CONCEPT: PHOTORESPIRATION

●**Photorespiration**: process causing plants to _____ CO_2 rather than consume it (making photosynthesis *inefficient*).

□ "*Photo*" = occurs with _____. □ "*Respiration*" = producing/releasing _____.

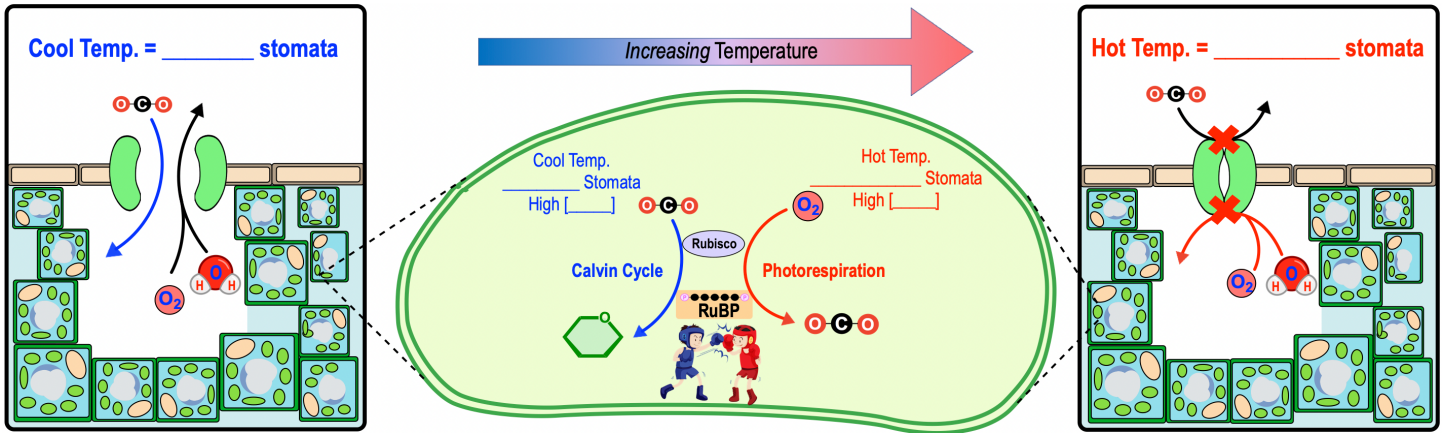
●In _____ environments, if stomata are open, plants are susceptible to *dehydration* (losing _____ by evaporation).

□ Plants can prevent dehydration in hot environments by _____ their stomata.

□ HOWEVER, *closed* stomata *prevent* gas exchange, leading to *decreased* _____ & *increased* _____.

□ If [O_2] is too high, *Rubisco* adds _____ to *RuBP* (instead of CO_2), *wasting* ATP & NADPH and making CO_2.

EXAMPLE: Photorespiration in Plants.



PRACTICE: Plants are more likely to use Photorespiration instead of the Calvin Cycle when:

a) Stomata remain open and CO_2 concentrations within the plant are high.

b) Stomata remain closed and O_2 concentrations within the plant are high.

c) Glucose concentrations within the plant are low.

d) CO_2 binds to Rubisco.