The 3 Pathways of Carbon Dioxide Fixation in Different Plants			
	C3	**C4**	**CAM**
Example	Apples, roses, tomatoes	Bermuda grass, sugar cane, corn	Cactus, succulents, pineapple
Leaf Structure	Mesophyll cells loosely packed	Bundle sheath cells tightly packed around vein and separated from loosely packed mesophyll	Large vacuoles in mesophyll cells
Enzyme utilized to fix CO_2	Rubisco	Pepco	Pepco
Optimum Temp.	15°C – 25°C	30°C +	35°C
Carbon Fixation	Same time and place in mesophyll	Physically separates CO_2 intake/fixation and Calvin Cycle in different cells	Separates CO_2 intake/fixation and Calvin Cycle by time of day
Other Characteristics	Characteristic of most plants. Efficient at midrange temperatures where a majority of plants grow. Mesophyll cells fix CO_2	More efficient in hot, dry environments. Pepco reduces the amount of photorespiration as it will not bind with 0_2 like rubisco. Mesophyll cells fix CO_2 the bundle sheath cells produce sugars in Calvin Cycle.	Can fix CO_2 at night as stomata are closed during the day to conserve water. Not as efficient as C3 or C4 plants but can live in arid and stressful conditions.
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