

How to Create a Sun Map of the Garden



Many factors affect the success of the plants in a garden space. Where different plant species can grow and thrive is determined by environmental factors such as soil types, temperature, available water, and adjacent structures. Still, one of the most critical factors is the amount of light available for plant growth.

To help the garden succeed, it is critical to understand these factors to select the best species for the space.

The amount of light available is one of the most limiting factors for plants. We can often help our soils and provide supplemental watering, but it is difficult, if not impossible, to change the amount of light available to the plants.

Light has three principal characteristics that can affect plant growth: **quantity, quality, and duration.**

Quantity of the light available depends on how intense the sunlight is. This quantity will vary with the season. This is important to consider when planning a new space, as the sunlight available during the summertime will be much greater than that during the wintertime.

Quality of the light refers to which wavelengths of light are involved. This is most important to consider when working with houseplants, as they are not usually grown in areas of natural sunlight.

Duration of the light, or the 'photoperiod', is the amount of time the plant receives the light. In many plant species, photoperiod controls flowering. There are three categories of plants based on light duration: long-day, short-day, and day-neutral.

Long-day plants bloom only when they get more than 12 hours of sunlight. This includes many plants that flower in summer, as well as many of our vegetable crops.

Short-day plants will only flower when sunlight is less than 12 hours. Most of our spring ephemerals and our fall-flowering species belong in this category.

Day-neutral plants will form flowers regardless of the length of sunlight.

The amount of light plants receive can be controlled, but if you're aiming to create a natural habitat, this effort is unnecessary. It's better to understand the light conditions in your space and select species accordingly.

To help determine the sunlight in a new garden space, we recommend creating a sun map.

Steps to Create Your Sun Map

1. Sketch your garden

- Use a large piece of graph paper if you have it available. If you don't have graph paper handy, you can use a pencil and ruler to mark lines every five feet on the paper, both horizontally and vertically.
- Sketch a quick outline of the garden area, including any structures, hardscape, fences, or any large trees or structures that might cast a shadow.
- Make at least five copies of your sketch, as you will be using multiple copies to create your sun map. If you have tracing paper, you can lay it over the original sketch to make these.

2. Observe the sunlight in the space, and record throughout the day

- It is important to choose a sunny day for your observations. Be sure to put the full date on this sheet, as you will refer to it multiple times. Label each sheet with the time of day for the observation.
- Go outside and observe the light at least 3 times during the day. 8 a.m., noon, and 4 p.m. are good places to start, but checking every two hours will provide more detail.
- For each observation, use a copy of your sketch to draw where the shadows are hitting the ground directly-*Figure 1*

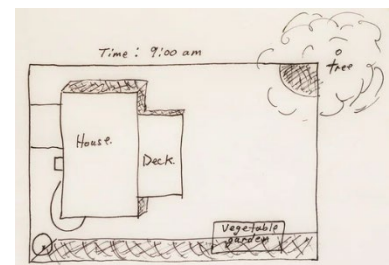


Figure 1-Shadow lines

- You can use different colored pencils for the observations (e.g., yellow for morning, blue for afternoon, orange for evening) to help you see the progression, or just one color to mark the total sun hours.
- Make a special note of areas that might be hotter due to surfaces like patios or regions that are more sheltered from wind.

3. Create your final sun map

- Combine your sketches into one master sketch.
- Use the final observations to label each area of your garden with its typical light conditions:
 - **Full Sun:** 6+ hours of direct sunlight per day - **Yellow**
 - **Partial Sun/Shade:** 3-6 hours of direct sunlight per day - **Orange**
 - **Full Shade:** Less than 3 hours of direct sunlight per day or only filtered light - **Red**

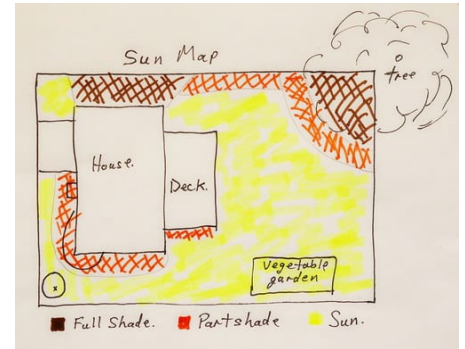


Figure 2-Final Sun Map

- The final map will show exactly which parts of your garden get the most sun and which are shadier, helping you choose the right plants for the right places.