Mississippi is covered by many forested areas, including the hardwood forests of the northern part of the state, the Magnolia-Beech forests and Longleaf Pine Ecosystem in the south, and swamps and rivers of the Delta in the western part of the state. Trees are dominant members of these ecosystems and provide the structure, shelter, and food for other species to live in these habitats.

Some of the most common trees you’ll find in Mississippi are:

- Pine
- Bald Cypress
- Red Cedar
- Magnolia
- Beech
- Oak
- Maple
- Sweetgum
- Hickory
- Tulip Poplar
- Flowering Dogwood
- Sugarberry

Bald cypress swamps, such as this one, are common throughout Mississippi.
Key to Symbols

**HABIT**
- Herb
- Small Tree/Shrub
- Large Tree

**LEAVES**
- Simple
  - <5 cm long
- Compound
  - <5 cm long
- Simple
  - >5 cm long
- Compound
  - >5 cm long

**FLOWERS**
- <1 cm
- 1-5 cm
- >5 cm

Distribution maps for species are based on the PLANTS Database, USDA, NRCS. 2014. (http://plants.usda.gov) National Plant Data Team, Greensboro, NC.

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Identifying Features

- Flaking brown bark
- Needle-like leaves in bundles, varying in length
- Leaves evergreen
- Seed cones woody
- 7 species in Mississippi
Questions

Grades K-2:
1. What is a forest?
2. How are the needles on a pine tree similar to the leaves on a magnolia tree?

Grades 3-5:
1. Is a pine tree evergreen or deciduous? How do you know?
2. Do all of the cones on a pine tree look the same? Which ones have seeds in them?

Grades 6-8:
1. What areas of Mississippi are pine trees most commonly found?
2. What kinds of animals use pine trees and how do they use them?

Grades 9-12:
1. Why are pine trees dominant members of forests?
2. What other species live in the Longleaf Pine Ecosystem?
3. Why are conifers in colder climates more diverse than in Mississippi?
Bald Cypress
*Taxodium distichum*

**Identifying Features**

- Grows in wet habitats
- Thin, gray-brown rough bark
- Soft, needle-like leaves ca. 1 cm long
- Leaves deciduous
- “Knees” often grow out of the water
- Seed cones woody and circular

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Questions

Grades K-2:
1. What is a swamp?
2. How are the needles on a bald cypress similar to the leaves on a pine tree?

Grades 3-5:
1. Is bald cypress evergreen or deciduous? How do you know?
2. Do all of the cones on a bald cypress tree look the same? Which ones have seeds in them?

Grades 6-8:
1. Why do bald cypress trees grow “knees”?
2. What animals or other organisms would you expect to find living in a bald cypress swamp?
3. How could other organisms use bald cypress trees for food? Shelter?

Grades 9-12:
1. What adaptations must a bald cypress tree have for living in water?
2. Why are species of Taxodium limited to subtropical climates?
3. How is a female cone of a bald cypress tree similar to a flower?
**Red Cedar**
*Juniperus virginiana*

**Identifying Features**
- Brown, flaky bark
- Leaves scale-like or needle-like; short
- Leaves evergreen
- Female trees with blue berry-like cones

A: Habit; B: seed cones; C: pollen cones
Questions

Grades K-2:
1. What makes a red cedar a gymnosperm?
2. How are the needles on a red cedar similar to the leaves on a pine tree?

Grades 3-5:
1. Is red cedar evergreen or deciduous? How do you know?
2. Do all of the cones on a red cedar tree look the same? Which ones have seeds?

Grades 6-8:
1. What is in the wood of a red cedar tree?
2. How could other organisms use red cedar trees for food? Shelter?

Grades 9-12:
1. What adaptations must red cedar have for exploiting disturbed areas?
2. Compare seed cones of pine, bald cypress and red cedar. How are they similar?
3. Many more species of cedar occur in the western United States. How might have red cedar evolved to be an eastern U.S. species?
Magnolia
Magnolia spp.

Identifying Features

• Smooth, gray bark
• Leaves elliptic in shape, length varies by species, alternate on branches
• Species evergreen or deciduous
• Large white fragrant flowers
• 6 species in Mississippi

A: Southern Magnolia; B: Sweetbay; C: Bigleaf Magnolia flower without petals; D: Southern Magnolia leaves

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Questions

Grades K-2:
1. What makes a magnolia an angiosperm?
2. What are the leaves of a magnolia tree used for?

Grades 3-5:
1. Are magnolia species evergreen or deciduous? How do you know?
2. What structures in the magnolia flower make pollen?
3. What is the purpose of the white petals on a magnolia flower?

Grades 6-8:
1. How is the wood of a magnolia tree formed?
2. How could other organisms use magnolia trees for food? Shelter?

Grades 9-12:
1. How do the different species of magnolia differ in their form and distribution across Mississippi?
2. Magnolias are considered to be primitive plants because of their flower structure. How do their flowers differ from those of other trees in this series?
Beech
Fagus grandifolia

Identifying Features

- Smooth, gray bark, often carved into
- Leaves elliptic in shape, 6-12 cm long, alternate on branches
- Leaves die in winter but stay on trees
- Flowers small, green, clustered

A: smooth bark of beech trees; B: flowers and fruits

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Questions

Grades K-2:
1. Where are the flowers of a beech tree?
2. What are the leaves of a beech tree used for?

Grades 3-5:
1. Is beech evergreen or deciduous? How do you know?
2. What structures in the beech flower make seeds?

Grades 6-8:
1. Why does a beech tree have smooth bark?
2. How could other organisms use beech trees for food? Shelter?

Grades 9-12:
1. Beech and magnolia trees commonly grow together? What habitats would you find these species? Why do you think they grow together?
2. What do you think would pollinate beech trees? How would they disperse their seeds?
3. People often carve into the bark of beech trees. How could this affect diseases getting into the trees?

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Identifying Features

- Bark brown-gray, varying by species
- Leaves often with lobes or bristles, varying length, alternate on branches
- Species deciduous or evergreen
- Female flowers small, becoming acorns
- 36 species in Mississippi

A: acorns and leaves on Post Oak; B: linear leaves and acorns of Willow Oak
Questions

Grades K-2:
1. Where are the flowers of an oak tree?
2. What is inside of an acorn on an oak tree?

Grades 3-5:
1. Are oaks evergreen or deciduous? How do you know?
2. Oaks have two kinds of flowers. Why is this? What does each kind of flower do?

Grades 6-8:
1. Why do oak trees have many different shaped leaves?
2. How could other organisms use oak trees for food? Shelter?

Grades 9-12:
1. What habitats would you find oak species growing in Mississippi?
2. What do you think would pollinate oak trees? How would they disperse their seeds?
3. Many oak species have sun leaves and shade leaves that have different shapes. How could this growth form be adaptive?
Maple
Acer spp.

Identifying Features

- Bark green to brown
- Simple or compound leaves with pointed lobes; opposite on branches
- Leaves deciduous
- Female flowers red or green, developing into winged fruits
- 6 species in Mississippi

A: Sugar maple; B: Boxelder; C: fruits with wings – each side has a seed
Questions

Grades K-2:
1. Where are the flowers of a maple tree?
2. What are the different kinds of leaf shapes on maple trees?

Grades 3-5:
1. Are maples evergreen or deciduous? How do you know?
2. Why do maple seeds have wings?

Grades 6-8:
1. What is the structure of the wood in a maple tree?
2. How could other organisms use maple trees for food? Shelter?

Grades 9-12:
1. What habitats would you find maple species growing in Mississippi?
2. What do you think would pollinate maple trees?
3. How are the leaf shapes in maple species adaptive?
Sweetgum
Liquidambar styraciflua

Identifying Features

- Reaching heights up to 80 feet
- Rough bark
- Star-shaped leaves alternate on branches; deciduous
- Flowers in spiky balls that become woody fruit clusters often called “sweetgum balls”

A: habit; B: star-shaped leaves; C: “sweetgum ball”
Questions

Grades K-2:
1. Where are the flowers of a sweetgum tree?
2. What makes sweetgum a tree?

Grades 3-5:
1. Is sweetgum evergreen or deciduous? How do you know?
2. The leaves of sweetgum are star-shaped. Do you think this makes them better at photosynthesis than long, skinny leaves? Why?

Grades 6-8:
1. What is the structure of the wood in a sweetgum tree?
2. How could other organisms use sweetgum trees for food? Shelter?

Grades 9-12:
1. What habitats would you find sweetgum growing in Mississippi?
2. How are sweetgum trees pollinated? Are the flowers bisexual or unisexual?
3. What advantage do woody plants, such as sweetgum, have over non-woody plants?
Hickory
Carya spp.

Identifying Features

- Rough brown bark with diamond shaped ridges
- Compound leaves with 5-21 leaflets; alternate on branches
- Leaves deciduous
- Female flowers small, clustered; developing into hickory nuts
- 12 species in Mississippi

A: Mockernut hickory; B: compound leaves characteristic of all hickories; C: shaggy bark of Shagbark Hickory
Questions

Grades K-2:
1. How does a hickory tree make nuts?
2. If hickory trees are so tall, do you think they need a little or a lot of sunlight?

Grades 3-5:
1. Are hickories evergreen or deciduous? How do you know?
2. Hickory leaves are compound. What does this mean?

Grades 6-8:
1. What kind of vascular structure is found in the wood of a hickory tree?
2. How do other organisms use hickories for food? Shelter?

Grades 9-12:
1. What habitats would you find hickory trees growing in Mississippi?
2. What are the different kinds of hickories that occur in Mississippi? How do they maintain their distinctiveness if they occur in the same habitats?
3. What advantage do woody plants, such as hickories, have over non-woody plants in forests?

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**Tulip Poplar**
*Liriodendron tulipifera*

**Identifying Features**

- Brown bark
- Leaves with 4-6 lobes, 6-20 cm long, alternate on branches
- Leaves deciduous
- Flowers large, green and orange

A: flower; B: fruits; C: leaf
Questions

Grades K-2:
1. What do the flowers of tulip poplar look like?
2. What part of tulip popular trees are used in getting water for the tree?

Grades 3-5:
1. Is tulip poplar evergreen or deciduous? How do you know?
2. What are the seeds of tulip poplar like? How are they dispersed?

Grades 6-8:
1. What kind of vascular structure is found in the wood of a tulip poplar tree?
2. How do other organisms use tulip poplar trees for food? Shelter?

Grades 9-12:
1. What is the northern limit of the distribution of tulip poplar in the U.S.? What limits the distribution of this species?
2. What pollinates tulip poplar flowers?
3. Tulip poplars and magnolias are evolutionarily close. How are their flowers similar?

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Flowering Dogwood
*Cornus florida*

**Identifying Features**

- Reddish brown - gray bark with a checkered pattern
- Leaves elliptic in shape, 6-10 cm long, opposite on branches
- Leaves deciduous
- Flowers small greenish-yellow and clustered; surrounded by several large white petal-like bracts

A: Inflorescence of flowers; B: bark; C: fruits; D: leaves

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Questions

Grades K-2:
1. What do the flowers of dogwood look like?
2. What part of dogwood trees are used in getting water for the tree?

Grades 3-5:
1. Are dogwoods evergreen or deciduous? How do you know?
2. How do dogwoods disperse their seeds?

Grades 6-8:
1. What kind of vascular structure is found in the wood of a dogwood tree?
2. How do other organisms use dogwoods for food? Shelter?

Grades 9-12:
1. Do dogwoods occur in the canopy or understory of forests? What advantage does this provide relative to other species also found in forests?
2. What pollinates dogwood flowers?
3. What other species of dogwood occur in Mississippi and around the world?
Sugarberry
*Celtis laevigata*

**Identifying Features**

- Rough, bumpy gray bark
- Leaves elliptic with small teeth at the edges and asymmetrical base, 4-13 cm long, alternate on branches
- Leaves deciduous
- Flowers small, green, becoming a hard dark colored fruit

A: new leaves and flowers in the spring; B: mature leaves and fruits in the summer; C: trunk with bumpy bark
Questions

Grades K-2:
1. What do the flowers of sugarberry look like?
2. How would the bark of this tree be good for insects that crawl up it?

Grades 3-5:
1. Is sugarberry evergreen or deciduous? How do you know?
2. What are the seeds of sugarberry like?
3. Why do you think this species has the name of “sugarberry”?

Grades 6-8:
1. What kind of vascular structure is found in the wood of a sugarberry tree?
2. How do other organisms use sugarberry trees for food? Shelter?

Grades 9-12:
1. What other species of Celtis occur in the U.S.? Compare their distributions to that of sugarberry. Do they overlap?
2. What kinds of habitats in Mississippi would you find sugarberry growing? What adaptations does this species have for these habitats?
3. What pollinates sugarberry flowers?