carbon
3. If the reaction below is initially at equilibrium, and then each of the following changes are made, predict which direction the reaction rate will be fastest until equilibrium is once again established: **forward, reverse, or no change**.



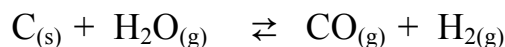
- adding PCl_3
- removing Cl_2
- removing PCl_3
- adding Cl_2

Le Chatelier's Principle Key

1. If the reaction below is initially at equilibrium, and then each of the following changes are made, predict which direction the reaction rate will be fastest until equilibrium is once again established: **forward, reverse, or no change.**



- The amount of O_2 is increased. **forward**
 - The amount of CO_2 is decreased? **forward**
 - The amount of oxygen gas is decreased. **reverse**
2. If the reaction below is initially at equilibrium, and then each of the following changes are made, predict which direction the reaction rate will be fastest until equilibrium is once again established: **forward, reverse, or no change.**



- adding $\text{H}_2\text{O}_{(g)}$ **forward**
 - removing carbon **reverse**
 - removing H_2 **forward**
 - adding carbon **forward**
3. If the reaction below is initially at equilibrium, and then each of the following changes are made, predict which direction the reaction rate will be fastest until equilibrium is once again established: **forward, reverse, or no change.**



- adding PCl_3 **reverse**
- removing Cl_2 **forward**
- removing PCl_3 **forward**
- adding Cl_2 **reverse**