

Flat needled evergreens



Tsuga canadensis



Abies balsamea



Abies concolor

Tsuga Canadensis – Eastern Hemlock

The needles are short (1-1.3 cm), medium green, with a rounded tip. Two white lines on the underside of each needle. The cones are small (2-3 cm), and hang down under the twig. Look closely at the picture and notice how there is a row of needles which lay (upside down) on the top of the twig. Only Hemlock has this trait.



Abies balsamea – Balsam fir

The needles are medium length (2-3 cm), dark green, with a little notch at the tip of the needle. There are two white lines on the underside of each needle. The cones are purple-brown to brown, and sit upright on the twig. The needles are intensely fragrant when crushed or broken – the smell of Christmas trees.



Abies concolor – Silver fir

The needles are long (to 5 cm or more), gray-green to blue-gray in color, and sweep upwards when you look at the twig head on. Needles are notched at the tips. The cones are purple-brown to brown, and sit upright on the twig. The tree is elegant in overall appearance.





Pseudotsuga menziesii



Taxus cuspidata

Abies koreana

Abies koreana – Korean fir

The needles are short (1.5-2 cm), dark green with two distinct white lines on the underside of the needle. The needle is distinctly notched at the tip. Needles are sometimes swept upward, depending on the site conditions. The cone is purple, with yellow to white edges on the cone scales, and sits upright on the twig.



Pseudotsuga menziesii – Douglas-fir

The needles are medium length (2-3 cm), medium green, with the needle tapered to a rounded point. There are two gray-green lines on the underside of each needle. The cones have distinct bracts which extend out between the cone scales. The cones hang down from the twig. You might be able to see that when you look at the twig head on, there is a pair of needles that extend out farther from the rest.



Taxus cuspidata – Japanese yew

The needles are medium length (2-3 cm), dark to bright green, and yellow-green on the underside. There are no lines on the underside of the needle. The needles are tapered to a lancet point at the tip. Rather than cones, it produces a green seed, partially covered by a bright red, berry-like aril. The shrub is a dark green colour from a distance.



Sciadopitys verticillata – Japanese umbrella pine

The needles are long (up to 14 cm), bright green, and arranged in whorls around the twig. This characteristic makes it stand out, it's so unusual. The cone is brown, and is found at the tip of the branch, sticking out at the same angle as the branch.

Comparing *Tsuga*, *A. balsamea*, *A. concolor*, *A. koreana*



The lines on the back of balsam fir needles (left) are not as striking as those on Korean fir (below), and the notch at the tip of the needle is more distinct on Korean fir.



Abies concolor has large, wide needles. The whole needle is wax coated, so the top and underside of the needle are about the same colour.

Tsuga Canadensis needles are so much smaller than all the others! The twigs are very fine textured. The needle tapers to a rounded tip. The white lines are narrower than on the fir.



Comparing *Taxus*, *Pseudotsuga* and *Sciadopitys*

The tip of the *Taxus* needle is a lancet. The underside of the needle is yellow-green, the top is dark green. The seed is in an aril. The seed itself is poisonous, but the aril is not. The picture on the right shows the needle underside.



The needles of *Pseudotsuga* are not dark green, but a medium green. The needles are not as dense on the twig as the other conifers, so it looks a bit thin or sparse, despite the fact there are several rows of needles, with two rows that form a 'V' along the top of the twig. See the picture on the left.



The *Sciadopitys* needles are a very bright green compared to the other plants. The plant has two types of foliage – mature shoots have whorls of flat needles that have a groove down the centre on both the top and the underside, so it almost looks like a pair of needles (hence the common name umbrella pine). The immature shoots have scale foliage with triangular scales. This plant only resembles the others in that it has flat needles.

Regarding cones and fruit:

Fir cones stand up on the twig

Douglas-fir cones have bracts and hang down.

Hemlock cones are tiny and hang down.

Umbrella pine cones stick out from the branch tip.

Yews have a seed inside a red aril.

Regarding needles:

Umbrella pine – to 14 cm

Silver fir – to 5 cm

Yew, Douglas-fir – to 3 cm

Balsam fir – 2-3 cm

Korean fir – 1.5 -2 cm

Hemlock – 1 – 1.3 cm