

# Lesson Plans: Plant Growth and Carbon Dioxide

## Objective

The objective is to show how carbon dioxide in the air affects plant growth.

## Materials

Each group of students will need the following:

- Graph paper
- Pencil and pen
- Ruler

## Important Points to Understand

All animals, including humans, exhale carbon dioxide as waste. But plants use carbon dioxide in general and they release oxygen which we need. This is the main reason why we need to plant trees to reduce the level of carbon dioxide from the atmosphere. The following table shows the leaf area (in cm) of plant (maize) growth produced over 40 days under normal conditions of 340 parts per million of carbon dioxide (340 ppm CO<sub>2</sub> and under conditions where carbon dioxide levels are double that amount).

Days	Leaf Area (cm <sub>2</sub> ): 340 ppm CO <sub>2</sub>	Leaf Area (cm <sub>2</sub> ): 680 ppm CO <sub>2</sub>
5	28	28
10	115	120
15	363	466
20	700	885
25	598	889
30	492	765
35	388	595
40	281	418

## Procedure

1. Study the data from the given table.
2. Plot the data on graph paper, days on the horizontal axis and leaf area on vertical axis.
3. Use different color for different conditions of leaf area.
4. Identify that carbon dioxide increases or decreases the rate of growth of maize.
5. It would be desirable if you can infer the advantage and disadvantage of CO<sub>2</sub> increase in the atmosphere on plant growth.

Note: Again no attention to temperature has been given here.