★ URBAN FORESTRY ★

The trees around us – those that make up the 'urban forest' – are a reflection of the community itself. Cities often organize the protection, planting and care of trees in public spaces, through a Tree Board or other volunteer group. Tree City USA is one symbol of a community that cares about its trees.

Goal & Objectives

Goal: Students will create a Campus Tree Trail Care Plan.

Objectives: Students will

1. Define the role of Urban Forestry.
2. Research forestry organizations and resources that assist with evaluating the needs of the tree trail, the school and/or the community urban forestry programs.
3. Design and develop a plan for present and future care of the tree trail, school and/or community trees.
4. Produce a resource list internet link or booklet of local and state forestry service organizations available for consultation.
5. Evaluate their experience during the *Urban Forestry* Module.

Content Area TEKS/STAAR

Language Arts: 5.13 (A) interpret details from procedural text to complete a task, solve a problem, or perform procedures.

5.26 (A) compiles important information from multiple sources.

5.27 (B) follow, restate, and give oral instructions that include multiple action steps.

Mathematics: 5.14 (B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.

5.9 (A) locate and name points on a coordinate grid using ordered pairs of whole numbers.

Science: 5.13 (D) connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.

Social Studies: 5.25 (C) express ideas orally based on research and experiences.

Technology Applications: b (3) (D) acquire information appropriate to specific tasks.

b (4) (D) evaluate technology tools applicable for solving problems.

Materials

- Tablet(s) or computer(s) with internet access
- Projector and screen
- Whiteboard or chart paper and markers
- Chart paper for murals
- Art materials for Mural such as different papers, paints, fabrics, markers, etc.
- 5 W's Graphic Organizer
- Tree Trails Portfolio, Learning Log/Journal
- (Optional) index cards or sticky notes
- (Optional) Cameras or camera phones

Time & Resources

Preparation Time: 1-2 hours
Instructional Time: 2-3 sessions, 45 minutes each

- Texas A&M Forest Service Urban Forestry
  http://tfsweb.tamu.edu/urbanforestry/
- Texas Chapter International Society of Arboriculture
  http://isatexas.com/
- Natural Inquirer, USDA Forest Service Scientists' Cards
  http://www.naturalinquirer.org/Scientists-v-92.html
- Assistants or Volunteers to organize the Tree Trails Resource List and the Campus Tree Trails Care Plan

I. Engage/Excite

A. Large Group Discussion: Ask the students what they think of building a mural of their Tree Trail. Since their Tree Trail is in an urban setting, it would be urban Tree Trail mural. Let them know a little about how it would look. The mural would look like a type of map that depicts trees, landscape workers and tools, structures, gardens or other plants. The mural could grow as changes are made in the landscape to showcase an ideal urban forestry setting. Students could choose their materials for the mural, such as papers and/or fabrics of different textures, paints, markers, etc.

B. Large Group Activity: Take students outside to visit their Tree Trail and other parts of the campus landscape. Ask them to notice the landscape as it exists now. They may take photographs and/or make sketches to use as reference for their mural. Let them know that they will begin by depicting the present landscape. Later they will revisit the Tree Trail to observe the changes made and/or recommended.

C. Small Group Activity: Return to the classroom and assign small groups to develop their mural. Allow students to decide the media they will use and provide time to create their objects and place on the mural. They may add small narratives (on sticky notes or index cards) next to their pictures/objects as desired. Have them think about adding structures, signs, gardens, fountains, benches, etc. and including animals and birds, people like arborists, professional landscape architects and others designing paths or trails. Use a variety of materials and textures.

Example:

D. Large Group Discussion: Have students evaluate the present look and consider what might be needed for the future care of their landscape and jot down a few ideas in their Learning Logs/Portfolio.

E. (Optional) Individual Activity: Have the students take the *Urban Forestry* pretest.

> *Teacher Tip: Explain that the test is only to make sure the learning activities are appropriate and not something they already know. The pretest will help them know more about what they will be learning.*

> *To administer the tests by paper, copy from the teacher lesson module. To administer the test electronically, recreate the test in an online survey program. Free programs allow the creator to see results from a class set.*

II. Explore

A. Large Group Discussion: Project the Urban Forestry section of the Texas A&M Forest Service website. Invite students to discuss their Tree Trail as an urban forest trail that can be better

II. Explore continued

maintained using urban forestry resources. Ask students to find the definition of Urban Forestry and write it in their Learning Logs/Portfolios.

B. Large Group Discussion continued: Discuss that the resources available on this website are for everyone to use to maintain trees in the community. Open some of the links to demonstrate that communities often use these resources to organize planting and care of trees in public spaces. Inform students that communities may create a Tree Board and/or other volunteer-led groups, and contact urban forestry resources to assist with planning. Discuss that they will be creating a Tree Trails Resource List to use in a Campus Tree Trail Care Plan. They will jot down important highlights or copy and paste the information into a document or their Learning Log.

   Teacher Tip: Find a member of the school staff, PTA, Room Parent, teacher assistant, student teacher, or volunteer to assist with compiling the list. The list should credit the authors (students, teachers, grade, class, school and any volunteers) who assist with the development of the resource list.

C. Small Group Activity: Have students move into their Tree Trail small groups and peruse the information on the Texas A&M Forest Service website, the Texas Chapter International Society of Arboriculture website, and other Urban Forestry resources. Have the students continue the search for other resources on the internet and bookmark these. Urban Forestry resources may include those found on the Texas A&M Forest Service website or other sites such as Texas Urban Forestry Council, Tree City USA, Trees of Texas, Tree Line USA, Tree Campus USA , Arbor Day Foundation, Keep Texas Beautiful, Texas Forestry Association, Texas Garden Clubs, Texas Nursery & Landscape Association and other organizations.

D. Small Group Activity continued: Remind students to also find and list Urban Forestry personnel that are our human resources such as Arborists, Landscape Architects, City Foresters, Teachers, etc. Have students list and describe these careers in their Learning Logs.

   Teacher Tip: Definitions of some of these positions are on the Natural Inquirer website found under Educational Resources. Scientists' Cards highlight specific people and their postions for the USDA Forest Service.

   Teacher Tip: Discuss the definition of arboriculture and an arborist. Arboriculture is defined as the cultivation of trees and shrubs; this includes the planting and care of individual trees and trees in small groups. An arborist is an individual trained in the care of trees and shrubs. This training can come from formal college education or years of experience. There are several areas of practice for arborists: municipal, commercial and utility as well as consultants.

E. Large Group Activity: Have each small group choose a leader to report the resources they found. Ask students to send/email their resources to the teacher, school clerk, parent or whoever will be responsible for assembling the Tree Trail Resource List as a link on the school website and/or as a booklet. Let students know that with the assembly of the resource list, the class will add a valuable contribution to their school and class and, even, the community. Information about the Tree Trail Resource List link or booklet will be available for those interested. Let the students know that the Tree Trail Resource List will be the primary source for development of a Campus Tree Trail Care Plan.

   Teacher Tip: If possible, arrange for an Urban Forestry resource representative to visit the classroom.

III. Explain

A. Large Group Discussion: Tell students they have become the school leaders as student urban foresters on campus. They will take the leadership as the Student Tree Board to establish a Campus Tree Trail Care Plan to ensure their Tree Trail and other trees on campus will be maintained in the future for all to enjoy.

B. Small Group Activity: Divide the students into small groups to play the roles of one of the following kinds of urban foresters on the Student Tree Board: Arborists, Horticulturists, Landscape Architects, City Foresters, Plant Care Technicians and Community Forest Supervisors.

C. Small Group Activity continued: Tell the students that the Tree Trail Resource List will be the primary source for development of the Campus Tree Trail Care Plan. But the most important resource is the students themselves because they have acquired the expertise to lead the development of the plan and now they are members of the Student Tree Board who will accomplish an important mission for their school. They will put into action what they have learned from other modules.

C. Large Group Discussion: Assign each small group of the Student Tree Board to one section of the 5 W's to organize the Campus Tree Trail Care Plan. Project or provide students with a copy of a 5 W's graphic to organize the Campus Tree Trail Care Plan.

Why
Purpose of the Campus Tree Trail Care Plan
What
List steps to take care of trees and list practices to avoid
When
Schedule checkpoints on timeline
Who
Resources and what they will do to help with steps of plan
WIN
List of ideas that wins the hearts of all the campus to join the Campus Tree Trail Care Plan

D. Large Group Discussion continued: Tell students the chart is a beginning point to develop the Campus Tree Trail Care Plan. Ask students to think of an ideal care plan for their tree trail and how they will develop a sustainable urban tree care program for their Tree Trail and trees on their campus. Refer to the purpose statement of this module: "Cities often organize the protection, planting and care of trees in public spaces, through a Tree Board or other volunteer group." The Student Tree Board is the campus organization to protect, plant and care for its trees. Each group should develop actions that address diversity, forest health, value and benefits, and aesthetic value as well as practices to avoid.

E. Small Group Activity: Provide students with laptops/tablets and have them use the internet as necessary to develop a draft of their section of the plan.

F. Large Group Discussion: Ask a representative from each group to introduce their group and the urban forester role they played on the Student Tree Board, then share their career perspective and their section of the plan and ask for input from the other groups. They may add information as appropriate. Allow students to finalize their drafts and send/email to the person responsible for

III. Explain continued

the assembly into the Campus Tree Trail Care Plan. The Campus Tree Trail Care Plan should be published as a link on the school website and/or as a handout to give to parents and community members.

Teacher Tip: If a school chooses to opt out of publishing the Campus Tree Trail Care Plan, they may choose another method to get the Campus Tree Trail Care Plan to parents. Schools may decide to have a sponsor to assist with the Campus Tree Trail Care Plan. If so, please note in the comments and/or recommendation section of the evaluation.

IV. Extend/Elaborate

A. Large Group Activity: Ask the students to revisit their mural to update it with actions included in the Campus Tree Trail Care Plan such as adding other students helping with mulchin and planting, adding resource personnel, additional diverse trees, etc.

B. Small Group Activity: Allow students time to make changes and additions to their mural.

C. Large Group Activity: Have students title their mural, choose a location and display it.

V. Evaluate

A. Large Group Discussion: Have students self-evaluate by asking them if there is anything they would add to their Campus Tree Trail Care Plan and list their responses.

B. Small Group Activity: Ask students to show their definitions for Urban Forestry, share in groups and list in their Learning Logs.

C. Individual Activity: Ask students to revisit their roles on the Student Tree Board and list their duties and add anything else they might do or change regarding their role.

D. (Optional) Individual Activity: Have students take the *Urban Forestry* posttest. Have them compare their results to self-evaluate what they learned and what they did not know.

Teacher Tip: You may use the results to determine the need for Extra Mileage/Attention.

VI. Extra Mileage/Attention

Extra Mileage: Organize a recruiting team to expand their Campus Tree Trail Care Plan to include the whole campus.

Extra Attention: Have students role play different forestry resource personnel such as arborists, landscape design, landscape maintenance, conservationists, forestry consultants, etc.

TEXAS A&M FOREST SERVICE

Student Assessment / Pretest and Posttest

Urban Forestry

Directions: Answer the following questions by rating your response 1-5, with 5 being the highest.

Key: 1 = Not Sure   2 = Poor   3 = OK   4 = Good   5 = Great

1. I can define Urban Forestry.   1   2   3   4   5

2. I can name three resources or organizations
    that assist communities to plan tree care
    programs.   1   2   3   4   5

3. I can evaluate and name three needs for the
    care of our Tree Trails.   1   2   3   4   5

4. I can define four Urban Forestry positions.   1   2   3   4   5

5. I can describe steps to develop a Tree Trails
    Care Plan.   1   2   3   4   5

6. I can name three ways I can assist with the care
    of our Tree Trail.   1   2   3   4   5

7. I can perform three tree care services for our
    home and/or community.   1   2   3   4   5

8. I will apply three of my Tree Trail learning
    experiences to design a Campus Tree Trail Care
    Plan.   1   2   3   4   5

9. I am interested in learning more about ways I
    can be involved in a campus tree care program.   1   2   3   4   5

Comments: