

How plants can add value to outdoor learning environments

Plants are critical for implementing outdoor learning environment (OLE) best practice. They provide shade, visual screens, and wind barriers. For children they create a magical world where imaginations can endlessly roam. Natural loose parts (twigs, sticks, seeds, buds, fruit, leaves, etc.), used as play props, stimulate imaginative, dramatic play. Curricular activities extend outdoors, where interaction with plants stimulates learning across the curriculum. Plants provide ideal settings for chase games that promote higher levels of physical activity. Plants improve outdoor comfort, motivate teachers and children to spend more time outside, and add cost-effective play and learning value to the OLE.

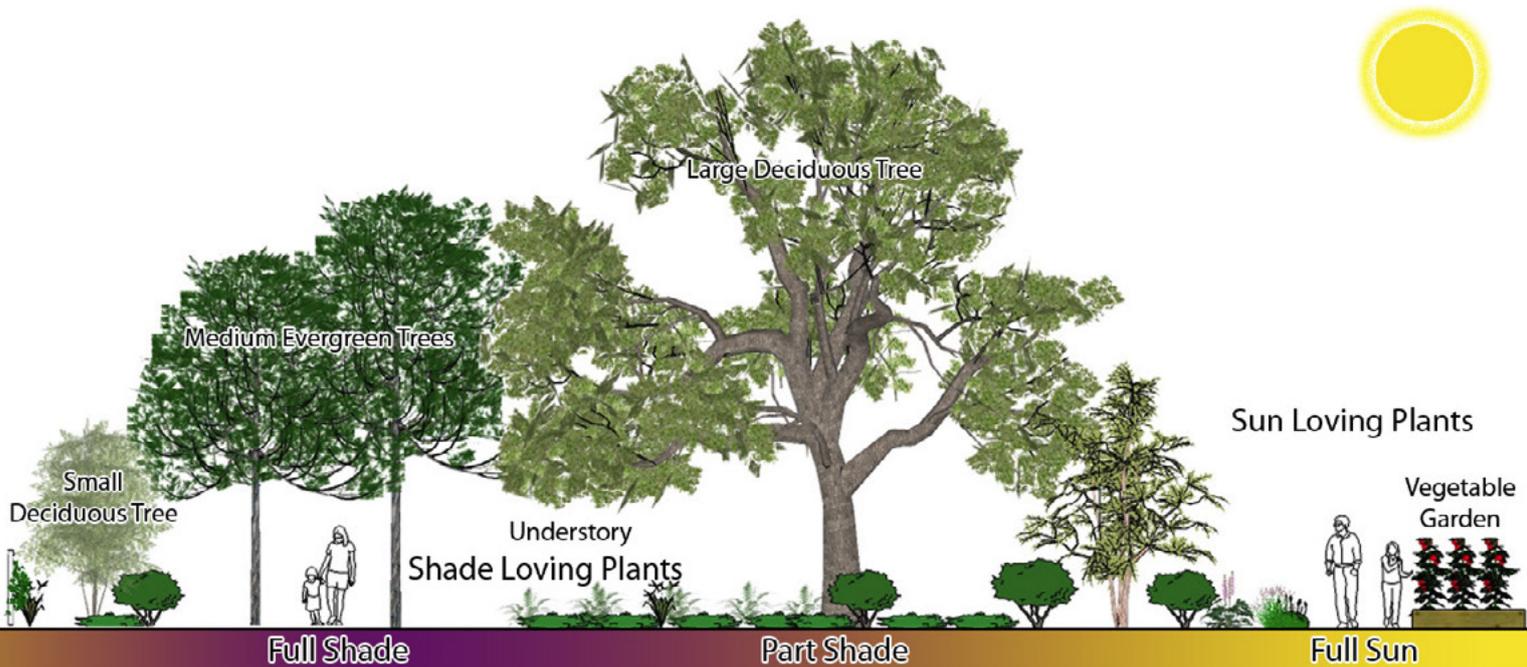


Figure 1 - Plants range in size from large trees to low groundcovers. Plants have adapted to particular requirements for sun, water, and soil. Some plants are more adaptable than others. "Understory" refers to plants adapted to the

shady conditions of the tree canopy. Most edible plants need 4 to 6 hours of sun per day.

Plant Types

Understanding the differences between plants provides the foundation for wise plant selection, cost-effective purchase decisions, and when, where, and how to install plants in the OLE. Plants are classified by form or growth habit, which helps the selection process and guides decisions about which type of plant goes where.

Trees provide shade, visual screens, and wildlife habitat. They can also serve as key components of the edible landscape (see below). Specific species can be selected as good climbing trees.

Shrubs are important as they provide interesting foliage, flowers, and fragrance close to the ground for children to experience and enjoy. Some shrub species provide edible fruit; many attract butterflies and other pollinators.

Vines typically grow fast and climb and are therefore especially useful for naturalizing

fences, arbors, and pergolas. Some vines produce edible fruits.

Ornamental grasses are tough, affordable perennial plants that look good year round, including during the dormant winter season and are often used to create informal mazes that can take heavy foot traffic.

Groundcovers can be used to naturalize ground surfaces, including under trees and shrubs. Groundcovers include some herbs that are particularly effective when planted between paving stones.

Perennial flowering plants add diversity of color, fragrance and texture to the OLE, and provide habitat for diverse wildlife, including birds, pollinators, and other insects. Many perennials produce beautiful, intricate flowers and go through dramatic, fascinating growth cycles.

Annual flowering plants are a great way to add instant color to the OLE, especially when most other types of plants are dormant. They allow children to experience the growth cycle, beginning with planting seeds or seedlings and ending with cutting flowers, and harvesting and eating vegetables. A disadvantage of annuals is that they must be replaced each year, so carefully consider location and amount of annual planting—maybe limit to the facility entrance as a welcoming gesture.

Plant Characteristics

Trees, shrubs, vines, ornamental grasses and groundcovers are also classified by the following characteristics.

Deciduous plants lose their leaves during the winter. Because of the continuous cycle of change, deciduous plants provide multiple, “free,” play and learning resources: buds, fresh leaves, blooming flowers, seeds, falling leaves, and fruit and nut production.

Evergreen plants keep their leaves year-round. They provide patches of green after deciduous plants have dropped their leaves, and help the OLE avoid a desolate winter appearance. In summer they provide deep, cool shade.

Perennial plants come back every year and grow in size each season until they reach maturity.

Annual plants die at the end of the growing season.

Native plants are indigenous or are well-adapted to the region. They tend to be more hardy and drought tolerant than non-natives and should be used when possible.

Edible plants in the OLE

Edible plants support children’s health and provide many diverse learning experiences, including broadening the range of fresh, nutritious foods children enjoy. Research shows that children are more likely to try a new fruit or vegetable if they plant, grow, and harvest it. At childcare centers, edible landscapes offer potential for children to learn healthy eating habits that will stay with them through life. Two strategies for establishing edibles are recommended:

Perennial edible plants can be integrated into the OLE. They include fruiting trees, shrubs, vines, and perennial vegetables. Full sun is required for most species and some have specific cultivation conditions, including soil quality and/or irrigation. Consider planting in

groves or espaliered on a south-facing wall. In spring, fruit trees become magical places as pollinators work busily overhead and petals fall like snow. In summer, fruit trees can contribute shade. Autumn harvests provide curricular and nutritional opportunities. Fruit trees gain in value each year adding an increment of healthy enjoyment for generations to come.

Designated vegetable gardens can be installed at ground level or in raised beds containing a mix of annual vegetables (replanted every growing season) and perennial herbs to introduce new scents and tastes. Because annual vegetables grow so fast and so dynamically, they provide diverse, hands-on learning experiences that change with the seasons. Thoughtfully planned annual crops can provide opportunities for children to care for the garden almost year-round. While enjoying the current harvest of tomatoes and green beans, children can be starting to grow winter lettuce and cabbage. Remember, most vegetables require 4-6 hours of sun per day and have strict irrigation requirements.

Helping plants thrive

Plants are adapted to grow under particular conditions. Knowing some basics about how plants relate to each other and grow as a unit can help us understand how to locate plants in the right place (Figure 1). Consult a local plant expert for advice specific to the growing conditions of your site. Essential needs of plants include:

Sun. Requirements vary greatly, according to species, from all day, full sun to deep shade.

Water. All plants need water, some more than others. Adequate, periodic watering is essential depending on rainfall and season. Install hose bibs close by to avoid long, cumbersome hoses. Group plants with similar irrigation requirements and if possible choose “drought tolerant” species. Natural plant-based mulch, such as shredded bark, spread 2” – 3” deep at the base of plants, helps conserve moisture and reduce weed growth.

Soil. Well-drained, high quality, soil is essential for healthy plant growth. Use potting soil for containers or amend native soil with compost to ensure that plants grow well.

Weed and pest control. Remove weeds and pests by hand. Avoid the use of pesticides and herbicides in childcare outdoor learning environments. They may be harmful to children and other living creatures that use plants as food sources.