

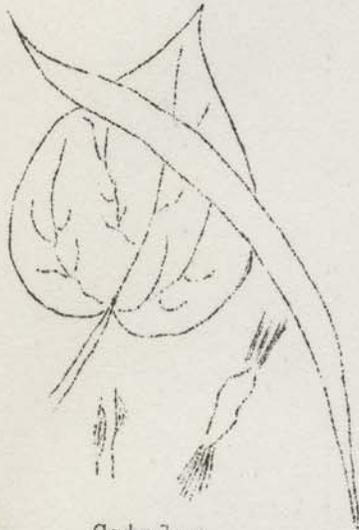
Horse Chestnut



Maple



Ash



Catalpa

TREE TRAILS



Sycamore



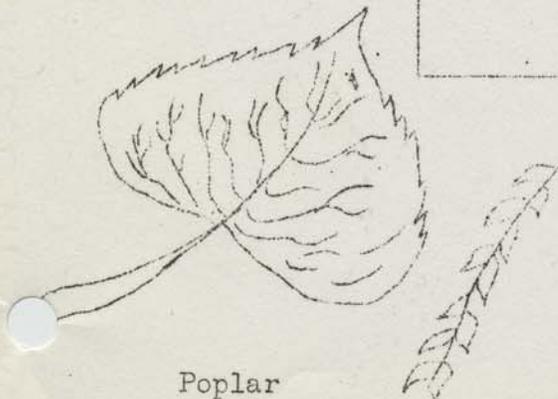
Elm

Give fools their gold
And knaves their power;
Let fortune's bubbles rise and fall:
Who sows a field or trains a flower
Or plants a tree, is more than all.

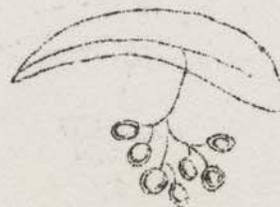
J. G. Whittier



Oak



Poplar



Linden

INTRODUCTION TO TREES

The forests were the finest in the world when the white man first came to the United States. They excelled in quantity and variety. The variety is still here but the quantity is gone. The pioneers of United States found 822 million acres but now one-half of the land area has been cut, burned or killed by diseases. Even upon the trails, visitors could be encouraged to observe species that are most resistant, what trees need and how to care for them. How dependent the human race is upon its trees can never be measured. But not only the practical use of the trees will concern trail visitors but also visions of the beauty, grace, strength and comfort of the woods will inspire paintings, poems and songs on canvass and in the hearts and minds of those who frequent the sylvan trail.

TREE TRAIL

General Signs

For the covered bulletin board at entrance of this trail, pictures of trees of this area from five and ten cent books could be fastened to the top of the board in same manner as suggested for bird or flower pictures. A large picture of "How a tree grows",* also local twig chart for winter and a local leaf chart for summer would be appropriate.

A growing tree could be tagged to show growing parts, viz; root tips, cambium layer on trunk and twigs between bark and wood, tips of branches. Cross-sections could be displayed of different trees, comparing ages of trees, and if they were taken from trees during the same year, a study of climate chart compared with width of annual rings would interest some of our trailers. The oldest living tree is supposed to be a cypress tree in Mexico, 4500 years old. Think of the World History that tree saw. The pyramids were built in 3000 B.C.**

Suggestions for Signs on Bulletin Board and Trees

On the first ash, maple, horse chestnut or catalpa, this sign could be placed: This tree has opposite leaves and twigs. It is one of the only four broad leaf trees which show this arrangement. The initial letters of these trees are C.H.A.M. (The one beginning with C has opposite or whorled twigs.) See how soon you can find the four.

Several questions on small shipping tags tied to parts of tree could be written such as:

1. How old is this branch or twig at this point?

* This can be secured from U. S. Forest Service, Washington, D. C., for little or no cost.

** Give this problem to the trailer. A Redwood tree is 105 feet in circumference. The annual rings average 1/16 inch apart. How old is the tree?

2. (In spring on a pussy willow flower.) Is all the flower here on this tree? (The ash, willow and cottonwood and Kentucky coffee tree are four common trees who have staminate flowers on one tree and pistillate flowers on another.) Follow up with - Does this explain why some trees never can have seeds?

3. What are the tassels of the oaks? (Staminate flowers)

4. Near sprouts or seedlings in spring, place this label "Notice the under study of trees." The seed leaves of trees are often very different from those on older growth. - The basswood seedling is a puzzler.

5. Insert "Pithy Stories or Signs" - Mount a split twig of black walnut with its ladder pith, a cross-section of cottonwood, showing a five-pointed star pith and of lombard poplar, showing a four pointed star pith. Fig. XXI

Pithy Stories Illustrated



5-Pointed Star
Pith of the
Cottonwood



4-Pointed Star
Pith of the
Lombard Poplar



Pith-Plates or
"Ladder" of
Black Walnut

Fig. XXI

6. Mount twigs of several local trees. Give list of names under these and ask which name belongs to which twig.

7. Bark is useful to tree, protecting from heat, cold and drought on outside and the inner bark carries food to growing parts. Man has many uses for it; tanning, from hemlock and oak, cork from cork oak, fiber from basswood and Hiawatha says:

Give me of your bark, O Birch tree!
A light canoe will I build me."

How many trees can you recognize by bark?

8. "Go and measure to what length the silvery catkins have crept out beyond their scales if you would know what time of the year it is by Nature's Clock". Thoreau

9. A master sign called "Salute to the Trees"

Many a tree is found in the wood
And every tree for its use is good;
Some for the strength of its gnarled root,
Some for the sweetness of flower and fruit;
Some for the shelter against the storm,
And some to keep the hearthstone warm;
Some for the roof and some for the beam,
And some for a boat to breast the stream;
In the wealth of the wood since the World began,
The trees have offered their gifts to man.

Following this, small tags could be put on trees thus:

10. A. The ash tree gave the baseball player his bat.
B. The Osage orange gave the archer his bow.
C. The basswood (Linden) gives nectar for finest honey, gives soft wood to the carver, gives its inner bark for fiber to the Indians and wonderful shade to the home or in the park.
11. Hackberry in spite of its many enemies is the most drought resistant of Nebraska trees. Why is this tree so called?
12. Why do we call one elm "white", another "slippery", one ash, "black" and the sycamore a "Buttonball tree"? Among the oaks, why call one oak "pin oak", another "chestnut oak", another "burr" or "mossy cup oak"?
13. (Near evergreens) Cone-bearing-needle-and evergreen trees are like Indians in that they are the pioneer of America, both draped the year around, one with a blanket and the other with needle leaf boughs.
14. (Near a white pine) How many needles in the sheaths of this pine? How many letters in the word "white"?
15. (Near a scotch pine) Look at the size of the cones, the short needles and the color of the bark and the grandeur of the tree and then guess why called "Scotch Pine".
16. (Near the Western Yellow pine) Hold its cone tight in your hand. Any spines? See if there are always two needles in a sheath. Is there a beautiful, perfect pattern in cone on stem end? Or is cone torn off?
17. Can you tell how old a pine is without cutting it down?
18. Spruce trees are "S" trees (having stiff, sharp, short, scattered leaves and suspended cones.)
19. How does a fir tree differ from a spruce?

20.

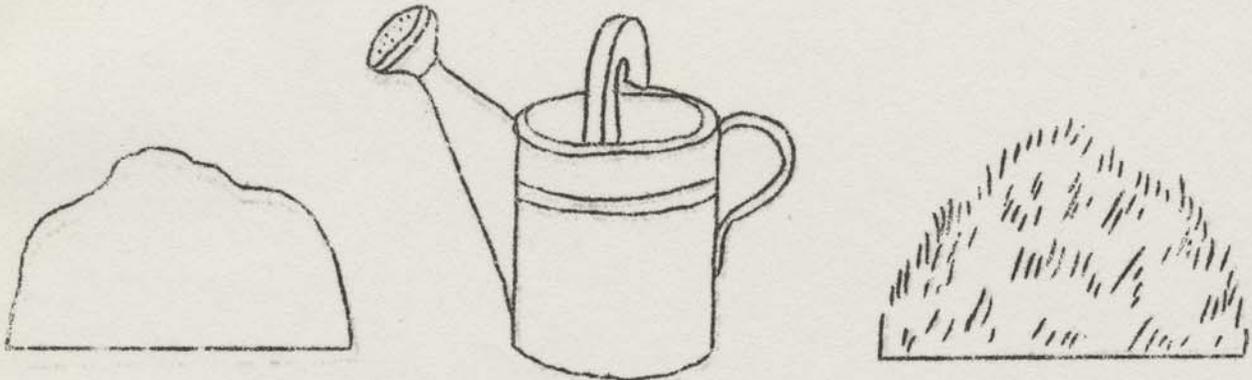
The Evergreens

"If Mother Nature patches the leaves
of the trees and vines,
I'm sure she does her darning with the
needles of the pines,
They are so long and slender, and some-
where in full view
She has her threads of cobweb and her
thimble made of dew."

21. A. What evergreen trees do not bear cones?
B. What cone trees shed all their leaves in the winter?
C. What evergreen trees have scale or awl leaves?

22. Watch the wild cherry, and cedar trees to see if birds eat their fruit. Do you find some seedlings along a fence? Why?

23. Does the rain beat as hard upon the ground under the trees as on roads and open fields? From which does the rain run off more rapidly?



A sprinkling
can full of water
Fig. XXII

Let one of each group sprinkle one half of the sprinkling can upon each mound. Which wears down faster? Which run-off is clearer? Fig. XXII.

24. Where is the air purer - in the city, or in the woods? Why?

25. Explain this:

"The Forest leaves
Convert to life the viewless air."

26. One tree will make a million matches. One match will burn a million trees.

27. Why do pine trees pour resin over wounds? Look for gum on honey locust, cherry, spruce and fir trees.

28. Do squirrels and birds pay rent and board for their homes in trees?

29. We are now using wood four to six times as fast as we are growing trees. If we are to remain a nation of wood users, we must become a nation of wood growers.

Signs to Create Sylvan Mood

Thoughtful Signs in the Fall*

1. The carpet of fallen leaves.
2. The "Lullaby" of the trees (a hike so named would be interesting).
3. The changing silhouette of trees.
4. Young trees come out of their hiding.
5. The guardian evergreens.
6. The tree as commissary and storehouse.

In the Winter

1. Bark of sycamore, hackberry, ash, birch, cherry and western yellow pine and Scotch pine.
2. Buds and twigs and spines and scars of maple, horsechestnut, tree of Heaven, catalpa, basswood and ash.
3. Fruit or leaves persisting on some trees as honey locust, ash, sycamore, Kentucky coffee tree and some oaks.
4. Signs showing the tree's battle with its enemies as fire, wind and insect.
5. Signs of the tree surgeons.
6. Parasitic enemies as fungi and insects.
7. Shutting up shop.
8. Good of the fallen leaves.
9. The smell and taste of bark.

In the Spring

1. Night cap buds push off their caps as cottonwood, willow.
2. Seed babies.
3. The coming out party of the Juniors.
4. The floral festival.
5. Visitors to the gleeful woods.
6. Last year's leaves nourish the spring carpet of flowers.
7. The tender buds and leaves are hungry and the roots get busy.

In the Summer

1. The root pumps in constant motion.
2. The laboratory of the leaves at maximum output.
3. The cambium turns out new wood every day. Find this layer in a twig.
4. The tightening hold on the restless soil. No sand dunes and "blow outs" where there are roots.
5. The forest hillside or evergreen wind break goes hand in hand with the fertile plain.

*The Forest. Handbook for teachers, Misc. circular #98, price 30 cents. It has many wonderful thoughts and activities. Some of these have been taken from this book.

In General

1. How far could you go without touching wood in the city, on the farm and in the woods?
2. Why is the Hoang-Ho in China called the Yellow River and sometimes "China's Sorrow"?
3. What is meant by the saying "The tree is the mother of the fountain?"
4. 47 different kind of birds feed on the dogwood. Do they help or hurt the dogwood family?

List of a few trees and shrubs and plants of Nebraska liked by birds.

- | | |
|-----------------|-------------------------|
| 1. red cedar | 13. virginia creeper |
| 2. green brier | 14. prickly pear cactus |
| 3. hack berry | 15. dogwood |
| 4. mulberry | 16. privet |
| 5. grape | 17. ground cherry |
| 6. osage orange | 18. elderberry |
| 7. moonseed | 19. snowberry |
| 8. hawthorn | 20. coralberry |
| 9. mountain ash | 21. honeysuckle |
| 10. rose | 22. mullein |
| 11. plum | 23. sunflower |
| 12. sumac | 24. lettuce |
| | 25. dandelion |

5. For identifying wood by structure, there are many fine bulletins such as "Wood Identification for 4-H Clubs," Club Bulletin #26, Michigan State College, Extension Division, or any U. S. bulletin put out by Arthur Koehler of the Forest Service, Dept. of Agriculture, Washington, D. C.

First, we hope the wood trail will suggest a planting of a tree somewhere. It might be inspired by Lowell's lines:

"Who does his duty is a question
Too complex to be solved by me,
But he, I venture the suggestion,
Does part of his that plants a tree."

ACTIVITIES FOR THE TREE SECTION OF
THE TRAIL OR MUSEUM

1. A new hobby - "Picking up sticks." Try to identify each stick by opposite scars, or alternate or whorled scars, by thorns, by bark, by buds or by pith.*
2. Pick leaves and fruits and learn to distinguish by feeling and smelling without the help of eyes.**

* Look in Dr. Vinals "Key to Trees by Smell, Touch and Taste" found in his Nature Games.

** This activity has been put on in the form of a demonstration by 10 blind-folded scouts, who identified 25 tree leaves by the sense of touch.

3. Make a collection of leaves from local trees, press, mount and label for wall display.
4. Make a seed collection, arranging them to show how scattered.
5. Make a winter twig display.
6. Cut and smooth and varnish a tree cross-section, labelling the rings, showing effects of rainfall, insects, tree surgeon birds, fire or fungus.*
7. Make leaf prints of many kinds.**
8. Make plaster-of-paris leaf and fruit casts.
9. Germinate tree seeds and plant them into a nursery.
10. Display woods and uses.
11. Make a model showing effect of erosion, after loss of cover as compared with forested, grassy or bush-covered soil.
12. Keep a tree calendar for the trees in your neighborhood, giving the time of leafing, of the first appearance of flowers and of seeds, of the dropping of the leaves. 1) What insects are bothering each kind? 2) What fungus is attacking it? 3) What birds have their nests in it?
13. Sprout horse chestnut buds in water.
"A Chestnut tree - A giant nosegay."
14. Construct a card catalog key of local trees, using pictures and descriptions from ten cent books/
15. Put a thermometer up in the woods and ask the trailers to compare it with that of the thermometer in the city.
16. List all the tenants of trees. Which are robbers, and which pay full rent to the tree?
17. In winter, keep labelled twigs of local trees in water to watch the putting out of leaf and buds.
18. Make a map locating each kind of tree on the trail. Put it on the bulletin board.
19. Put twigs of maple or willow into a glass of water colored by red ink. Then split the branches and notice what part of stem contains the upward flow.
20. Transplant seedling broad leaf trees into a nursery plot and care for them.
21. Estimate the height of a tree by several methods. Try this one:
Height of the pole is to its shadow as the height of the tree is to its shadow.***
22. A winter garden of pressed flowers and leaves can be arranged upon the lower pane of window glass. Fit another glass over it.

* Read Enos Mill's "Thousand Year Pine". Bulletin on tree cross-section display. National Recreation Association, M.B. #476.

** Bulletin on "Blue Prints", National Recreation Association, WPA-NYA #336. Also one of finger printing.

*** The boy scout handbook gives several ways of estimating height of trees.