

## Lesson 4. Heat and Photosynthesis

It is a well-known fact that plants require air, water, and sunshine to create their own food through photosynthesis. However, in order for plants to grow well, they also require the right amount of heat. When an environment is too cold, it will slow down a plant's life processes and the plant will eventually wither away. Some studies have found that very warm environments can potentially hinder photosynthesis. Plants that grow in very cold or very warm habitats have evolved to avoid this process. When a plant grows in the optimal temperature, it enhances transpiration and helps the plant to maintain its water content.

What are some examples of plants from very cold or very warm habitats that have evolved to survive harsh conditions?

The planter box with living soil also benefits from the right amount of heat. This is part of the reason why the planter box with the living soil needs to be placed in direct sunlight. The heat and light from the sun enhances plant growth and creates a beneficial environment for the microbes in the living soil. Increasing temperatures can increase enzyme activity. However, similar to the plants themselves, the living soil does not benefit from extreme conditions.

Which features of the planter box help it to maintain the proper temperature for the plants and living soil to thrive?