

Classroom resources

Resource 1: Images of the Green man



A foliate head in the shape of an acanthus leaf at Bamberg cathedral, Germany, early 13th century. By Johannes Otto Först



Carved capital, south door of Maria Laach Abbey, Germany. By Dietrich Krieger





Painted wooden roof boss from Rochester Cathedral, Kent (medieval). By Akoliasnikoff



Al-Khidr "the Green One".



Banksia Man by Australian artist. His reinterpretations of Green man incorporates native Australian flora. By Graham Wilson



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Resource 2: Examples of Green men



The Green man at the Lost Gardens of Heligan, Cornwall..



Example of Green man.

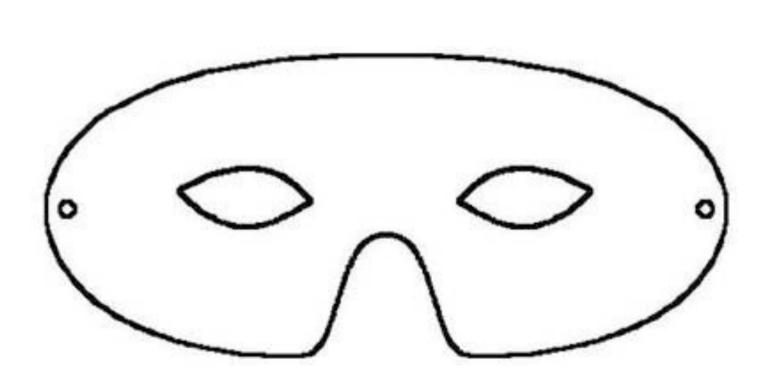


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Green man mask made of parts of natural materials (mainly parts of plants).





Green man mask template.

By Sherri Osborn, About.com



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Resource 3: Images of sacred grove in the East Khasi Hills, state of Meghalaya, North East India







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Resource 4: Tree information panels

Common Yew, Taxus baccata

Description: The common Yew is a conifer densely branched with a massive trunk reaching up to 20m tall.

Religious relevance: The common Yew is the most widely planted tree in Christian churches, chapels, cemeteries. The origins of planting Yew trees in religious places dates back to the Celts who because of the tree's longevity and its' wood resistance to decay believed that the tree united death with eternal life.



Common Yew Taxus baccata.

By MPF

Hazards: Most parts of the plant are poisonous (they consist taxane alkaloids) apart from the bright red aril, the fleshy casing on the seed, which is eaten by birds such as starling and blackbird and that way the seed is dispersed.

Uses: The Yew tree has been used for making bows for hunting and warfare throughout Europe until the invention of the firearms. Nowadays it is widely planted as an ornamental tree valued for hedging and topiary. Medicine: Scientists have found that compounds of the Yew bark and leaves, taxane alkaloids, have anti-cancer properties and used these for the production of drugs (Taxol) that treat breast and ovary cancer.

Did you know that: As the Yew tree has heavy evergreen shade, not many plants grow underneath so competition for space is diminished. The tree branches that rest on the ground can take root. The tree is relatively slow growing but can live for a long time and its girth can reach as much as 4m. It is estimated that Yew trees can reach the age of 2,000 years old, which places them as the longest living trees in Europe.



Cedar of Lebanon, Cedrus libani

Description: The Cedar of Lebanon is an evergreen conifer growing up to 40m tall with needle—like leaves. It is a plant of cold high mountainous regiouns.

Religious relevance: The Cedar of Lebanon has been used as a symbol in many parts of the Bible. In the following excerpt the Cedar of Lebanon is used as a metaphor for a good person. "The righteous will flourish like a palm tree; they will grow like a Cedar of Lebanon planted in the house of the LORD, they will flourish in the courts of our God. They will still bear fruit in old age, they will stay fresh and green", Bible, Psalm 92:12-14.

The Cedar tree is also mentioned in Qur'an and it has been described as the Tree of the Uttermost End. Allah has mentioned Cedar of Lebanon to emphasize its beauty, strength and grandeur. A Hadith in Abu Daud (30) says: "all those who could cut Sidr (Cedar) would be sent to Hell with their heads down" since people in Mecca were using the tree to make doors.

Historical value: The Cedar trees of Lebanon have contributed to the development of ancient civilizations who considered them important for their commercial value and utility in construction of buildings and boats and also for their beauty and fragrance. The Egyptians used its resin to mummify their dead. Cedar of Lebanon was used extensively for building in Biblical times, and the most famous cedar buildings were King Solomon's Palace and the Temple of Jerusalem. In the Bible it is also mentioned that Cedar of Lebanon was used for purification and in ritual cleansing for skin problems.



Cedar of Lebanon
Cedrus libani By MPF

Conservation: Over the centuries extensive deforestation has occurred with only small remnants of the original forests surviving in the Mediterranean region where the species is native. As a result of long exploitation few old trees remain in Lebanon but there is now an active program to conserve and regenerate the forests due to the cultural importance of the tree. The Lebanon Cedar is the national emblem of Lebanon displayed on the National flag. The Lebanese approach of conservation has emphasised natural regeneration rather than planting, and this by creating several nature reserves that contain Cedars.

Uses: the Cedar of Lebanon is widely planted as an ornamental tree in parks and in large gardens.

Did you know that: Because of its majesty and long life span, the Cedar became a symbol of eternity.



White willow, Salix alba

Description: White willow is a large deciduous tree growing up to 30m tall. Its name derives from the white tone to the undersides of the leaves.

Ecology: White willows are fast-growing, but they are also short-lived as they are vulnerable to several diseases including the watermark disease caused by bacteria (named as "watermark disease" because it causes staining in the wood). These diseases can be a serious problem for the trees grown for timber or ornament.



White Willow Salix alba

Uses: The wood is tough, strong, light in weight but it is not resistant to decay. Willow stems from coppiced and pollared plants are used for basket making. A variety of White willow is used for producing cricket bats. The bark was used in the past for tanning leather, and charcoal made from the wood was important for gunpowder manufacture.

Medicine: Hippocrates the ancient Greek and father of modern medicine, wrote in the 5th century BC about a bitter powder extracted from willow bark that could be used for pain relief and for reducing fever.

In the 19th century scientists discovered that is was the compound called salicin in the bark of willow which gave the pain relief and that discovery lead to the production of Aspirin which is widely used as medicine for pain relief nowadays.

Did you know that: White willow thrives in moist environments and moisture availability at the time of seed dispersal is critical because the willow seeds are viable for only a few weeks. That means that willow is restricted to wetlands and floodplains, which can provide an environment with constant moisture for immediate seed germination.



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Sugar Maple. Acer saccharum

Description: Sugar Maple is a deciduous tree usually reaching heights of 35m and its leaves with five palmate lobes turn into spectacular colours ranging from bright yellow through orange to redorange.

Ecology: Sugar Maple is one of the most shade tolerant of large deciduous trees, so it can germinate and persist under a closed canopy and respond with rapid growth to the increased light formed by a gap in the canopy. Sugar Maples can draw water from lower soil layers and carry that water into upper drier soil layers for the benefit of many other plants growing around it.

Uses: Sugar maples are one of the most important hardwood timber trees in North America. Its wood is one of the hardest and densest of Sugar Maple Acer saccharum. the maples and is prized for furniture and flooring. Its wood is used in By Bruce Marlin many sports i.e. for bowling alleys and bowling pins, for the basket-



ball courts including the floors used by the NBA, for baseball bats, pool cues, and even for skateboard decks because of the strength of the wood. It is also widely used in the manufacture of musical instruments especially for violin, guitars and drums.

The Sugar Maple is one of the major sources of sap for making maple syrup. Holes are bored into the trees trunks early in the spring for the first flow of sap which usually has the highest sugar content. The sap is collected and boiled or evaporated to syrup. Sugar Maple is extensively used as an ornamental in streets and gardens because it is easy to propagate and transplant, it is fairly fast growing and has beautiful autumn colour.

Did you know that: Sugar maple is restricted to regions with cool, moist climates. The trees grow on the eastern side of Canada and north eastern USA down to the Middle West part of USA. Climate change seems to be pushing this natural distribution northwards. As the winters become warmer, the heart of the maple syrup region could become less suitable for these trees. With the effect of climate change, extreme conditions could become more severe and frequent which will impact on Sugar Maple, which is also very vulnerable to acid rain, fire and flooding.



The Maidenhair tree, Ginkgo biloba

Description: Ginkgo biloba is a large deciduous tree reaching the height of 20-35m (or even 50m in China). Its leaves are unique among seed plants, as they are fan-shaped. Ginkgo is also called Maidenhair tree because its leaves resemble the leaf shape of a Maidenhair fern (*Adiantum*). A combination of resistance to disease, insect-resistant wood and the ability to form aerial roots and sprouts makes ginkgos long-lived, with some trees claimed to be more than 2,500 years old.

Geography: Although Ginkgo biloba were once widespread throughout the world, their range shrank around two million years ago and it was restricted to a small area of China.

Uses: Ginkgos adapt well to the urban environment, tolerating pollution and confined soils spaces, they rarely suffer disease problems and are attacked by few insects. For this reason and for their general beauty ginkgos are excellent urban and shade trees and are widely planted along many streets. Ginkgo nuts are a traditional Chinese food, and they are used at special occasions such as weddings and the Chinese New Year.



Maidenhair tree Ginkgo biloba By James Field

Medicine: Ginkgo has been used in traditional Chinese medicine to treat circulatory disorders and enhance memory. Scientific studies have found evidence to support these uses. Although not all studies agree extracts from Ginkgo leaves that are high in flavonoids and terpenoids have been found effective in treating dementia and poor blood circulation in legs.

Conservation: The Ginkgo is listed in the IUCN Red list of Endangered Plants. Although it is cultivated and planted by humans, it is endangered and at risk of loss of biodiversity because of propagation by cuttings rather than by seed, and due to human preference for male trees.

Did you know that: Ginkgo is classified in its own group of plants the Ginkgophyta and is one of the best known examples of a living fossil because it is the sole survivor of an ancient group of trees which was widespread at the same time as the dinosaurs, 180-200 million years ago. The Maidenhair tree remains virtually unchanged today and represents the only living bridge between 'higher' and 'lower' plants (between ferns and conifers).



Christmas Holly, Ilex aquifolium



Christmas Holly *Ilex aquifolium* By Jürgen Howaldt

Description: Holly is an evergreen tree growing up to 25m tall with glossy dark green, spiny leaves.

Religious relevance: In Britain and many other western cultures, holly is closely associated with Christmas. It makes an ideal festive decoration, with its bright red berries set against dark green, glossy leaves. The tradition of holly decoration predates Christianity and probably began with the early pagans of Europe, who brought holly inside in the winter to keep evil spirits away.

The Romans sent holly branches with presents during the December festival of Saturnalia. Holly is one of the trees said to be the tree of Christ's cross. Legend tells us that the trees of the forests refused the defilement of the cross, splintering into tiny fragments at the touch of the ax. Only the holly behaved like an ordinary tree, allowing itself to be cut and formed into a cross. It is as a Passion symbol that holly is found in pictures of various

saints. Its presence indicates that the saint is either reflecting upon Christ's Passion or foretelling it.

Hazards: The berries are mildly toxic to humans and will cause vomiting and diarrhoea if eaten.

Ecology: Holly is a hardy tree capable of surviving in most conditions. Its distinctive spiny leaves deter grazing animals and protect birds from predators as they feed on its bright red berries. On higher branches (where grazing animals pose less of a threat) the leaves have virtually no spines. The distinctive berries provide a feast for birds and other animals in winter when there is often little other food available.

Uses: Holly is cultivated as an ornamental tree used extensively in parks, gardens and hedges. It is also used for firewood, woodwork and as a winter feed for sheep. The leaves of holly are not toxic and are used in drinks across America as many contain caffeine.

Did you know that: Holly is one of Britain's few native evergreen trees. In many parts of Britain it was once considered bad luck to cut down a holly tree as its evergreen leaves were considered a sign of eternal life and supernatural powers. As a result many holly trees are found in the midst of hedges.



Classroom resources

Web links to download the pictures included in 'The green ark' lesson resources:

A foliate head in the shape of an acanthus leaf

http://upload.wikimedia.org/wikipedia/commons/a/a3/Domreiter%2C_Blattmaske.jpg

Carved capital of abbey

http://en.wikipedia.org/wiki/File:Maria_Laach_S%C3%BCdportal.jpg

Painted wooden roof boss from cathedral

http://upload.wikimedia.org/wikipedia/commons/e/e6/RochesterCathedral_Boss1 .JPG

Banksia man by Australian artist

http://en.wikipedia.org/wiki/File:Banksia_Man_by_Graham_Wilson.jpg

Al-Khidr "the Green One"

http://en.wikipedia.org/wiki/File:Khizr.JPG

The Green man at the Lost Gardens of Heligan, Cornwall

http://www.bgci.org/files/Worldwide/Education/Seeds_of_Unity/Green%20man%20at%20the%20Lost%20Gardens%20of%20Heligan.JPG

Green man mask template

http://familycrafts.about.com/od/makingmasks/ss/EyeMaskTemplate.htm

Images of sacred grove in North East India

http://taos-telecommunity.org/EPOW/EPOW-Archive/archive_2009/EPOW-090914.htm

Common Yew Taxus baccata

http://en.wikipedia.org/wiki/File:TXbaccata.jpg

Cedar of Lebanon Cedrus libani

http://en.wikipedia.org/wiki/File:Libanonzeder.jpg

White Willow Salix alba

http://en.wikipedia.org/wiki/File:Salix_alba_leaves.jpg

Sugar Maple Acer saccharum

http://en.wikipedia.org/wiki/File:Acer_saccharum.jpg

Maidenhair tree Ginko biloba

http://en.wikipedia.org/wiki/File:Ginkgo_Biloba_Leaves_-_Black_Background.jpg

Christmas Holly Ilex aquifolium

 $http://en.wikipedia.org/wiki/File: Ilex-aquifolium_\%28 Europae is che_Stechpalme-1.jpg$

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