

How Are Pine Trees Adapted to Cold Environments?

The pine tree's bark serves as a protective layer against the cold, disease, insects, storms and extreme temperatures. The pine tree's bark contains numerous air pockets which function as insulation for the tree. The material used here resembles the insulation found in house walls.

Narrow leaves can prevent snow from accumulating and causing branches to break.

The root system of pine trees anchors them deep into the ground; preventing them from falling in strong winds.

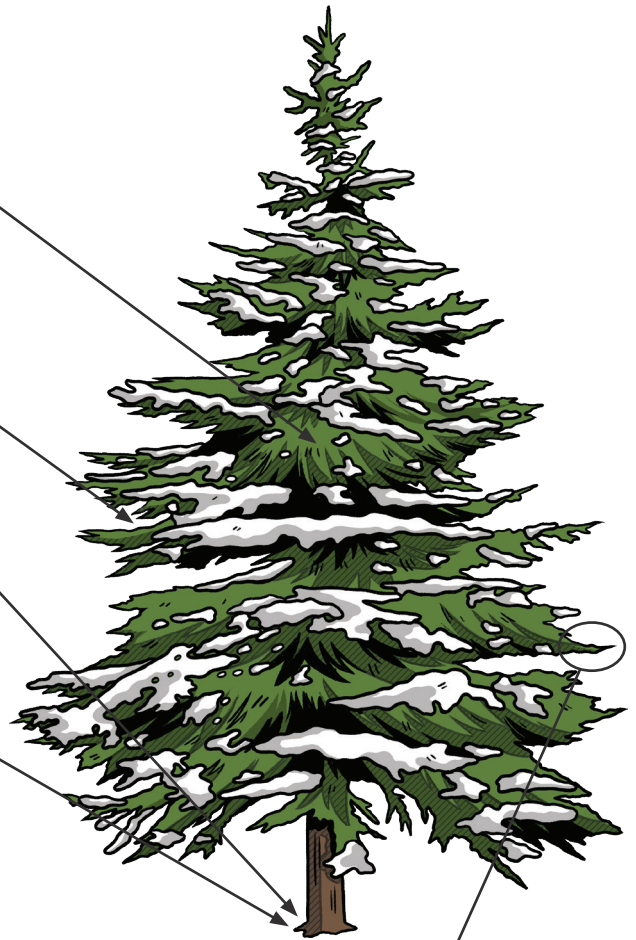
During extreme droughts, a pine tree can develop a taproot that goes deep into the earth to access water and keep the tree hydrated.

A pine tree is a type of coniferous tree.

Waxy leaves help to prevent water loss.

Pine needles have fewer stomata due to their small surface area; resulting in less water loss.

The stomata in pine needles are located deep within the needle. This creates a pocket of still air that reduces transpiration compared to moving air.



coniferous tree: Describes a tree that is evergreen and produces cones.

deciduous tree: Describes a tree that loses its leaves each year, usually in autumn, and grows new leaves in spring.

stomata: Small holes on the underside of a leaf which can be opened and closed by the guard cells that surround them. Carbon dioxide moves into the leaf through the stomata. Oxygen and water vapour move out of the leaf through the stomata.

