

# Example of a Transformative Explanation

## How plants grow

Many people believe that plants grow because they consume water and soil nutrients. We know that plants provided with the proper soil and adequate water will thrive and grow better than those in weak soil or with inadequate water supplies.

However, such an understanding of plant growth can't explain why plants provided with rich soil and proper water supplies will die if denied sunlight. Scientists say that plants don't simply convert water and soil to grow. Plants grow or make more plant tissue by creating their own tissue through a process of photosynthesis. Photosynthesis is the production of organic substances, especially sugars, from carbon dioxide and water by the action of light on the chlorophyll in green plant cells.

When we understand that plants create tissue and grow, not from eating soil and water, but from using light energy to synthesize tissue, we understand why plants will die without sunlight. Plants provided with adequate water and rich soil thrive because water and soil help plants create tissue through the photosynthesis process.