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THE TREE FOUND ONLY IN FOSSILS

THE TREES IN THE CANYON

In 1994, a park officer named David Noble climbed down a rope into a deep, narrow GORGE cut into rock. This was in Wollemi National Park, west of Sydney, Australia. At the bottom stood tall trees he did not know. Their LEAVES matched FOSSILS - the shapes plants leave pressed into stone when they are buried and slowly turn to rock. Those fossils were millions of years old, and the tree behind them was thought to be long gone. Fewer than a hundred grown trees stood in that one hidden GROVE.

SPELL Spell: GORGE

GORGE

SPELL Spell: LEAVES

LEAVES

KNOWN What is the term for a small group of trees standing close together in one hidden spot?

GROVE

KNOWN What is the term for the shapes plants leave pressed into stone when they are buried and slowly turn to rock?

FOSSILS

OPEN What would you most want to find at the bottom of a canyon nobody had climbed into?

Open response - use practitioner judgment

MATH A grown Wollemi pine can reach about 40 metres tall. Suppose a young one is 15 metres tall. How many more metres must it grow to reach 40?

25

SAFE IN THE CANYON

The canyon is the reason the trees lasted. Its WALLS are SANDSTONE, a rock made from packed layers of sand. They rise straight up and hold shade and damp air at the bottom. Fire, heat, and drought swept the land above, but mostly passed over the trees below. A sheltered pocket like that is called a REFUGE. The trees also help themselves. Each one sends up many TRUNKS from a single base, so a burnt tree can sprout again instead of dying.

SPELL Spell: TRUNKS

TRUNKS

SPELL Spell: WALLS

WALLS

KNOWN What do you call a sheltered pocket that keeps living things safe while fire and drought sweep the land nearby?

REFUGE

KNOWN What is the name of the rock made from packed layers of sand?

SANDSTONE

OPEN What would you notice first at the shady, damp bottom of the canyon?

Open response - use practitioner judgment

A FRAGILE GROVE

A hidden grove is a fragile place. The wild trees are almost exactly the same inside. They are CLONES - copies that carry nearly the same instructions. A disease that killed one tree could kill them all. The biggest danger is a ROOT rot that rides in damp soil stuck to boots. That is why the exact spot is still kept secret, and only a few scientists may go in. During Australia's huge bushfires, firefighters were flown to the grove to wet the trees and hold the FLAMES back.

SPELL Spell: FLAMES

FLAMES

SPELL Spell: ROOT

ROOT

KNOWN What do you call trees that are almost genetically identical, each carrying nearly the same instructions inside?

CLONES

OPEN Only a few scientists may enter the grove, and they wash their boots first. What would you want to be careful about on the way in?

Open response - use practitioner judgment

GROWN BY THE THOUSAND

You can grow one yourself. So the whole species would not rest on a single grove, growers took CUTTINGS - short pieces of stem coaxed into growing roots of their own - and raised them by the thousand at nurseries, places that grow young PLANTS for sale. Since 2006 the TREES have been sold to the public and planted in botanic gardens, public collections of living plants, on several continents. If the wild grove is ever lost, the species is not.

SPELL Spell: PLANTS

PLANTS

SPELL Spell: TREES

TREES

KNOWN What is the term for short pieces of stem coaxed into growing roots of their own?

CUTTINGS

OPEN If a young Wollemi pine could be planted near your home, which spot would you choose for it?

Open response - use practitioner judgment