

Make Like a Tree And Leaf

Students: Sonia, Annika, Dylan, Everen

Location: Milwaukee School of Engineering, Milwaukee, Wisconsin

Team Number: MSOE1

Let's imagine, for a moment, that mobile goals are trees. Various types of trees, all with different leaves, bark, and ages scatter the forest and field. Small young saplings bend and move with ease and agility, while other trees tower up overhead, with tall, strong branches.

One match is one growing season, so it's spring and summer at the start of the match and the trees are new and want to grow as much as possible.

In general, trees can be split into two categories. The first is coniferous trees that live during the winter and the summer. These can be compared to the neutral mobile goals, which are open to any team. The second category of trees are the deciduous trees, or trees whose leaves fall. These are at their best during the spring, summer, and lay dormant during the winter, showing preference to one season over another. These trees are similar to alliance mobile goals, which only score on their alliance side .

Tree's age with time, flourishing under the sun and rain. They gain strength, and with that strength they also gain rings. As time goes on, rings are deposited, and the tree becomes healthier and more valuable. This process can be compared to the robots placing rings into mobile goals and gaining points because of it.

The robots bring vitamins, minerals and nutrients, and water— things necessary to the trees. A tree needs these things to grow older and healthier. The rings on the field represent rings on a tree or more rings means the tree is growing and aging. The more rings your tree has, the healthier your tree is and your mobile goal becomes more valuable.

The platforms are the most fertile land on the field. The trees are healthiest when they are elevated on the platform. The robots go on the platform at the end to stock up on nutrients for the trees, so they stay alive during the coming winter season. A tree on the platform is healthier or more likely to make it through the coming winter.

However, trees prefer some climates over others. If you give a tree warmth, sunlight, rain and nutrients through soil, it's more likely to bloom and grow into a healthy strong tree. When the robot puts a mobile goal onto the ramp, as it facilitates the mobile goal and makes the tree "healthier" or makes the mobile goal worth more points.

Following this metaphor, if a season is good, it will deliver rings to any part of the tree, even if it could use specific help in other areas. But a great season and robots will be able to deliver rings and strengthen the branches of the mobile goal, instead of dumping it at the base. It's similar to a beautiful summer in terms of weather, but the forest suffered from a ladybug infestation that prevented the trees from receiving nutrients in their leaves and branches. The ideal season and robot is able to work around these issues and make the best of the season by placing rings, or age and health through the roots and trunk as well as the leaves and branches.

The alliance that is best at growing trees wins the match.

Summary:

Tipping point	Theme
One match	One growing season
Sides of the field	Different seasons: own side is growing season; opposing side is winter
Alliance goal	Deciduous trees; can only grow on alliance's side
Alliance goal on opposing side	In winter; dormant tree
Neutral goal	Evergreen, can grow on either side
Rings	Rings on a tree, adding rings makes the tree grow
Platform	Most fertile land on field
Alliance goal on platform	Healthiest trees, most likely to make it through the coming winter
Robot on platform	Stocking up on nutrients for the trees for the coming winter.

Storyboard:

Sides: seasons
 ↳ own: spring summer
 ↳ opposing: winter

Robots: Bring nutrients/water to trees

Rings: rings on a tree
 ↳ more rings is tree growing


Platforms: most fertile land
 ↳ "trees" are healthiest there
 ↳ Robots go back at end to stock up for next season

mobile goals: trees

Coniferus evergreen (either alliance can help grow)



deciduous (only corresponding alliance can help grow)



↳ When on other side of field → are dormant "in winter"


Alliance best at growing trees wins

One match is one growing season (spring + summer)

↓

At the start of the match the "trees" are new and want to grow as much as possible

↓

A tree on the ramp at the end is healthier → more likely to make it through the winter.

Themed Game Pieces:



Red alliance tree



Blue alliance tree



Red alliance tree
on opposing side



Neutral tree



Ring



Fertile Land