

# Kansas Trees are Terrific In Cities, Towns and Communities



Junction City

2025 Kansas Arbor Day  
Poster Contest



Newton





Dodge City



Clay Center

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**Step 2**

**Step 3**

**Important Dates to Remember**

Local Winning Posters Due to District Foresters.....	February 7 <sup>th</sup> , 2025
Posters Due to State Office.....	February 14 <sup>th</sup> , 2025
Winners Announced.....	February 28 <sup>th</sup> , 2025
Tree City USA Lunch.....	End of March 2025
State Winner, family and teacher will be invited to attend a lunch with award presentation.	
KACEE Awards Dinner.....	Beginning of April
Arbor Day 2025.....	April 25 <sup>th</sup> , 2025
Arbor Day Celebration at State Capitol.....	End of April

**Possible Prizes**

**Possible Prizes**

**Students** --- framed certificate of achievement, books, tree planting, Kansas Arbor Day Poster Contest T-Shirt, Opportunity to participate in state Arbor Day Celebration and more!

**Teachers** --- Kansas Poster Contest Logo items, classroom resources, and more!

**Schools** --- Library resources, framed poster, and more!

**Unit Concepts:**

- **A forest is more than trees.**
- **Many different kinds of forests exist.**
- **Every forest contains a variety of habitats that support diverse, interdependent communities of plants and animals.**
- **A forest provides many benefits.**
- **Altering a forest environment affects all living things and interrelationships in an ecosystem.**

# WELCOME



Dear Fifth Grade Educator,

You are invited to join other fifth grade teachers across Kansas in the 2025 Kansas Arbor Day Poster Contest sponsored by Evergy, Kansas Arborists Association, Kansas Association for Conservation and Environmental Education, Kansas Nursery and Landscape Association, ITC- A Fortis Company and US Forest Service. This year's contest, "**Kansas Trees are Terrific in Cities, Towns and Communities,**" is designed to increase knowledge about the importance of trees in a community.

Kansas is traditionally defined as a prairie state, however there are 5.2 million acres of forests, woodlands, and trees in Kansas that account for 10% of the state's total land area. These community, rural, and agroforests provide shelter and food for wildlife, absorb air pollutants and carbon dioxide, protect water quality and quantity, prevent soil erosion and make our Kansas communities more enjoyable and livable, to name a few of their many benefits to us.

A special thanks is extended to Laura Downey, Executive Director of Kansas Association for Conservation and Environmental Education. Laura contributed to the educational content that follows and shared her expertise and classroom experience to design the hands-on activities in the lesson plan.

Participation in the curriculum and poster contest will increase student awareness of the important role trees play in the quality of life and environmental health of our cities, towns and communities and is the first step in maintaining an urban forest.

The use of part or all the activities in this lesson plan is encouraged but not mandatory for participation in the state contest. You may adapt, alter, or supplement these activities to meet the needs of your classroom but only posters drawn by **5<sup>th</sup> grade students** are eligible for competition.

**Posters should strictly follow the contest rules on page 31. Remember to not laminate, mat, mount, frame or fold posters. Only one** local-winning poster should be submitted to district competition from a school or from a local contest supported by a Tree City USA community. On the back of the local-winning poster, please attach a completed School Winner Report Form (page 33). **Local-winning posters are due to the office of your KFS Community Forester (page 34) by February 7, 2025.**

I encourage you to join the Kansas Forest Service and our contest partners, in teaching the youth of our state that **Kansas Trees are Terrific** for all that we gain when there are thriving forest habitats around us! Participation in the contest could result in prizes for the district winning student and teacher and the overall state winner.



*Blaine Stroble*

Kansas Forest Service  
Northeast District Community Forester

To find out if your city is a Tree City USA community, visit the Kansas Forest Service website – [Tree City USA | Community Forestry | Kansas Forest Service | Kansas State University](#).



# Thanks to Our Partners

Kansas Forest Service would like to extend a heartfelt thanks to our partners, who year after year make promoting forestry education in Kansas a priority. The generosity of our organizational and corporate partners allows us to recognize the achievements of the district and state winners and bestow gifts of appreciation to the schools and local contest partners who engage in the contest.



# ABOUT THIS PROGRAM

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The Kansas Arbor Day Poster Contest is an artistic competition open to public, private and home-schooled fifth graders across the state that strives to increase an appreciation and awareness of the important role that trees play in our quality of life, communities, ecosystems and our state.

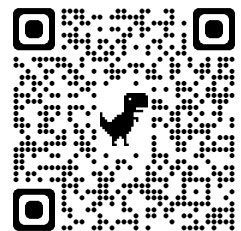
The lesson plan supports Kansas College and Career Ready Standards for English Language Arts, Science and Social Studies, as well as multiple Science crosscutting concepts including Patterns, Cause and Effect, Systems and Systems Models and Structure and Function. It offers ready-to-use curriculum and hands-on learning opportunities for exploration that teach students to collect and analyze forest data and the importance of forest ecosystems in Kansas.

This plan also supplements science units on plants, ecosystems, and biomes.

Poster contest information, rules, and School Winner Report Form are found on pages 30-32. Posters that do not strictly adhere to contest rules will be disqualified.

Local-winning posters **must** be submitted to your Kansas Forest Service District/Community Forester by **February 7, 2025**.

You can find contact information for your local forester on our website:  
<https://bit.ly/3AfymYb>





# Step 1

## Discover What Trees Do for You and Your Community

### BASIC ACTIVITY

#### Objectives:

#### Students will be able to:

1. Identify the social, environmental and economic benefits of trees in cities and towns.
2. Identify 8 locations where planting a tree in their community would have a social, environmental and/or economic impact.

#### Time Recommended:

2 Class Periods

#### Materials Needed:

- Pencils/Pens
- Handout/Slide of World With/out Trees on page 14
- Handout/Slide of Benefits of Trees on page 15-16
- Handout/Slide of Benefits of Your Community Trees Worksheet on page 18-19
- Tree Identification Book or access to: <https://bit.ly/3pfY74g>

Handout of Rubric/Vocabulary on page 12-13

#### Kansas College and Career Ready Standards

**SPEAKING AND LISTENING: SL 5.1, SL 5.2, SL 5.8**

**READING INFORMATIONAL: RI.5.1-5.4**

**SCIENCE STANDARDS: 5-ESS3-1. DISCIPLINARY CORE IDEAS: LS2.A, ESS2.A and ESS3.C**

#### SCIENCE AND ENGINEERING PRACTICES:

**Asking Questions and Defining Problems and Planning and Carrying Out Investigations**

#### KANSAS, HISTORY, GOVERNMENT AND SOCIAL STUDIES STANDARDS:

- **Standard 5 - Relationships among people, places, ideas, and environments are dynamic**

#### Teacher Background Information:

In the early 1900s, America was still a very rural nation where people had close ties to nature. The 2010 census reported that nearly 81% of Americans now live-in urban centers, up from 79% just 10 years earlier. Over this same time frame, urban populations grew by more than 12.1%, outpacing the national growth average of just 9.7%. Trees play a vital role in these urban environments. Now, over 141 million acres of America's forests are located in our cities and towns, creating Urban Forests. Urban forests come in many different shapes and sizes. They include urban parks, street trees, landscaped boulevards, gardens, river and costal promenades, greenways, river corridors, wetlands, nature preserves, shelter belts of trees and working trees at former industrial sites. Most Kansans think of forests only as distant, vast tree-covered tracts of land; they are unconscious of the urban forest that exists in their own cities, towns and communities.

Because of these growth patterns, urban forests are more important than ever- they are the trees outside our front doors, on our playgrounds, and along our streets. They are dynamic ecosystems that provide critical benefits to people and wildlife. Urban forests help to filter air and water, control storm water, conserve energy, and provide animal habitat and shade. They add beauty, form and structure to urban design. By reducing noise and providing places to recreate, urban forests strengthen social cohesion, spur community revitalization and add economic value to our communities.

Research shows that trees help reduce stress in the workplace and speed recovery of hospital patients. Trees increase land values. Commercial retail areas are more attractive to shoppers, apartments rent more quickly, tenants stay longer, and space in a wooded setting is more valuable to sell or rent. Studies also show that young children benefit greatly from connecting with trees and nature. A connection with nature benefits children educationally, behaviorally, and developmentally. On-going research confirms that regular connection with the natural world helps

- Build children's visual-spatial skills
- Improve children's ability to concentrate, including children with Attention Deficit Disorder (ADD)
- Enhance children's motor skills, such as coordination, balance and agility.



Yard and street trees in Fairway.

Cities and towns benefit greatly from their community trees. Based on data from a public tree inventory in Fairway, Kansas, that city's 3,079 street and park trees absorb nearly 1,900 pounds of air pollutants (particulate matter, nitrogen oxide, sulfur dioxide and ozone) per year. These trees also sequester more than 1.5 million pounds of carbon dioxide while conserving 670 megawatts of electricity and 90,731 therms of natural gas. Because trees in the city reduce the demand for heating and air conditioning the demand from power plants is reduced and therefore, emissions released from power plants is reduced.

Runoff from urban areas is a major source of pollution entering wetlands, streams, lakes and oceans. Healthy and maturing trees can reduce the amount of runoff and pollutant loading going into these water systems. This becomes a critical function because federal law requires states and localities to control nonpoint-source pollution, such as from pavements, buildings and landscapes. The trees in Fairway intercept and store more than 6.8 million gallons of rainfall with their leaves and branches, thereby reducing runoff volumes and erosion of watercourses as well as delaying the onset of peak flows.

Most people recognize that trees help beautify their properties and communities. There are many esthetic benefits to a community such as human health and well-being, increased public safety, increased property values, attractiveness of business districts, social and psychological, noise reduction, wildlife habitat, reduced street maintenance, jobs and environmental education. All combined, these benefits plus those previously mentioned, are valued for Fairway at more than half a million dollars per year! Trees also store carbon in their wood and tissues. The trees in Fairway store more than 28 million pounds of carbon for a one-time benefit of \$210,000.



Yard, street and streamside trees in Emporia.


An inventory in Emporia, Kansas found 15,300 street trees providing more than \$900,000 in annual ecosystem services and storing more than 71.8 million pounds of carbon.

Trees within cities also have special challenges. There is not as much space for their roots to spread out and urban soils are often poor. Tall buildings can prevent trees from getting full amounts of sun. Pollution from cars, buses, and factories can affect the health of a tree and impact how well it grows. Despite these challenges, many species of trees have adapted to urban life and grown well, providing numerous benefits to the people that live there. Tree City USA is a national program sponsored by the National Arbor Day Foundation and administered by the Kansas Forest Service in Kansas. Tree City USA recognizes towns that have an organized tree board supported by a municipal ordinance, a community forestry budget of at least \$2/capita and an arbor day observance and proclamation.

It takes time and effort, and funding to establish and maintain the urban forest, but recent studies of the community forests have shown that city trees provide benefits to the community worth 2 to 3 times the cost of their planting and care. For many years trees were only valued for the wood products that they could produce, but thanks to research conducted throughout the United States, it is proven that trees are a critical green infrastructure to communities.



The Kansas Forest Service's Community Forestry Program educates citizens and decision makers about the economic, environmental, psychological and aesthetic benefits of trees and to assist local governments, citizen groups and volunteers in the planting and sustaining healthy trees and vegetation wherever people live and work in the State of Kansas. The Community Forestry Program also assists communities in becoming Tree City Certified. 88 communities in Kansas are current Tree Cities. In the following activities students will have an opportunity to learn how trees impact the urban environment and calculate a rough estimate of a "working" tree's value.



# KANSAS

BY THE NUMBERS

## Tree City USA Summary

# 2023

90

TREE CITY USA COMMUNITIES

0 NEW

68.34%

OF STATE LIVES IN A TREE CITY USA COMMUNITY

LONGEST-RUNNING ACTIVE TREE CITY USA COMMUNITY:

Clay Center, Newton, Dodge City, Junction City


48 YEARS

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\$21,409,856

SPENT ON URBAN FORESTRY MANAGEMENT

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\$10.66

average per capita

100%

RECERTIFICATION RATE

REPORTED NUMBER OF TREES PLANTED

# 7,698

LARGEST

Wichita

POPULATION 396,192

SMALLEST

Formoso

POPULATION 92

Growth Award

10

Growth Award Recipients

LONGEST ACTIVE GROWTH AWARD


Overland Park, Olathe

31 YEARS

0

NEW Growth Award Recipients

## BEYOND TREE CITY USA




7

Recognized Kansas Schools


0

NEWLY Recognized Schools





0

Tree Line USA Utilities



Recognized Healthcare Facilities:





50085109

## Getting Started: Assess Prior Knowledge

### Activity 1

Display or pass out handouts of the **World with Trees Worksheet** on **page 14**. Ask, “Which of these two worlds would you rather live in?” As students respond, ask *why they chose as they did*. Record responses on the board without comment.

Continue class discussion by asking, “Why are trees important to our community?” Building off students’ prior knowledge and information gathered from the handout/displayed image, encourage students to generate a list of the products and contributions made by living trees. A possible list of responses is below.

Shade	Make oxygen
Windbreak	Fruit and nuts to eat
Erosion control	Beauty
Absorb carbon dioxide	Shelter
Home for animals	Food for wildlife
Syrup	Prevent water runoff
Clean air	Medicines
Cools the air	Marks the changing seasons
Part of history	Cleaner water

## Identify the Benefits and Value of Community Trees

### Activity 2

Put the words True and False up. Tell the students that you are going to read some “Believe it or Not” statements about trees. They need to predict if each statement is true or false. If they believe the statement is false, they should remain seated. To start **ONLY** read the bolded statements on **pages 15 &**

16.

Utilize the Power Point to put the statements up on the board and read the rest of the information provided for each statement. Trees do a lot of amazing things for us!



Mix it up and take your class outside. Have them line up in one area. If students feel the statement is true, have them run to a different area.

Now go through each statement and have students decide the “economic value”, “environmental value” and “social value” of each fact.

**Environmental benefit:** Does it help the ecosystem/environment in which people live?

**Economic benefit:** Does it provide an opportunity for people or the community to save money by lowered costs or increased value?

**Social benefit:** Does it improve the health or quality of life for people in some way?

After going through the statements

ask the students if planting trees in certain locations can have multiple values?

Tell students that even though research is proving the environmental, social, and economic benefits of trees, we’re losing community trees every day. In some U.S. cities, for every 4 trees removed, only one is being planted back in the community. Kansas Tree City USA communities excelled by planting back a combined 64% of trees that were removed throughout the state in 2014.



Land conversion is also a threat to forests and open space in the United States and Kansas. The Kansas City metropolitan area is projected to grow by half a million people, consuming 400,000 acres of land by 2030. The eastern part of the state holds the majority of Kansas forestland and most threatened trees are not preserved.

### Activity 3

Distribute the **Vocabulary/Rubrics** (page 12) as well as the **Community Neighborhood Worksheet** (page 17) and the **Benefits of Your Community Trees Worksheet** (pages 18-19) in preparation for the next activity.

Explain to students that many communities in Kansas have recognized the importance of trees in their city or town and have created a local tree board. Tree board members are a volunteer group that oversees the planting and care of publicly-owned trees or serves in an advisory capacity to a local city department that executes the actual work to be completed.

Have students imagine that they have volunteered to serve on their local tree board. After being formally appointed by their city's mayor to the tree board, their first project is to create a planting plan to benefit neighborhoods near their school or homes. Split students up into small working groups of three. Each group should draw in (plant) 8 trees in locations on the **Community Neighborhood Worksheet** where they feel the trees might be of the most value to themselves, their community or both. Ask each group to number each tree that they plant, #1-8. On the **Benefits of Your Community Trees Worksheets**, they should then list where they planted each of their trees, and what environmental, economic, or social benefit each tree might provide in the location they selected. Remind them to make sure the number of the tree on the **Community Neighborhood Worksheet** corresponds to the number of the tree location described on the **Benefits of Your Community Trees Worksheets**.

Mention to students that it is always important to plant the right kind of tree in the right location, as already discussed, but for this activity they should imagine that they have already selected the appropriate tree species for each location they might select.

#### Student Example:

If they planted Tree #1 by the stream it might have:

1. An environmental benefit of holding the soil in place;
2. An economic benefit of saving the city money by reducing storm runoff;
3. And a social benefit of adding beauty to the area.

Then point out the “*Tree A*” example on the worksheets.

Explain to students that they should list what benefit (social, economic or environmental) was the main reason for selecting the tree location that they did. When they do their tree location totals at the end of the **Benefits of Your Community Trees Worksheet** (page 18) they may have 3 trees in one location and no trees in another—that is fine. Encourage students to refer to the **Benefits of Trees Handout** or list on the board for a reminder of some of the different benefits trees provide in different locations.

Allow the tree boards about 20 minutes to complete their worksheets. When the groups are done with their worksheets, post them in the classroom so the groups can compare tree planting locations. Ask them to imagine each of their neighborhoods joined together, making up a large city. As time permits, allow the tree boards to share their community tree planting decisions and predict the social, environmental and economic impact of the trees they planted.

Refer students back to Benefit #10 on their **Benefits of Trees Handout** that says, “Nationally, the 60-plus million street trees have an average value of \$525 per tree each year.” Tell students to multiply the number of trees they planted by \$525 ( $8 \times \$525 = \$4,200$ ). That will give them a rough idea of the economic value from the environmental benefits provided by the trees they planted in their community. Then on the board, calculate the total value of the trees planted by the whole class (# of tree boards  $\times$  \$4,200) to demonstrate the impact of a group of people planting and caring for trees in a community can have on the economy of a community.



If your community has a tree board, consider inviting a member into your classroom to talk about the work they do.



See the extension activity to calculate the value of some of the school's trees!



Tell student that if they planted 3 trees around the little house, they could give themselves \$10,000 for the increased value of their property. If the 3 trees planted around the little house were on the west and south side of the house, they could give themselves an extra \$50 in energy savings.

Stress to students that although part of this activity was to estimate the economic value of the trees they planted, the object is not to see who totaled up the greatest amount of money. The objective here is to help students recognize that trees provide benefits to our lives in many ways. Some values are easily measured in terms of dollars and cents while others, like the beauty of trees in a park, are



If time and weather permit, take students on a walk outside and look at community trees. Predict what benefit each tree might provide where it is growing. Encourage students to imagine planting a tree in a vacant location along your route.

You could print a map of your route or the area of the city where you will walk ahead of time and have students mark each vacant location on the map as a future planting spot. Take the process a step further and have students specify if the tree should be tall-growing (more than 40 feet in height), or small growing (less than 25 feet in height). If the vacant locations are in the area between the sidewalk and the curb (often called the right-of-way or city easement) discuss that trees, depending on their mature sizes, can produce large root systems and trunks that can interfere with and damage the sidewalk or curb if the tree is planted too close to either. General guidelines for proper placement in the right-of-way (ROW) are: small tree (4-6 feet width of the ROW), medium tree (6-8 feet width of the ROW), and large trees (more than 8 feet in the ROW).

subjective from one person to another and are more difficult to measure.

Deforestation associated with anticipated national growth of 120 million people is predicted to exceed 50 million acres. Surveys indicate that about 66-100 million spaces exist along our city streets where trees could be planted. This translates to the potential to absorb 33 million more tons of carbon dioxide every year and at the same time save consumers \$4 billion in energy costs.

Be sure to explain that in a city, trees face numerous challenges like tight spaces, poor soils and pollution. It's always important to select the right tree for the right space, but in communities that is especially true if a tree is to grow and thrive.



Have students write a story where a tree is the main character and utilize all the vocabulary words (page 12). The tree could be one that they saw on their walk or on the school grounds. The story can talk about the tree's life and discuss what benefits that tree might provide to them and to their community in the future. The class may wish to name their tree Suzy Sycamore, Burt Bur Oak, or Ginger Ginko. To learn about one trees' life, her friends and the world around her, follow Heartland Tree Alliance's Penny Oak on X at <https://twitter.com/pennyoak>.



## Vocabulary Words

**Broadleaf** – trees that bear fruit and flowers; with leaves that are flat, thin, and usually shed annually.

**Buffer Strip** – rows of trees or grasses planted along a stream or waterway to help prevent soil erosion and filter pollutants from running into the waterway.

**Carbon dioxide** – a gas exhaled by animals and released from burning fossil fuels or in the process of decomposition.

**Community forest** – trees found along city streets and roads, in parks and other publicly-owned locations and trees growing on private property within cities.

**Conifer** – trees that bear cones and have needle-like or scale-like leaves. Most lose their leaves gradually and are evergreens.

**Deciduous** – trees that lose their leaves in the fall.

**Evergreen** – trees with leaves that remain alive and on the tree through the winter into the next growing season.

**Fossil fuels** – non-renewable fuels, like coal, oil, and natural gas, used to create energy. Once the supply of a fossil fuel has been depleted it cannot be used again.

**Greenhouse gases** – gases, like carbon dioxide, that trap heat in the atmosphere.

**Heat island effect** – a term used when city temperatures run higher than those in nearby suburban and rural areas, primarily due to large areas of unshaded buildings and pavement.

**Nonpoint source pollution** – generally a result from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification.

**Peak flow** – a concern of stormwater discharge from cities; when water flow is high, pollutants from land runoff wash off into receiving waterways and erosion from high water discharge can damage stream banks and channels and send sedimentation downstream.

**Public trees** – trees that grow on city or other publicly-owned property. These trees may be adjacent to city streets, in parks and cemeteries, around country courthouses or on school properties.

**Runoff** – the flow of water, from rain, snowmelt, or other sources that can carry soil or ground chemicals with it.

**Street trees** – trees near the street, often located between the sidewalk and street, which are usually managed by the city or town.

**Tree Board** – a volunteer group that oversees the planting and care of publicly-owned trees.

**Tree City USA Program** – a national program that encourages the management of the community forest by cities and towns.

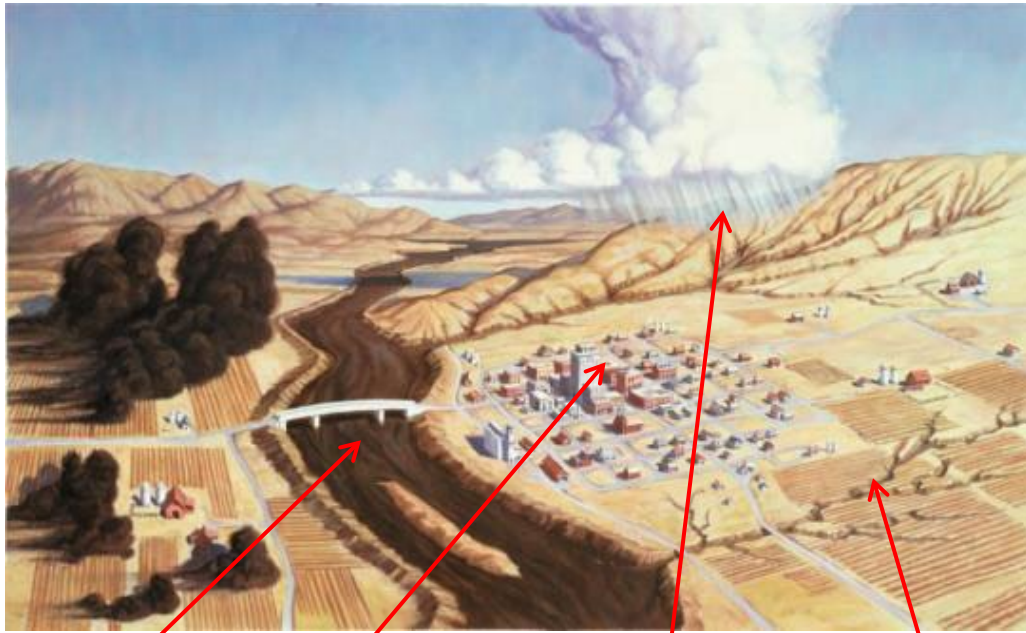
# Assessment Rubric

1-2 Points SEED LEVEL	3-5 Points SEEDLING LEVEL	6-8 Points SAPLING LEVEL	9-10 Points TREE LEVEL
<ul style="list-style-type: none"> <li>✓ Three trees are drawn into the Community Neighborhood Worksheet.</li> <li>✓ A few planting locations were identified.</li> <li>✓ At least one benefit social, environmental or economic is correctly identified for each tree drawn in</li> </ul>	<ul style="list-style-type: none"> <li>✓ More than half of the trees are drawn into the Community Neighborhood Worksheet.</li> <li>✓ Over half the planting locations are identified.</li> <li>✓ At least two benefits social, environmental, or economic are correctly identified for each tree drawn in.</li> </ul>	<ul style="list-style-type: none"> <li>✓ All 8 trees are drawn neatly into the Community Neighborhood Worksheet.</li> <li>✓ Clear descriptions of the selected planting locations are shown.</li> <li>✓ At least one social, environmental, and economic benefit is correctly identified for each tree drawn in.</li> <li>✓ The tree totals are filled in on the Benefits of Your Community Trees Worksheet.</li> </ul>	<ul style="list-style-type: none"> <li>✓ All 8 trees are drawn neatly into the Community Neighborhood Worksheet.</li> <li>✓ Clear descriptions of the selected planting locations are shown.</li> <li>✓ Several social, environmental and economic benefits are correctly identified for each tree drawn in.</li> <li>✓ The tree totals are filled in on the Benefits of Your Community Trees Worksheet.</li> </ul>

**Trees Work for You in Cities and Towns!** Trees throughout Kansas provide valuable health and energy benefits each year. Here's what publicly-owned trees contribute in several cities:

<b>Seneca</b>	<b>Marysville</b>	<b>Westwood</b>	<b>Emporia</b>	<b>Fairway</b>	<b>Burlingame</b>	<b>Mission Hills</b>
1,944 trees	3,711 trees	1,915 trees	15,300 trees	3,079 trees	984 trees	3,932 trees
<b>\$325,990</b>	<b>\$628,716</b>	<b>\$274,410</b>	<b>\$941,523</b>	<b>\$506,126</b>	<b>\$41,595</b>	<b>\$1,230,242</b>



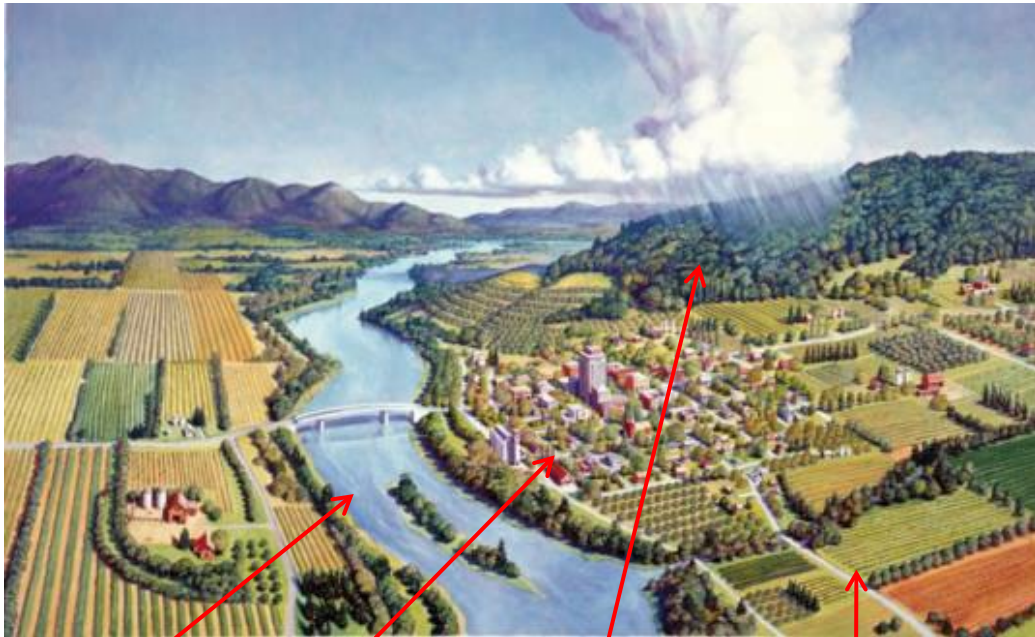


Silty, flood-prone rivers

Hot, sun-baked cities

Rapid runoff from slopes

Eroded farmland



Natural River

Shaded homes and streets

Forested slopes for recreation

Productive Farmland

## Benefits of Trees Handout

1. **Trees help clean our air. TRUE**— Trees remove pollution from the atmosphere, improving air quality and human health. In greater Kansas City, trees remove 26,000 tons of air pollution each year. Roadside trees reduce nearby indoor air pollution by more than 50%.

2. **Trees do not improve Kansans' quality of life. FALSE**—Gardens, parks and other managed green spaces have a positive effect on public wellbeing and health. Trees cool city streets, clean the air, reduce crime, and increase property values and business traffic. Windbreaks, shelterbelts, and riparian plantings benefit the quality of life for Kansans by improving home energy savings, increasing crop yields, and slowing erosion and sedimentation of reservoirs. Many Kansas hospitals and recovery centers have developed horticulture therapy programs for their healing patients. Hospitals often contain a walk-through garden, trees near the building, and small plants inside hospital rooms in efforts to assist a patient's recovery.



3. **Trees provide us with oxygen. TRUE**—One large tree can provide a day's supply of oxygen for up to 4 people. More than 20% of the world's oxygen is produced in the Amazon Rainforest.

4. **Trees do not help clean our drinking water. FALSE**—

Forested watersheds provide quality drinking water to more than 180 million Americans. There were 44,092 tons of sediment kept from entering John Redmond, Perry and Tuttle Creek reservoirs by 8 streambank stabilization projects and more than 362,000 native tree seeds planted in riparian forests areas in Kansas in 2023. The streamside forests of Kansas are some of the state's greatest natural resources. Streamside forests (also known as riparian forests) play an important role statewide, as they act to protect water quality for more than 134,400 miles of streams, creeks, and rivers.

5. **Trees provide much-needed cooling. TRUE**—Trees lower surface and air temperatures by providing shade. Shade trees planted on the west and south sides of a home help shade and cool the air around the home during the summer reducing cost of air condition up to 30%. Evergreen trees placed on the north and west sides of a home or building block cold winter winds, reducing cost of heating by 20-30%. For example, if you have two identical houses with the only difference being that one has strategically planted trees and the other does not, the house with the trees might only spend \$70.00 a month for heating while the treeless home might have a \$100.000 heating expense. That saving also means less burning of fossil fuels (non-renewable oil, coal, or gas), which is good for the environment!



6. **Trees absorb carbon dioxide (CO2), removing and storing the carbon while releasing the oxygen back into the air. TRUE**—In one year, an acre of mature trees absorbs the amount of CO2 produced by a car driven 26,000 miles.

7. **Trees do not help us save energy. FALSE**—Trees properly placed around buildings can reduce air conditioning needs by 30% and can save 20-50% in energy used for heating. A 2012 study of the trees and forests in Douglas County show that their 14.1 million trees provide \$17.7 million in annual service by removing pollution and provide an annual benefit of \$2.9 million by reducing energy consumption. Computer models devised by the U.S. Department of Energy predict that the proper placement of only three trees can save an average household between \$100 and \$250 in energy costs annually.



## Benefits of Trees Handout

8. **Trees don't benefit wildlife.** **FALSE**—Trees provide vital wildlife habitat. Trees and forests provide important species range. Many animals have a range of hundreds of square miles. The mountain lion of North America, for instance, has a range of nearly 400 square miles.
9. **Trees help reduce crime.** **TRUE**— Living in an area with trees helps reduce stresses that can be associated with living in a big city. Less stress can ease tensions that sometimes lead to violence. In Baltimore, a 10% increase in tree canopy corresponded to a 12% decrease in crime. Among minor crimes, there is less graffiti, vandalism and littering in outdoor spaces with trees as a part of the natural landscape than in comparable plant-less spaces.
10. **Trees are a good investment of our public dollars.** **TRUE**— Every dollar spent on planting and caring for a community tree yields benefits that are two to five times that investment. Benefits that include cleaner air, lower energy costs, improved water quality and storm water control and increased property values. Kansas Tree City USA communities planted 6,473 trees in 2023.
11. **Trees decrease our property values.** **FALSE**— Trees can add an average of 10-15% to a property's value. For example, a home or apartment valued at \$100,000 might sell for \$110,000 (an increase of \$10,000!) if it has trees around it. Tree planting is one of the best investments a person can make in their home. And in business areas, too. Business districts with trees are more attractive to shoppers. Surveys have found that shoppers are willing to pay 9-12% more for goods and services in business districts with large, well-cared for trees. Visitors claim they will pay more for parking on streets with trees.

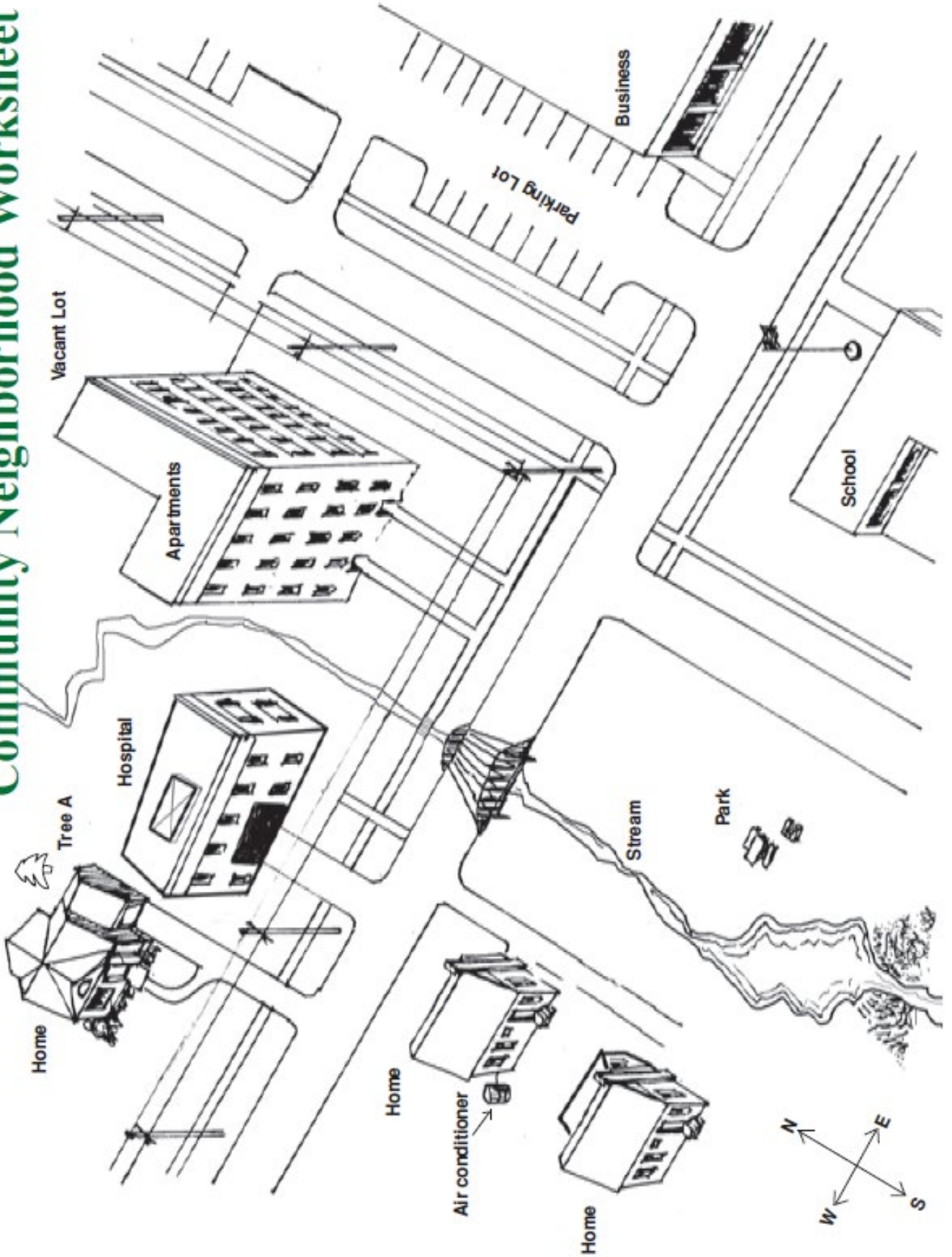


12. **Getting outside and connecting with trees and nature has been shown to improve children's concentration and attention span.** **TRUE**—When children spend time in nature-rich spaces their ability to concentrate improves. Even small areas of green space, with a few trees and plants, can make a difference for children.

Sources: Tree Facts at [arborday.org](http://arborday.org); Growing for the Next Generation- Kansas Forest Service 2023 Annual Report



# Community Neighborhood Worksheet



# Benefits of Your Community Trees Worksheet

Directions: Your tree board has been given you 8 trees to plant in your community. On the Community Neighborhood Worksheet, you should plant (draw in) 8 trees in areas where you feel they will provide the most benefit, either to you, to the community or both. Number each tree that you plant. Then on this worksheet, list where you planted each of your trees and what environmental, economic, or social benefit each tree might provide in the location you selected. You may refer to the Benefits of Trees Handout for ideas.

**Environmental benefit:** Does it help the ecosystem/environment in which people live?

**Economic benefit:** Does it provide an opportunity for people or the community to save money by lowered costs or increased value?

**Social benefit:** Does it improve the health or quality of life for people in some way?

## EXAMPLE

**Tree A:** Planting Location On the North side of the City Library



Why did you select this location for this tree? The tree will help protect the library from cold winter winds.

What environmental, economic or social benefits might you get from this tree? Saving money for heating would be an economic benefit. Using less energy for heating would be a benefit for the environment.

Which benefit was most important to you when planting this particular tree? Economic.

NAME \_\_\_\_\_

**Tree 1:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

**Tree 2:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

**Tree 3:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

# Benefits of Your Community Trees Worksheet -----

**Tree 4:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

**Tree 5:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

**Tree 6:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

**Tree 7:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

**Tree 8:** Planting Location \_\_\_\_\_



Why did you select this location for this tree? \_\_\_\_\_

What environmental, economic or social benefits might you get from this tree? \_\_\_\_\_

Which benefit was most important to you when planting this particular tree? \_\_\_\_\_

**Totals:** How many trees did you plant in these locations?

# \_\_\_\_\_ by the stream, # \_\_\_\_\_ by the school, # \_\_\_\_\_ in the park, # \_\_\_\_\_ by a home, # \_\_\_\_\_ next to the hospital,

# \_\_\_\_\_ shading a parking lot, # \_\_\_\_\_ by the apartments, # \_\_\_\_\_ by the business district, # \_\_\_\_\_ in the vacant lot

Which benefit (environmental, economic, or social) did you consider most often when selecting locations for planting these trees? \_\_\_\_\_



# Step 1

## Discover What Trees Do for You and Your Community Extension Activity

### Objectives:

#### Students will be able to:

1. Accurately describe and identify the characteristics that distinguish a conifer and a broadleaf tree
2. Measure and record the height, circumference and crown spread of a selected tree

#### Time Recommended:

60-90 minutes

#### Materials Needed:

- Measuring tapes
- Pencils and paper
- Yardsticks/rulers
- Clipboards

#### Kansas College and Career Ready Standards

**SPEAKING AND LISTENING:** SL 5.1, SL 5.2, SL 5.4 and SL.5.8

**READING INFORMATIONAL:** RI.5.1-5.4

**SCIENCE STANDARDS:** 5-PS3-1, 5-LS1-1, 5-LS2-1, 5-ESS3-1. **DISCIPLINARY CORE IDEAS:** LS1.C, LS2.A, LS2.B, ESS2.A and ESS3.C

**SCIENCE AND ENGINEERING PRACTICES:** Asking Questions and Defining Problems, Developing and Using Models

**KANSAS, HISTORY, GOVERNMENT AND SOCIAL STUDIES STANDARDS:**  
Standard 5- Relationships among people, places, ideas, and environments are dynamic

### Teacher Background Information:

Holding a community tree contest is a great way to get children interested in the trees in their city or town. Students will learn some of the techniques used to measure champion trees and how to identify trees.

The Kansas Champion Tree Program accepts nominations of large trees throughout the state. The majority of trees listed as champions are native to the state, through a few non-native species are also included. The Kansas program follows a point system established by the American Forests National Register of Big Trees. One point is awarded for each inch of circumference, one point per foot of height and ¼ point per foot of average crown spread.

$$\text{Total Points} = \text{Circumference} + \text{Height} + \text{Crown Spread}$$

To view current Kanas Champion Trees, visit the Kansas Forest Service website at [Champion Trees | Kansas Forest Service | Kansas State University](#).

**Getting Started:** Tell students that they are going to take part in a champion tree contest to find the biggest trees in you' your town or in your area of the community. Ask students to think about the trees they see on their way to school. Where do they see the biggest trees – in yards, in parks or around the school? Then ask them how many kinds of trees they see.

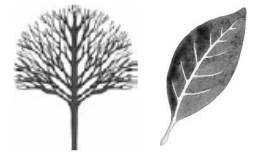
Help students understand that not all tree species grow to be the same height. Some trees, like the Redwoods in California, are giants towering more than 250 feet above the forest floor while an eastern redbud may only reach a height of 25 feet. Both could be considered champions if they were the largest of their kind in the contest boundaries.

**Tree Identification:** Explain to students that trees are divided into two main groups – broadleaf trees and conifers.

**Broadleaf Trees** have thin and flat leaves that usually shed annually. Broadleaf trees bear a variety of fruit and flowers. Ash, maple, oak, birch, sycamore, hackberry, elm and redbud are just a few of the many different kinds of broadleaf trees. Broadleaf trees are sometimes referred to as deciduous trees. In warm climates, some broadleaf trees, like magnolias, do not shed their leaves at the same time so they appear to remain an evergreen.



Broadleaf



Conifer

*Images courtesy Arbor Day Foundation*

**Conifers** are cone-bearing trees. Most are evergreen. Conifers have needle-shaped or scale-like leaves. Most conifers are evergreen since they do not lose all their leaves at once. Pine, fir, juniper, and spruce are conifers.

For visual learners, it is helpful to have a leaf sample from a conifer with needle-like leaves, a conifer with scale-like leaves and several samples of broadleaf trees. Leaves can be collected during the growing season, pressed in a plant press or in a phone book, and protected in inexpensive acrylic picture frames or run through a laminating machine before the leaf sample becomes brittle.

Cut tree pictures from old calendars or magazines and have the students group them as conifer or broadleaf. Take a walk around the school grounds and have the students distinguish between conifer and broadleaf trees, then have the students calculate the ratio of conifers to broadleaf trees in the area visited. If your classroom uses an i-Pad, the application of Leaf Snap or iNaturalist could be helpful tools for identification. Both can be found in the App Store or Play Store.

**Activity:** Ask students to think again about trees that pass on their way to school.

- Are there more conifer or broadleaf trees?
- Can any generalizations be made about where broadleaf and conifers are planted? (Often conifers are planted in parks, large green spaces or for wind protection).
- Where might you go to look for the biggest broadleaf trees? Where might you find the biggest conifers in your community?

From the comments generated by the students, determine some of the best areas in the community in which to find large, mature trees.

Determine how large an area of the community is feasible to include in the contest. Is transportation available to your class or do you need to stay within walking distance of the school? Are there many sites in the community with large trees or just a few? Designate an area and set the boundaries.

Your class may choose to simply search for the biggest tree in the designated area. They may wish to find the biggest broadleaf and the biggest conifer. Students might learn to identify a particular tree species, perhaps the state tree, Cottonwood, and hunt for this kind in their community. In all cases, students should be able to make the distinction between conifer and broadleaf trees and understand how to properly measure a tree. Have students take a picture of their selected tree.

### Measuring Trees

Remind students that they are going to follow the point system used by the Kansas Champion Tree Program and the American Forests National Register of Big Trees. But first, explain that they are going to practice measuring trees before looking for their local champions. Divide students into groups of three or four. Each group will need a measuring tape, yardstick or ruler, pencil, paper and a clipboard to record their findings. Print the Student Field Instructions (pages 25-26)



See if your local forester or tree board has leaves you can borrow or send students out to collect leaves and as a class identify what type they are.

and the Community Champion Data Collection Worksheet (pages 27-28) for each team. It may be helpful to assign roles to each student within a group.

Group jobs include:

**Recorder** – records measurements and tallies points on the Community Champion Data Collection Sheet.

**Investigator** – Takes the measurements

**Manager** – Assists the investigator to make sure measurements are accurate and is responsible for the measuring tape and yardstick/ruler

Have each group measure 3 trees, and switch roles each time until everyone in the group has completed each role.



Brainstorm a unique name for your local contest. Examples of titles could be *Marysville's Marvelous Trees*, *Wichita's Wonders* or *The Pride of Prairie Village*.

Take students to a nearby area with enough trees to allow each team to measure a tree. Explain that they are measuring these trees for practice and later they will search for their “Community Champions”.

The following pages go through the steps of measuring height, crown spread and circumference. Please utilize these pages to hand out to students.

Next have students take their collected data and utilize [MyTree \(itreetools.org\)](https://mytree.itreetools.org) to discover the benefits of each tree. Students will need to enter the address where the tree is located, tree species, tree condition, trunk size, sun exposure and location to a building.

Step 1  
Input data  
collected

The screenshot shows the MyTree website interface. The browser address bar displays "https://mytree.itreetools.org/#/tree". The page title is "MyTree" with the tagline "A tool for assessing individual trees". The main heading is "Tell us about your tree:". The form includes the following fields and options:

- Location\***: A text input field containing "2610 Clarlin Rd, Manhattan, KS 66502" and "Lat: 39.19330, Lng: -95.60125".
- Tree Species (Try a shortcut below or type to search)\***: A grid of buttons for "Maple", "Oak", "Sycamore", "Basswood", "Locust", "Ash", "Pear", "Sweetgum", "Pine", and "Palm". Below this is a text input field with "Pear spp" and a "Common" radio button selected.
- Tree Condition\***: A dropdown menu with "Excellent" selected.
- Trunk Size (in.)\***: A text input field with "20" and a "Diameter" radio button selected.
- Sun Exposure\***: Three radio buttons for "Full", "Partial", and "Shade", with "Full" selected.
- Is it within 60 feet of a building?**: Three radio buttons for "Yes", "No", and "Skip", with "No" selected.

At the bottom of the form, there is a note: "\* These fields are required." and a blue button that says "Add more trees or get results ->".



### Your List of Trees

+ Add Another Tree

Calculate All Trees

Step 2  
Calculate the trees benefits.

Pear spp (Pyrus)   

Start Over



For information and other tools, visit [www.itreetools.org](http://www.itreetools.org)

Step 3  
Compare the benefits.

←  Now  20 Years ?

Benefits Equivalents

#### MyTree Benefits For this year.

Pear spp, (Pyrus)  
Serving Size: 20.00 in diameter  
Condition: Excellent

Students can compare their tree's benefits as of today compared to 20 years in the future. Make sure they click on the *Read the Fine Print* for even more information!

←  Now  20 Years ?

Benefits Equivalents

#### MyTree Benefits Over 20 years.

Pear spp, (Pyrus)  
Serving Size: 20.00 in diameter  
Condition: Excellent  
Location: Manhattan, Ks, United States  
Expected over 20 years: \$86.46  
[Discover benefits of all your community trees!](#)

Carbon Dioxide Uptake	\$2.71
Carbon Sequestered <sup>1</sup>	31.75 lbs
CO <sub>2</sub> Equivalent <sup>2</sup>	116.43 lbs
Storm Water Mitigation	\$42.80
Runoff Avoided	4,789.21 gal
Rainfall Intercepted	20,534.33 gal
Air Pollution Removal	\$40.95
Carbon Monoxide	5.16 oz
Ozone	244.65 oz
Nitrogen Dioxide	17.65 oz
Sulfur Dioxide	14.27 oz
PM <sub>2.5</sub>	14.55 oz

Benefit estimates are based on USDA Forest Service research and are meant for guidance only. Visit [www.itreetools.org](http://www.itreetools.org) to learn more.

Benefit estimates are based on USDA Forest Service research and are meant for guidance only. Visit [www.itreetools.org](http://www.itreetools.org) to learn more.

See the Project Menu for currency conversions.

— [Read the fine print.](#)

<sup>1</sup> For large trees sequestration is overtaken by CO<sub>2</sub> loss with decay/maintenance.

<sup>2</sup> CO<sub>2</sub> equivalent is estimated by calculating how much atmospheric CO<sub>2</sub> is taken in by trees to provide the carbon stored in the tissues of individual trees.

<sup>3</sup> Positive energy values indicate savings or reduced emissions. Negative values indicate increased usage or emissions. Electricity used for cooling and heating and fuels like natural gas or oil used for heating, based on typical usage for the selected location.

<sup>4</sup> Not an annual amount or value.

<sup>5</sup> This location is supported by i-Tree. Localized data have been used to estimate its tree benefits.

Abbreviations:  
 CO<sub>2</sub> = Carbon dioxide  
 PM<sub>2.5</sub> = Particulate matter 2.5 microns or less  
 lbs = Pounds  
 kg = Kilograms  
 gal = Gallons  
 L = Liters  
 oz = Ounces  
 g = Grams  
 kWh = Kilowatt hour  
 MMBtu = Millions of British thermal units

MyTree 2.23.10-beta  
 Powered by the i-Tree Engine 0.14.0  
 Location Species Database v2.0.54

Share

<https://mytree.itreetools.org/#/bene>

Step 4  
Compare the equivalents.

Home Project Menu

Now 20 Years


Benefits Equivalents

**MyTree**  
 Works hard for me!

Location: Manhattan, Ks, United States  
 Pear spp. (*Pyrus*)

**With care and maintenance, after 1 year this tree could potentially:**

offset 6 miles worth of CO<sub>2</sub> emitted from the average gas-powered passenger vehicle,



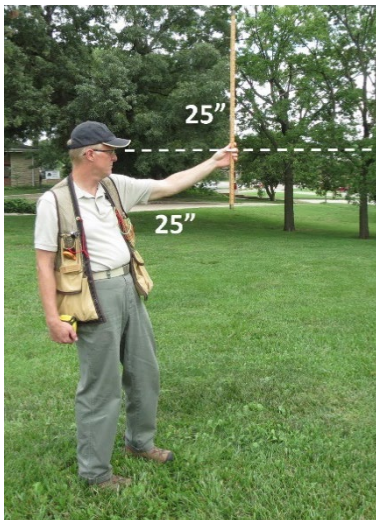
Next have students look at the equivalents for the tree now compared to 20 years from now!  
 Compare the trees with the whole class- who had the winner?

# Field Instructions for Community Champion Data Collection

Follow the direction below to collect height, circumference and average crown width for each tree measured. Record information on the Community Champion Data Collection Worksheet.

## Measuring Height

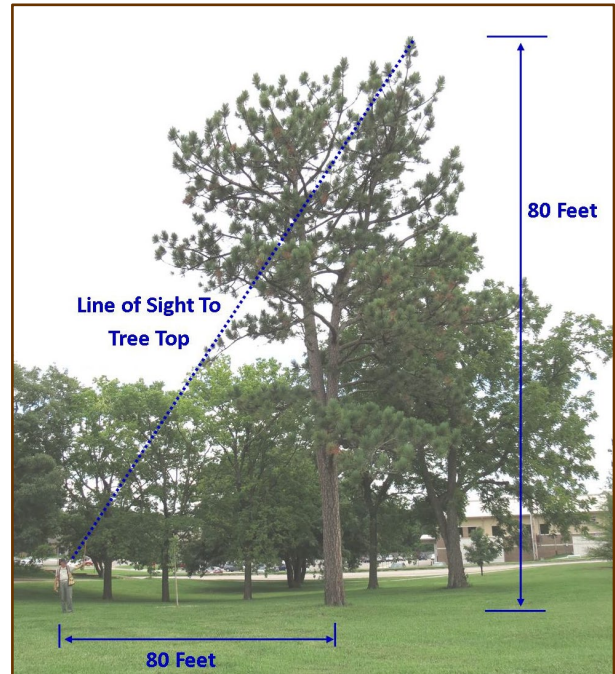
- **Step 1:** Stand on level ground to take the measurements. If it is not possible to measure on level ground, measurements are to be taken from the *uphill* side of the tree.
- **Step 2:** The **Investigator** extends his/her arm out straight so that the top of his/her fist is at eye level. Carefully using the yardstick, the **Manager** makes sure that the top of the **Investigator's** fist is at eye level and then measures the distance from the **Investigator's** fist to the **Investigator's** eye. The **Recorder** writes down this measurement.
- **Step 3:** The **Investigator** directly faces the tree to be measured holding the yardstick vertically in his/her extended fist so that the distance from the top of his/her fist to the top of the yardstick is the same



eye-to-fist distance measured in the previous step. The **Manager** checks the measurement then makes sure the **Investigator's** arm is straight out, fist at eye level with the yardstick straight up and down.

*Example: If the distance from your eye to your fist is 25" make sure the distance from the top of your fist to the top of the ruler or yardstick is also 25". Be sure to hold your fist directly out at eye level and keep the ruler/yardstick straight up and down.*

- **Step 4:** The **Investigator** slowly (and carefully) walks backward away from the tree until he/she can see the base of the tree by looking over the top of their fist and the top of the tree by looking over the top of the yardstick.
- **Step 5:** The **Manager** measures the distance, in feet, from the investigator to the tree. This distance is the height of the tree.



- **Step 6:** The **Recorder** writes down the height measurement and gives the tree one point for every foot of height
  - **Example:** 60 feet means 60 points

## Measuring Crown Spread

The **Crown Spread** of a tree is the distance its branches spread away from its trunk. The crown spread is calculated by measuring the distance of the widest spread and the distance of the narrowest spread. These two figures are then added together and divided by two to get the average.

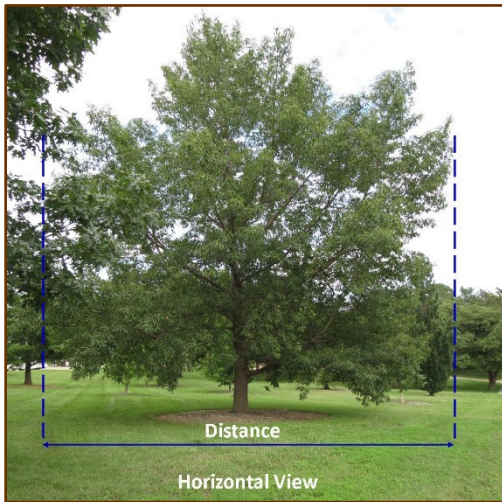
The tree received one-fourth ( $1/4$  or  $.25$ ) of a point for every foot of the average crown spread. Follow these steps to measure crown spread. If the tree should be a conifer with branches low to the ground, stand next to, not under the branch tip.

- **Step 1:** The **Investigator** finds the branch that sticks out the farthest from the trunk and stands directly under or just next to its tip.
- **Step 2:** The **Recorder** goes to the opposite side of the tree and stands under or just next to the tip of the branch extending farthest out on that side.
- **Step 3:** The **Manager** measures the distance in feet between the **Investigator** and the **Recorder**. The



**Recorder** writes down this number. This distance is the widest point of the crown spread.

- **Step 4:** Next the **Investigator** finds the branch nearest the trunk of the tree and stands directly under or just next to its tip.
- **Step 5:** The **Recorder** goes to the opposite side of the tree and stands under or just next to the tip of the branch closet to the trunk on that side.
- **Step 6:** The **Manager** measures the distance in feet between the **Investigator** and the **Recorder**. The **Recorder** writes down this number. This distance is the narrowest point of the crown spread.
- **Step 7:** The **Recorder** adds the two distances



Horizontal View

Edge of Crown



Vertical View

together and divides by two to get an average crown spread. The **Recorder** then awards the tree  $\frac{1}{4}$  of a point for every foot of average crown spread or divide the average crown spread by 4.



Kansas and national champion white mulberry near Baldwin City.

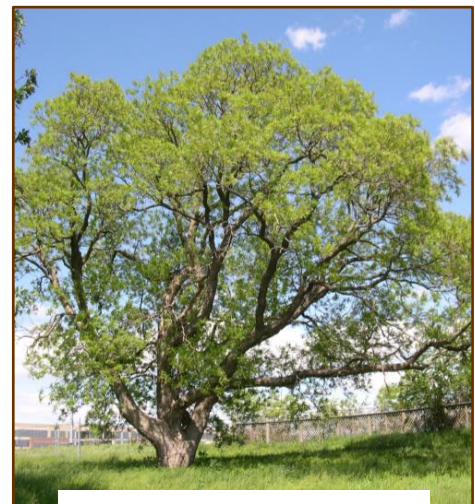
## Measuring Circumference

The Circumference of a tree is the distance around its trunk. The circumference is measured 4  $\frac{1}{2}$  feet from the ground. Foresters use the term *Diameter at Breast Height* (D.B.H.) to identify this practice of measurement.



IF the tree forks or if there are branches at the 4  $\frac{1}{2}$  foot mark, the circumference is measured at the narrowest point below the 4  $\frac{1}{2}$  foot level. A record should be made that circumference was measured at a height different than 4  $\frac{1}{2}$  feet. Follow these steps to measure the circumference:

- **Step 1:** The **Investigator** holds one end of the tape against the tree trunk at a measured point 4  $\frac{1}{2}$  above the ground.
- **Step 2:** The **Manager** wraps the tape around the trunk until it reaches the starting point.
- **Step 3:** The **Investigator** reads off the measurement in inches. If the tape measure does not provide a mark of the total inches, then each foot of circumference should be converted to inches by multiplying the number of feet times 12. This total number of inches is the circumference of the tree.
- **Step 4:** The **Recorder** writes down the circumference and gives the tree one point for every inch of distance around the trunk.



Kansas and national champion western soapberry in Olathe.

# Community Champion Data Collection Worksheet

**Species** Common Name: \_\_\_\_\_ Date Measured: \_\_\_\_\_

Scientific Name: \_\_\_\_\_ Measured by: \_\_\_\_\_

## Measurements

Circumference @ 4 1/2 feet: \_\_\_\_\_ inches x 1 = \_\_\_\_\_

Total Height: \_\_\_\_\_ feet x 1 = \_\_\_\_\_

Average Crown Spread: \_\_\_\_\_ feet ÷ 4 = \_\_\_\_\_

**TOTAL:** \_\_\_\_\_

## Points

Location of tree: \_\_\_\_\_

House Number or Property Name

Street Name

Owner of tree: \_\_\_\_\_

City-owned or Private Property?

Tree Condition: Excellent    Good    Fair    Poor    Critical    Dying    Dead

Sun Exposure:    Full    Partial    Shade

Is the tree within 60 feet of a building?    Yes    No

**Species** Common Name: \_\_\_\_\_ Date Measured: \_\_\_\_\_

Scientific Name: \_\_\_\_\_ Measured by: \_\_\_\_\_

## Measurements

Circumference @ 4 1/2 feet: \_\_\_\_\_ inches x 1 = \_\_\_\_\_

Total Height: \_\_\_\_\_ feet x 1 = \_\_\_\_\_

Average Crown Spread: \_\_\_\_\_ feet ÷ 4 = \_\_\_\_\_

**TOTAL:** \_\_\_\_\_

## Points

Location of tree: \_\_\_\_\_

House Number or Property Name

Street Name

Owner of tree: \_\_\_\_\_

City-owned or Private Property?

Tree Condition: Excellent    Good    Fair    Poor    Critical    Dying    Dead

Sun Exposure:    Full    Partial    Shade

Is the tree within 60 feet of a building?    Yes    No

**Species** Common Name: \_\_\_\_\_ Date Measured: \_\_\_\_\_

Scientific Name: \_\_\_\_\_ Measured by: \_\_\_\_\_

**Measurements**

**Points**

Circumference @ 4 1/2 feet: \_\_\_\_\_ inches x 1 = \_\_\_\_\_

Total Height: \_\_\_\_\_ feet x 1 = \_\_\_\_\_

Average Crown Spread: \_\_\_\_\_ feet ÷ 4 = \_\_\_\_\_

**TOTAL:** \_\_\_\_\_

Location of tree: \_\_\_\_\_  
House Number or Property Name Street Name

Owner of tree: \_\_\_\_\_  
City-owned or Private Property?

Tree Condition: Excellent Good Fair Poor Critical Dying Dead

Sun Exposure: Full Partial Shade

Is the tree within 60 feet of a building? Yes No

Go to [mytree.itreetools.org](http://mytree.itreetools.org) to see how your trees work for you!

Which tree offset the most miles worth of CO2? \_\_\_\_\_

Which tree offset the most miles worth of CO2 at 20 years? How many miles?

Did the same tree have the most Carbon Dioxide Uptake? \_\_\_\_\_

Which tree had the most pounds of Carbon Sequestered? How many pounds?

Which tree had the most gallons of runoff avoided? How many gallons?

Which tree had the most stormwater bathtubs filled at 20 years? How many bathtubs did it fill?

# Acknowledgments

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## Content:

Arbor Day Foundation. Found online at <http://www.arborday.org>

American Forests Register of Big Trees. Found online at: <http://www.americanforests.org/our-programs/bigtree>

Arbor Day Foundation. *The Value of Trees to a Community*. Found online at <http://www.arborday.org/trees/Benefits.cfm>

Kansas Forest Service.

- *Kansas Forest Action Plan*. Found online at [http://www.kansasforests.org/kansas\\_forest\\_services/kfs\\_docs/Kansas\\_FRAS.pdf](http://www.kansasforests.org/kansas_forest_services/kfs_docs/Kansas_FRAS.pdf)
- *Kansas Champion Tree Program*. Found online at [http://www.kansasforests.org/kansas\\_forest\\_services/championtrees.html](http://www.kansasforests.org/kansas_forest_services/championtrees.html)

Texas A&M Forest Service. *Leaf Collecting and Safety*. Found online at <http://texastreeid.tamu.edu/content/leafCollectingSafety>

Pacific Northwest Chapter, International Society of Arboriculture. *Trees Are Good for Business*. Found online at <http://naturewithin.info/CityBiz/BizTech.pdf>

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United States Environmental Protection Agency. *What is Nonpoint Source Pollution?* Found online at <http://water.epa.gov/polwaste/nps/whatis.cfm>

University of Washington, School of Environmental and Forest Sciences. Human Dimensions of Urban Forestry and Urban Greening. Found online at <http://www.naturewithin.info>

## Images:

Arbor Day Foundation

Kansas Forest Service: Kim Bomberger, Bob Atchison

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[clay center ks trees - Search Images \(bing.com\)](#)

[Hunting, Fishing, Sports & Outdoor Activities | Dodge City CVB, KS \(visitdodgecity.org\)](#)

[City of Newton, KS | Home \(newtonkansas.com\)](#)



## Step 2

# Create a Poster

Kansas Trees are Terrific In Cities, Towns and

### Objectives:

Students will be able to:

- Collect and analyze data about trees found in their communities
- Describe the pattern of forest cover and identify the factors that influence forests in Kansas.

### Deadline: February 7, 2025

*Send local-winning posters to Kansas Forest Service District/ Community Foresters on page 34.*

### Kansas College and Career Ready Standards

**SCIENCE STANDARDS:** 5-PS3-1, 5-LS1-1, 5-LS2-1, 5-ESS3-1

**DISCIPLINARY CORE IDEAS:** LS1.C, LS2.A, LS2.B, ESS2.A and ESS3.C

**KANSAS, HISTORY, GOVERNMENT AND SOCIAL STUDIES STANDARDS:**

Standard 1- Choices have consequences.

## Contest Administration and Selection:



The Kansas Arbor Day Poster Contest is administered by the Kansas Forest Service. Local-winning posters are to be submitted to Kansas Forest Service Community/District Foresters for competition at the district level. A state winner will be selected from the 4 district-winning entries. District winners and their teachers will receive robust gift packages sponsored by contest partners. The Kansas Winner will be recognized at the Tree City USA Recognition in the spring. A request is made each year for the State Winner to meet with the Governor and plant a tree on the Capitol grounds.

## Create a Poster

Ask each student to create a poster that reflects their understanding of the benefits of trees in their community. Encourage students to think about the different types of trees that grow in your town and how they work for citizens and visitors alike.

Students should be able to use the knowledge they gained while doing the activities in this lesson to help determine which elements that they wish to represent in their poster. For example, if they want to show that trees conserve energy, they should determine that the design elements should include a house or commercial building, deciduous trees on the west side and evergreen trees on the placed on the North. They should know that the deciduous trees are for summer cooling and the evergreen trees are for winter protection. After students have created their posters, have them present to the class or to a contest selection committee and discuss the process they used to decide which design elements to include in their poster and their rationale.

Students should make sure their poster follows the contest rules by using the numbered list on page \_\_\_\_\_. You may select the winner or have a judging panel for the classroom and school contest. Judges could include other students, garden club members, tree board members, nursery personnel, arborists, the city forester, teachers, PTA/PTO members or individuals with an interest in trees who are willing to volunteer some time.



Get the whole school involved by having the posters displayed in a common area and have students vote on the posters.

# Poster Contest Rules

Follow the contest rules below to make certain all entries are eligible for competition. Entries not meeting these guidelines will be disqualified.

1. All entries must be original artwork created by a student who is currently in the **5<sup>th</sup> grade**. A student may enter the contest only once.
2. The student's first and last name must be **written** or **signed** in the lower right-hand corner on the front of the poster.
3. a) Entries may be done in marker, crayon, paint pens, watercolor, ink, acrylic, colored pencil, and/or tempera paint.  
b) Collages are not acceptable. (Do not glue anything to your poster).  
c) Computer or photo generated art and/or printing is not acceptable. The use of light tables and other professional equipment is prohibited.
4. Entries must be on 12x18 inch paper and **HORIZONTAL display only**.
5. Entries must be done on paper that will allow for duplication, display, and framing.
6. The poster must be related to the contest theme and content in some way. The theme **Kansas Trees are Terrific in Cities, Towns and Communities!** must be on the poster. All words must be spelled correctly.
7. Entries should not be matted, mounted, laminated, framed, or folded.
8. **Submit local-winning entries to a Kansas Forest Service Community Forester (page 34) by February 7, 2025.**  
Deadlines for local contests should be earlier than February 7, 2024, to ensure timely arrival to a KFS forester office.

# School Winner Report Form

After selecting a school or local winner, copy and complete this form, attach to the back of the poster, and send to a Kansas Forest Service Community Forester by February 7, 2025 (page 34).

## 2025 School Winner Report Form

Send this form with the winning school or community poster to your KFS Community Forester. All information should be complete to expedite contact of winners.

Winner's Name \_\_\_\_\_

Winner's Home Address \_\_\_\_\_

City \_\_\_\_\_ Kansas Zip \_\_\_\_\_

Winner's parent(s) or guardian(s) name \_\_\_\_\_

Teacher's name \_\_\_\_\_

Teacher's email address \_\_\_\_\_

School name \_\_\_\_\_ Homeschool? Yes \_\_\_\_ No \_\_\_\_

School Address \_\_\_\_\_

City \_\_\_\_\_ Kansas Zip \_\_\_\_\_

School Phone (\_\_\_\_) \_\_\_\_\_

Community/Local Partner Contact Information: \_\_\_\_\_

### Important

Please indicate the number of posters entered in the **school** contest.

If contest sponsored by the community, please indicate the number of posters entered here.

Please indicate the number of teachers who participated in the curriculum.

If contest sponsored by the community, please indicate the number of schools that participated.

Please indicate the number of **Homeschool** posters entered in the contest.

If contest sponsored by the community, please indicate the number of teachers that participated.

\*\* All artwork becomes the property of contest sponsors.

### Step 3

## Celebrate Arbor Day!

Kansas Arbor Day is April 25, 2025

The First Arbor Day was celebrated in Nebraska City, Nebraska in 1872. J. Sterling Morton proposed the idea to the State Board of Agriculture, who liked his idea and offered each county \$100 to the county that planted the most trees on that initial Arbor Day and \$25 worth of books to the individual who planted the most trees. The Arbor Day Foundation was formed in 1972, 100 years later when Nebraska wanted to commemorate the centennial of the tree planting holiday. A 9-member commission was appointed to get things started and \$10,000 was provided by legislature to support the effort. Since 1872, Arbor Day has been celebrated throughout the United States and Arbor Day celebrations in schools have always played an important role.

### An Arbor Day celebration can be:

**Simple:** Plant a tree in honor of your school poster contest winner or to recognize an outstanding volunteer. Check to see if your city is a Tree City USA community and team up with a local tree board or city forestry department!

**Inspiring:** Have your graduating class plant a tree with younger students. This is a tradition that honors the students leaving and gives new students something to enjoy throughout their years!

**Entertaining:** Students could compose poems about trees, perform an Arbor Day play or do one or many of the 150 ways to celebrate trees on Arbor Day, found at the Arbor Day Foundation website - <https://bit.ly/3QBuj4e>

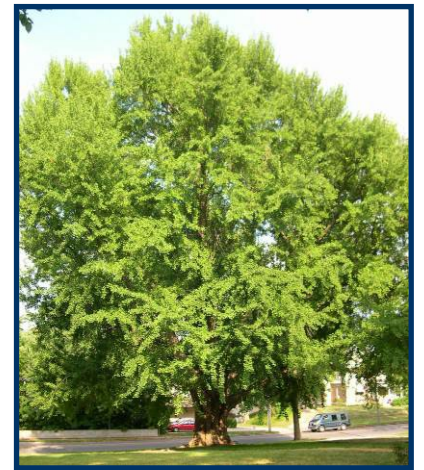
**Whatever you choose for your celebration – go outside and enjoy the trees and environment that surround you!**



*Kentucky coffeetree in Fairgrounds Park, Council Grove*



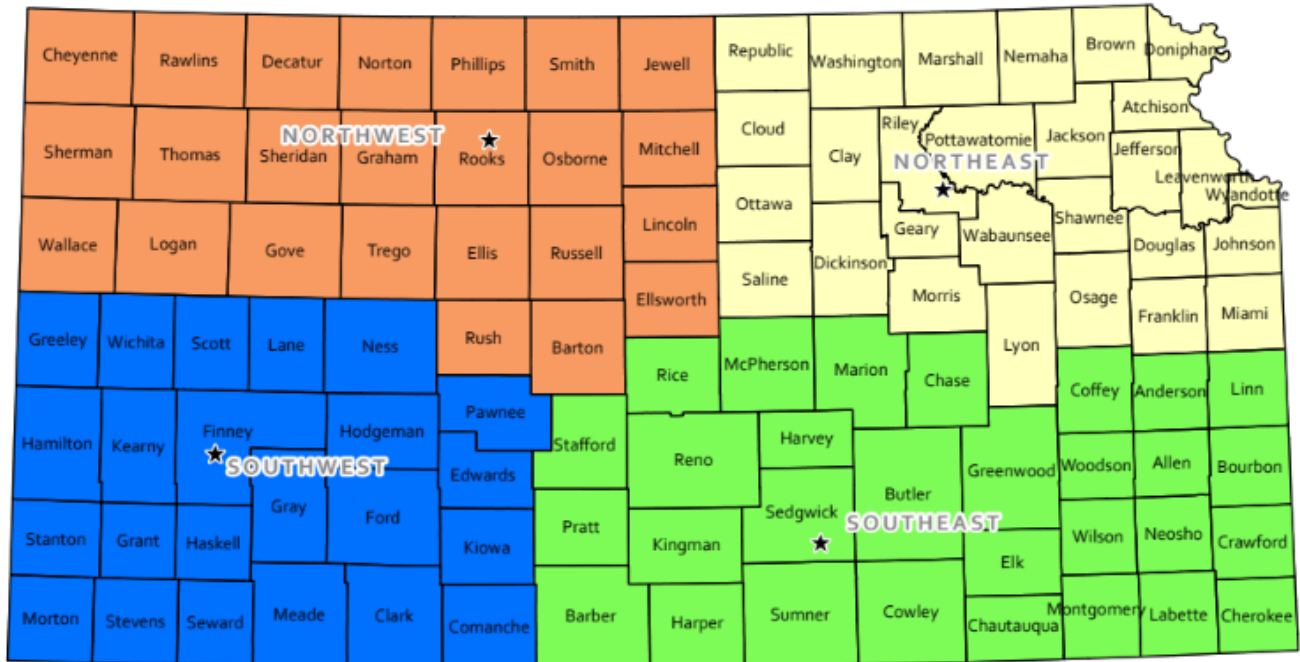
*Bur oak in Shunga Park, Topeka*





*State Champion Ginkgo, Leavenworth*



# Community Forestry Districts



- |  |   |   |  |
|--|---|---|--|
| <p> Northwest District<br/>Chelsea Hanson<br/>chanson4@ksu.edu<br/>785-706-8812</p> | <p> Southwest District<br/>John Klempa<br/>jdklempa@ksu.edu<br/>620-805-3923</p> | <p> Northeast District<br/>Blaine Stroble<br/>stroble@ksu.edu<br/>785-236-3991</p> | <p> Southeast District<br/>Kody Kraemer<br/>kody10@ksu.edu<br/>785-410-6435</p> |
|--|---|---|--|



Updated: 6/20/2024



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