

LECHATLIER'S PRINCIPLE: TYPES OF STRESS

1. CHANGE IN CONCENTRATION



ADD A OR B: **SYSTEM** \Rightarrow (WILL DECREASE A OR B)

ADD C OR D: **SYSTEM** \Leftarrow (WILL DECREASE C OR D)

FORWARD SHIFT

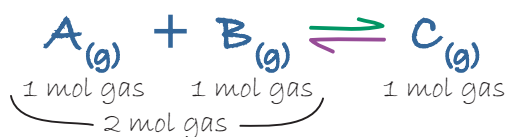
REVERSE SHIFT

REMOVE A OR B: **SYSTEM** \Leftarrow (WILL INCREASE A OR B)

REMOVE C OR D: **SYSTEM** \Rightarrow (WILL INCREASE C OR D)

NOTE: THIS DOES NOT CHANGE K!

2. CHANGE IN VOLUME (RESULTS IN CHANGE IN TOTAL PRESSURE)



STRESS CAUSES $P \uparrow$

IF **SYSTEM** \Rightarrow $P \downarrow$
IF **SYSTEM** \Leftarrow $P \uparrow$ } SYSTEM COUNTERS THE STRESS

SO, DECREASING VOLUME SHIFTS THE REACTION \Rightarrow

NOTE: THIS DOES NOT CHANGE K!

3. CHANGE IN TEMPERATURE



INCREASING T MEANS ADDING HEAT TO THE REACTION

SYSTEM \Leftarrow

DECREASING T MEANS REMOVING HEAT TO THE REACTION

SYSTEM \Rightarrow



INCREASING T MEANS ADDING HEAT TO THE REACTION

SYSTEM \Rightarrow

DECREASING T MEANS REMOVING HEAT TO THE REACTION

SYSTEM \Leftarrow