

# Common Plants of the Foothills and Grasslands of Great Sand Dunes National Park

## A Teacher's Guide

### Habitat Key

This guide mainly covers the most commonly-seen plants from the Dunefield to the Pinyon-Juniper Woodland habitats.

**D - Dunefield** Very few plants are found in the dunefield. Species that have adapted to living in windy conditions and sandy soils live in vegetation islands among the dunes.

**G - Grasslands** Grasslands are found around the base of the dunes and stretch up to the lower treeline.

**PJ - Pinyon-Juniper** Where enough moisture is available for trees to survive, grassland habitats blend with woodlands of pinyon pine and Rocky Mountain junipers.





**M - Montane** As the moisture increases with elevation, more extensive closed-canopy forests are able to grow.

**S - Subalpine** Winter snowpack becomes the limiting factor in the subalpine. Forests are interspersed with meadows. A great variety of plants are found in this habitat that are not described in this guide.

**A - Alpine** Above the upper treeline, trees taller than shrubs cannot survive. Winds, long winters, and deep snow pack provide stresses that allow only the cold- and sun-tolerant species to survive.









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	Flowering Plants	Free-petal Dicots
	<p>Lemon Scurfpea <i>Psoralea lanceolata</i></p> <p style="text-align: center;">D G PJ</p>	<p>Survives in the dunes by spreading long roots that sprout new leaves and shoots when the mother plant becomes buried in the sand. Long roots also help plant to gather moisture. Scurfpea tubers were eaten by Native Americans.</p>
	<p>Russian Thistle (Tumbleweed) <i>Salsola kali</i></p> <p style="text-align: center;">G PJ</p>	<p>A nonnative species introduced from Asia, Russian thistle is an annual plant that has invaded much of the Great Sand Dunes grasslands. Although mature leaves are spiky to touch, young shoots make an excellent potherb when boiled.</p>
	<p>Golden Smoke <i>Corydalis aurea</i></p> <p style="text-align: center;">G PJ</p>	<p>A soft plant having bluish, fernlike foliage, golden smoke produces racemes of yellow flowers. It is reported to be poisonous to livestock. Found along roadsides near the southern boundary.</p>
	<p>Trumpet Gooseberry <i>Ribes lepthanthum</i></p> <p style="text-align: center;">G PJ</p>	<p>A spiny shrub with tart purple berries, gooseberries were eaten fresh or dried by Native Americans. Fruit is eaten by rodents and bears. Found near the Visitor Center, campground, and lower elevation trails.</p>

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Flowering Plants | Free-petal Dicots









	<p>Wax Currant (Squaw Currant) <i>Ribes cereum</i></p> <p style="text-align: center;">G PJ</p>	<p>A common shrub which bears red berries which were eaten by Native Americans either fresh or dried. It is a favorite deer browse. It is also eaten by birds, small rodents and bears. Found on sunny, dry foothills.</p>
	<p>Scarlet Globemallow <i>Sphaeralcea coccinea</i></p> <p style="text-align: center;">G PJ</p>	<p>It is a low, gray-foliaged plant with brick-red to orange blossoms. Its deeply dissected leaves are covered with star-shaped scales. They bloom in late-May and June. It was used medicinally by the Hopi. Stems were used by several tribes for chewing gum.</p>
	<p>Western Wallflower <i>Erysimum asperum</i></p> <p style="text-align: center;">G PJ M S</p>	<p>Grows one to two feet tall blooming in June. Yellow flowers have four rounded petals. Its specific name, <i>asperum</i>, refers to the harsh fine hairs which make it rough to the touch. It is grazed by pika, marmot, elk, and bighorn sheep. Found from the grasslands to subalpine in sunny locations.</p>
	<p>Golden Currant (Clove Bush) <i>Ribes aureum</i></p> <p style="text-align: center;">PJ M</p>	<p>It has smooth foliage and dark red or black berries. Flowers in June. It has a clove-like odor. Considered one of the most delicious berries. Found along Medano Road and in foothill canyons.</p>
	<p>Mountain Ball Cactus <i>Pediocactus simpsonii</i></p> <p style="text-align: center;">PJ M S</p>	<p>Blooms in mid-May to early June. The flowers are pink, very fragrant and grow on its top like a crown. This species reaches the highest altitude of any cactus and is frequently seen in sunny, rocky places. Its stem is a slightly flattened ball two to six inches across. Found in the foothills up to the drier ridgelines.</p>
	<p>Prickly Pear Cactus <i>Opuntia polyacantha</i></p> <p style="text-align: center;">G PJ M</p>	<p>It has flat joints three to six inches long and yellow or apricot flowers that appear on the edges of the joints in June. The fruits can be eaten fresh, cooked, or dried. Seeds can be dried and ground into meal. The fruits can be made into jelly or candy. Found from the grasslands to the foothills.</p>
	<p>Wild Strawberry <i>Fragaria ovalis</i></p> <p style="text-align: center;">PJ M S</p>	<p>Having small, white five-petaled flowers, wild strawberries bloom from May to July. Small berries are eaten by various animals and reptiles. A tea made from the leaves was often used by Native Americans and early doctors for stomach ailments. Found in forest understory and sometimes on open slopes.</p>
	<p>Low Lupine <i>Lupinus pusillus</i></p> <p style="text-align: center;">G PJ</p>	<p>A member of the pea family, low lupine is an annual plant with purple or pale-blue flowers that bloom in June. Most varieties of North American lupine are poisonous. Many species of lupine are found throughout the park.</p>

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		Flowering Plants	Free-petal Dicot
	<p>Rocky Mountain Locoweed <i>Oxytropis sericea</i></p> <p style="text-align: center;">G PJ M S</p>	<p>Locoweed grows in clumps with many white flower stalks ten to eighteen inches high that bloom in June. It is said that the poison in the plant comes from selenium in the soil. Found along the Montville Trail.</p>	
	<p>Three-Leaf Sumac (Skunkbush) <i>Rhus trilobata</i></p> <p style="text-align: center;">G PJ</p>	<p>A rounded shrub with flowers that appear in June, three-leaf sumac produces red-orange berries that taste reminiscent of lemonade. Bark was used by Native Americans for weaving baskets. Found in the grasslands east of the dunes up into the low woodlands.</p>	
	<p>Serviceberry <i>Amelanchier alnifolia</i></p> <p style="text-align: center;">PJ M</p>	<p>Serviceberry is a small to large shrub with white fragrant flowers and edible fruit appearing in August. It was used heavily by Native Americans fresh and dried and by settlers to make pies, jams, and wines. Stems were used by Apaches for baskets. Found along the Mosca Pass Trail.</p>	
	<p>Rocky Mountain Thimbleberry <i>Rubus deliciosus</i></p> <p style="text-align: center;">PJ M S</p>	<p>Having white roselike flowers two to three inches across, thimbleberry fruit are raspberry-like and appear in June. Browsed on by deer, birds, and bears. Native Americans ate them dried or fresh.</p>	
	<p>Shrubby Potentilla (Cinquefoil) <i>Potentilla fruticosa</i></p> <p style="text-align: center;">G PJ M S</p>	<p>Growing up to three feet tall, cinquefoil blooms in mid-June with bright yellow roselike flowers. It keeps its leaves all year long, so it is browsed upon by many animals in the winter. Found along the Medano Pass Road.</p>	
	<p>Wild Rose <i>Rosa woodsii</i></p> <p style="text-align: center;">PJ M S</p>	<p>The rose family is a large and includes trees, shrubs, and herbs. As with all rose family members, wild rose as five petals. The fruits are edible and may be made into jelly or tea. The roots and petals were made into various medicinal teas. Powdered stems were applied to wounds. Found along the Mosca Pass Trail.</p>	
	<p>Common Chokecherry <i>Prunus virginiana</i></p> <p style="text-align: center;">PJ M</p>	<p>In this area they grow eight to fifteen feet high and bloom in June with white flowers hanging in racemes. The fruit is dark red or black and is eaten by birds, bears, other wildlife. People have used them over the years in various forms even though they have an astringent taste. Found along the Mosca Pass Trail.</p>	
	<p>Rock Spirea (Mountainspray) <i>Holodiscus dumosus</i></p> <p style="text-align: center;">PJ M S</p>	<p>A shrub which bears plume-like panicles of small white flowers in June that fade to rust color later in the season. Having very hard wood, mountainspray was sought for the production of tool handles, hunting bows, and roofing materials by Native Americans. Found along the Mosca Pass Trail.</p>	

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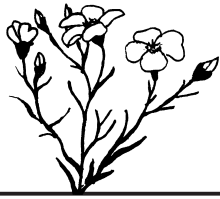
Flowering Plants | Free-petal Dicots

	<p>Yellow Stonecrop <i>Sedum lanceolatum</i></p> <p style="text-align: center;">P J M S</p>	<p>The low-growing edible leaves and stems are juicy and succulent but not all that tasty. Leaves are waxy which helps this plant retain moisture and survive drought conditions. In summer, it sends up a stalk two to five inches tall with yellow starlike flowers.</p>
	<p>Wild Red Raspberry <i>Rubus idaeus</i></p> <p style="text-align: center;">P J M</p>	<p>A bristly shrub with compound leaves of three or five leaflets, this plant blooms in June and July and is a favorite of berry lovers. Native Americans dried them for winter use. Leaves and twigs can be used for teas. Found along the Mosca Pass Trail.</p>
	<p>Yellow Sweetclover <i>Melilotus officinalis</i></p> <p style="text-align: center;">G</p>	<p>Yellow sweetclover is a tall, branched, and bright green plant with many short racemes of heavily scented yellow flowers. It was intentionally introduced (nonnative) as livestock feed. It is now browsed by mule deer. Found along roadsides and in the grasslands.</p>
	<p>Western Virgin's Bower (Clematis) <i>Clematis ligusticifolia</i></p> <p style="text-align: center;">P J M</p>	<p>All species of <i>Clematis</i> have no petals, but have sepals colored white to purple. It has been used externally to treat cuts and burns. The leaves and bark have medicinal qualities that have been also been chewed for relieving the symptoms of sore throats, colds, and fevers. Found at the Mosca Pass Trailhead.</p>
	<p>Rocky Mt. Beeplant <i>Cleome serrulata</i></p> <p style="text-align: center;">G P J</p>	<p>This member of the caper family varies from one to four feet in height. The four-petal flowers are rose-purple and sometimes white and in racemes. Native Americans boiled and ate the leaves. Found along many of the lower trails at the park.</p>
	<p>Claret Cup Cactus <i>Echinocereus triglochidiatus</i></p> <p style="text-align: center;">P J M</p>	<p>This cactus forms mounds and is very handsome when in bloom from May to June. The flowers are bright red with a knot of green stigmas in the center. The fruit is edible. Found along Mosca Pass Trail.</p>
	<p>Evening Primrose <i>Oenothera caespitosa</i></p> <p style="text-align: center;">G P J M</p>	<p>This primrose has large (two to four inches), white flowers forming close to the ground. Flowers have four petals that turn pink to red as it matures. Flowers open in the early evening. Birds and small rodents consume the seeds. Found along roadsides and throughout lower and middle elevations.</p>
	<p>Blazing Star <i>Mentzelia multiflora</i></p> <p style="text-align: center;">G P J M</p>	<p>This plant has ten or more petals composing the large terminal, pale-yellow blossoms. These are two to four inches broad when fully opened. There are about 200 stamens in each flower. The entire plant is covered with tiny, barbed hairs that catch on clothing. The flowers open at night and close in the daytime.</p>

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Flowering Plants | Free-petal Dicots



Blue Flax  
*Linum lewisii*

G PJ M

This plant has one-half inch, sky-blue, saucer-shaped flowers that emerge from slender stems. Native Americans used the stems for making cord and used the leaves as a poultice on burns and scalds. Found in a variety of open and partly shady locations.

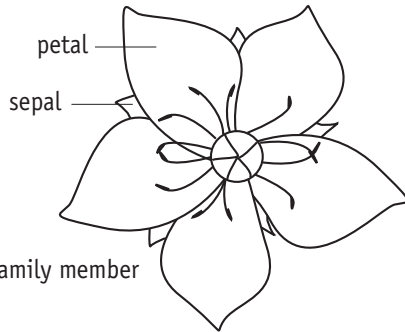


Painted Pod  
Milkvetch  
*Astragalus ceramicus*

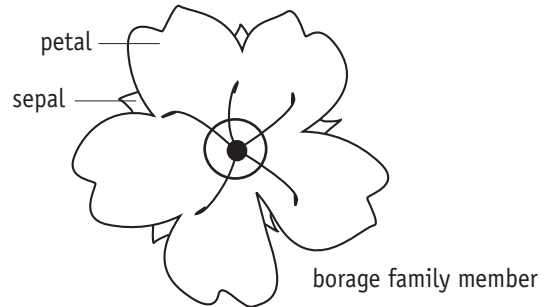
D G PJ

Pea-shaped flowers are yellowish-white and variously marked with purple. Fruits mature into rounded pods with purple streaking. Many species of *Astragalus* are known to be poisonous. Found in the grasslands and can be found near the campground and amphitheatre.

Free-petal Dicot



United-petal Dicot



Flowering Plants | United-petal Dicots



Stickseed  
Forget-Me-Not  
*Lappula redowskii*

G PJ

This plant grows up to three feet high with white flowers appearing in early to mid-June. It produces a great number of barbed seeds that stick to clothing and animal fur. These hooked prickles assure their distribution.



Many-Flowered  
Puccoon  
*Lithospermum multiflorum*

G PJ

This plant bears small, yellow flowers in May to early June. Native Americans cooked and ate the roots of *Lithospermum*. Native Americans made a purple dye from its roots. Found in grasslands, lower foothills, and alongside roads.



Paintbrush  
*Castilleja* sp.

G PJ M S

Paintbrush have brightly-colored leaves and upper bracts, but the flowers are inconspicuous. Some researchers believe that red paintbrush species and hummingbirds evolved together. Paintbrush produce nectar in large quantities and are undamaged by probing hummingbird bills.











Mullein  
*Verbascum thapsus*

G PJ M








This nonnative plant from Eurasia is biennial, producing a pale-green rosette the first year and a yellow plume-like flower stalk in the second. It has been used worldwide for various medicinal treatment, but should be considered potentially toxic.

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Flowering Plants | United-petal Dicots

	<p>Elderberry (red and black) <i>Sambucus racemosa</i> <i>S. melanocarpa</i></p> <p style="text-align: center;">P J M S A</p>	<p>These two plants are similar in appearance. The black has slightly larger flower clusters and black berries and the red has orange or red berries and is found on alpine slopes. Native Americans ate the fruit raw, cooked, or dried. Settlers made jelly, wine, and pies.</p>
	<p>Common Harebell <i>Campanula rotundifolia</i></p> <p style="text-align: center;">P J M S</p>	<p>Bell-like flowers of lavender-blue hang from harebells' slender stalks from late-June through August. It is eaten by deer, elk, bighorn sheep, pika, and marmots. Found along the Mosca Pass Trail.</p>
	<p>Scarlet Gilia <i>Ipomopsis aggregata</i></p> <p style="text-align: center;">G P J M</p>	<p>Growing one to three feet high with many scarlet, trumpet-shaped flowers, scarlet (or skyrocket) gilia blooms from July through September. It is reported to contain saponin, a poisonous chemical. Found along many of the lower to middle elevation roads and trails.</p>
	<p>Wild Mint <i>Mentha arvensis</i></p> <p style="text-align: center;">G P J M S</p>	<p>Startlingly aromatic, wild mint flowers are pale lavender or pinkish and bloom in August. Leaves are dried and boiled for tea. It is found in nearby moist areas.</p>
	<p>One-sided Penstemon <i>Penstemon secundiflorus</i></p> <p style="text-align: center;">G P J M</p>	<p>This penstemon has blue-lavender flowers with five well-defined petal lobes—two erect and three projecting downward. The flowers are all along one side of the stem. It flowers in late spring and into early summer.</p>
	<p>Firecracker Penstemon <i>Penstemon eatonii</i></p> <p style="text-align: center;">G P J M</p>	<p>There is no mistaking firecracker penstemon. Its flowers are brilliant scarlet red and are fused into a long, narrow tube with five lobes. It is pollinated by hummingbirds after it blooms in late spring to early summer. Found along the Mosca Pass Trail.</p>
Composite Family		
	<p>Fleabane <i>Erigeron sp.</i></p> <p style="text-align: center;">G P J M</p>	<p>Flowers are in one-half to one inch heads, with numerous yellow disk flowers surrounded by many purple or blue ray flowers. The stems arising from a taproot are usually less than two feet in height.</p>
	<p>Tansy Aster <i>Machaeranthera tanacetifolius</i></p> <p style="text-align: center;">G P J</p>	<p>These purple flowers have broad ray flowers and few to a head—generally fewer than fifty. It blooms in late summer and can bloom until the snow falls. Elk will consume it in fall and winter. The leaves of several species were boiled and eaten by Native Americans.</p>

## Common Plants of the Foothills and Grasslands of Great Sand Dunes National Park A Teacher's Guide

	Flowering Plants	United-petal Dicots	Composite Family
	Skeletonweed (Rushpink) <i>Lygodesmia grandiflora</i> D G	This plant has bare, green stems with leaves that are not over two inches long. Whitish to pink flowers appear in mid-July through August. Native Americans boiled the leaves with meat. Found in vegetation islands in the dunefield.	
	Salsify (Oyster Plant) <i>Tragopogon dubius</i> G PJ M	Salsify grows one to three feet tall with long, grasslike leaves which clasp to the stem. Lemon-yellow flowers bloom in July and give way to seed-heads reminiscent of a massive dandelion. The plant was introduced (nonnative) for the fleshy taproots which are grown commercially and are said to taste like oysters.	
	Broom Snakeweed (Matchbrush) <i>Gutierrezia sarothrae</i> G PJ	This plant somewhat resembles goldenrod, growing eight inches to two feet tall. Clusters of yellow heads appear in August through September. Can be poisonous if eaten in large quantities. The Navajo used it to treat insect bites and bee stings.	
	Rubber Rabbitbrush <i>Chrysothamnus nauseosus</i> D G PJ	Woody and spreading shrub, rabbitbrush varies from one to seven feet high. In the late summer look for bright golden flower clusters. It contains a non-profitable source of rubber. A yellow dye is made from flowers and a green dye is made from the inner bark.	
	Goldenrod <i>Solidago</i> sp. G PJ	There are about 100 species in North America and they look much alike. Clusters of golden flowers at the top appear in July and August. Native Americans used the leaves as antiseptic for wounds and ulcers on people and animals. A tea can be made from dried flowers.	
	Prairie Sunflower <i>Helianthus petiolaris</i> D G PJ	This sunflower grows one and one-half to four feet tall with heads that are two to four inches across, with bright yellow flowers with brown or black disks. It is an important food for birds and mammals. Native American tribes cultivated them and ground the seeds into meal.	
	Gray Horsebush <i>Tetradymia canescens</i> G PJ	This is a shrub that grow one to six feet tall and bears yellow flowers in small clusters in mid-July to August. Browsed by deer and other mammals when better forage is scarce.	

## Common Plants of the Foothills and Grasslands of Great Sand Dunes National Park A Teacher's Guide

Flowering Plants | Monocots



Yucca  
(Small Soapweed)  
*Yucca glauca*

G PJ

Yucca grows dagger-like, evergreen leaves. In June, a two to five foot flower spike is sent up bearing creamy-white blossoms. The root can be used as soap and the flowers are edible. The leaves were used as a fiber for weaving baskets.



False Solomon's Seal  
*Smilacina stellata*

M S

This plant has flowers like six-pointed stars which bloom in June—depending on elevation. Elk eat the leaves and stems. The young shoots are edible, while some look-alikes are poisonous. Found on the Mosca Pass Trail and near streamsides.



Rocky Mountain Iris  
(Western Blue Flag)  
*Iris missouriensis*

G PJ M S

This iris bears a large, light or purplish blue flower on leafless stalks in June. It is poisonous to humans and livestock. Native Americans used one species of iris root with animal bile to make poison-tipped arrows. It is a good indicator that water is close by.



Nodding Onion  
*Allium cernuum*

G PJ M S

This onion is recognized by its bent head. It bears pink flowers from July through August. The bulbs were harvested extensively by Native Americans. It is also eaten by bears and ground squirrels. Elk and deer eat the leaves. Primitive Road.

Flowering Plants | Monocots | Grasses



Blowout Grass  
*Redfieldia flexuosa*

D G PJ

This grass has long blades that blow in the wind and etch semicircles in the sand. Commonly confused with Indian rice grass, the best way to distinguish it is by comparing seeds. It has more than one seed per head.



Indian Rice Grass  
*Oryzopsis hymenoides*

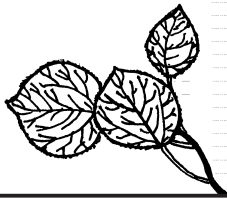
D G PJ

Similar in appearance to blowout grass, Indian rice grass flowers earlier in the summer and its seeds are in paired branches, each with a single, thick seed. The seeds were gathered by the Native Americans and ground into a meal.



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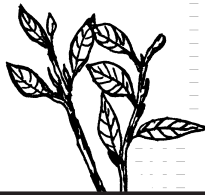
Flowering Trees | Free-petal Dicots



Aspen  
*Populus tremuloides*

This small to medium sized tree which form groves and thickets in moist areas has white to light greenish bark. Beavers use its bark for food and branches for dams. Elk browse on young shoots in winter.

P J M S



Willow  
*Salix* sp.

Willow are a large and widely spread group of shrubs and trees in North America. Members of this genus may be easily recognized by having only one bud scale. Bark contains salicylic acid and is used to treat aches and fevers. Found in moist areas.

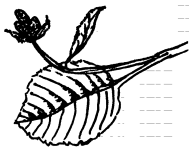
G P J M S A



Narrow-leaf  
Cottonwood  
*Populus angustifolia*

Cottonwoods are large trees that can grow up to 100 feet tall and four or more feet in diameter. Older trees have thick, furrowed bark. They grow along river bottoms and sometimes approach mountains where canyons open onto the plains.

G P J



Alder  
*Alnus tenuifolia*

A small tree or large shrub, seldom over 30 feet tall, alders are found close to riparian areas or moist soils. They usually have more than one trunk and have smooth, gray bark. It's leaves are ovate and doubly-toothed. Found along Mosca and Medano Creeks.

P J M

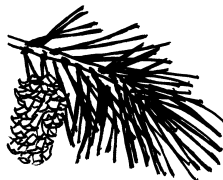
Gymnosperm Trees



Pinyon Pine  
*Pinus edulis*

The pinyon is a bushy pine. The common form in our area has two-needle bundles. Its cones are short with a few thick scales that open in the fall. The "pine nuts" offered an important staple for Native Americans and are commercially important today.

P J



Ponderosa Pine  
*Pinus ponderosa*

One of the largest trees in the Rocky Mountain region, ponderosas can grow up to 150 feet tall with a diameter of three to four feet. Needles are in bundles of two or three, five to seven inches long. Indians stripped the bark and ate the inner bark and cambium for starvation food and for ceremonial feasts.

G P J M



Limber Pine  
*Pinus flexilis*

Having flexible branches, limber pines live in the higher elevations on windy ridges and are able to withstand heavy snowpacks. Needles are in bundles of five and are dark green. The cones are four to ten inches long. Trees reach maturity in 300 years and some are known to have lived 1,300 years.

S A



Rocky Mountain  
Juniper  
*Juniperus scopulorum*

Juniper trees rarely exceed 30 to 40 feet in height. Their leaves are scaly rather than having needles. The wood is aromatic and was used by settlers as fence posts because of its rot-resistant nature. Native Americans ate juniper berries raw, cooked or ground them into a meal.

P J M

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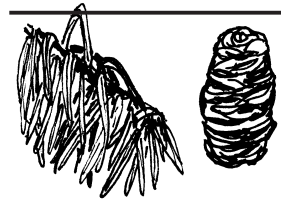
### Gymnosperm Trees



Douglas-fir  
*Pseudotsuga menziesii*

PJ M S

In Southern Colorado, Douglas-firs seldom grow over 100 feet, but they may be up to three-feet in diameter. The needles are soft and sharply pointed. The cones hang down and can be distinguished from spruce by the three-parted bracts which protrude between scales.



White Fir  
*Abies concolor*

PJ M S

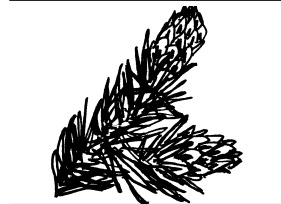
A silver-green needled tree with a green conical crown (in mature trees), growing 80 to 100 feet tall. Needles are one to three inches long with longer ones on lower branches. The three to five inch tall cones stand upright on the upper branches and are colored yellow to purple.



Subalpine Fir  
*Abies lasiocarpa*

S

This fir develops a spire-like crown and grows up to 60 to 100 feet with short, horizontal branches. It often becomes a stunted, horizontally-growing shrub (krummholz) at timberline. Found only at higher elevations.



Engelmann Spruce  
*Picea engelmannii*

PJ M S

Forming great, unbroken forests in the montane and subalpine areas, Engelmann spruce have sharp, pointed needles. Like all spruce trees, individual needles have four-angled sides. Its two and one-half inch cones hang downward.



Blue Spruce  
*Picea pungens*

M S

Blue spruce is a conical, handsome tree that grows up to 100 feet tall and two feet in diameter. It is often a silvery-blue color but some are also green. Its sharp, pointed needles and larger cones (three and one-half inches) distinguishes it from Engelmann spruce. Bark is gray and scaly.