



SUSTAINABLE BIOECONOMY  
FOR ARID REGIONS

# *Braiding Sweetgrass* Excerpts & Notetaker Sheet

Student name: \_\_\_\_\_

Date: \_\_\_\_\_

Class period: \_\_\_\_\_

Read the quotes from the book titled *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* by the author Robin Kimmerer and answer the questions below.

“For millennia, from Mexico to Montana, women have mounded up the earth and laid these three seeds in the ground, all in the same square foot of soil. When the colonists on the Massachusetts shore first saw Indigenous gardens, they inferred that the savages did not know how to farm. To their minds, a garden meant straight rows of single species, not a three-dimensional sprawl of abundance. And yet they ate their fill and asked for more, and more again.”

“Native people speak of this gardening style as the Three Sisters.”

“The corn stands eight feet tall; rippling green ribbons of leaf curl away from the stem in every direction to catch the sun...The bean twines around the corn stalk, weaving itself between the leaves of corn, never interfering with their work...Spread around the feet of the corn and beans is a carpet of big broad squash leaves that intercept the light that falls among the pillars of corn. Their layered spacing uses the light, a gift from the sun, efficiently, with no waste.”

“The corn takes care of making light available; the squash reduces weeds.”

“Beans are members of the legume family, which has the remarkable ability to take nitrogen from the atmosphere and turn it into usable nutrients. But they don’t do it alone...When a bean root meets a microscopic rod of Rhizobium underground, chemical communications are exchanged and a deal is negotiated. The bean will grow an oxygen-free nodule to house the bacterium and, in return, the bacterium shares its nitrogen with the plant. Together, they create nitrogen fertilizer that enters the soil and fuels the growth of the corn and the squash, too.”

1. Use the information in the first paragraph to contradict the idea that Native Americans did not know how to use the land as was often stated by colonists.
2. Name the 3 different plants mentioned in the quotes. Why do you think they are referred to as the Three Sisters?
3. Identify the factors mentioned in the quotes that affect the growth of the plants.
4. Which type of symbiotic relationship (mutualism, commensalism, and parasitism) exists between the three plants? Explain your answer.
5. Which type of symbiotic relationship (mutualism, commensalism, and parasitism) exists between the bean plant and the bacteria? Explain your answer.