

Lesson Title: Plant Uses (Part Two)

Grade levels: Grades 4-5

Applicable SOL:

History:

VS.1 (skills for historical and geographical analysis)

English:

4.1 (effective oral communication) 4.2 (oral presentations)

4.4 (expand vocabulary when reading) 4.5 (reading of nonfiction text)

4.6 (comprehension of nonfiction texts) 4.7 (writing cohesively for a purpose)

5.1 (subject-related group learning activity) 5.5 (reading nonfiction text) 5.6 (comprehending nonfiction texts) 5.7 (writing for a purpose)

**Materials:**

- Uses for Plants Document (copies for each pair of students)
- Journals or writing paper

**Procedure:**

Building Supporting Knowledge: (5 to 10 minutes)

DISCUSSION: Review uses of plants and plant products. Discuss why using local plants is advantageous, and often necessary.

Main Lesson: (60 minutes)

1. Give each pair of students a copy of the document “Uses for Plants”. Have pairs or small groups read the information.
2. Discuss in large group (compare and contrast) about the two book excerpts, the difference in the time periods in which they were written, and the author’s purpose in each.
3. Have each pair of students create their own document on how to use area plants. They may use some of the ideas from the texts, but they should create their own purpose for writing. Who can they imagine they are, and why is their document necessary?

Follow-up:

1. Have each group share with another group. Allow time for suggestions, as well as revisions.
2. Let groups publish their documents to become part of the classroom library.
3. Plants in the schoolyard can be researched for their uses.

Assessment Opportunities:

Both discussions and written projects give opportunities for assessment.

## Uses for Plants

During the Civil War, the Surgeon General ordered Francis Porcher, a doctor who was also knowledgeable about the native plants and their uses, to write a book which the confederate soldiers could use when they were in the field. The book was published in 1863 and entitled: "Resources of the Southern Fields and Forests, Medical, Economical, and Agricultural Being Also a Medical Botany of the Confederate States; With Practical Information on the Useful Properties of the Trees, Plants, and Shrubs".

Below is a listing of the Virginia plants mentioned, and their uses. Details concerning HOW to use these plants for these purposes are included in the book, but are not included here.

Name of Plant	Uses
duckweed	Laxative, to ease earaches, fever reducer
dogwood	For stomach upset, antiseptic, fever reducer
prickly ash	Chronic rheumatism
St. John's Wort	Antiseptic for open wounds
sugar maple	Syrup(sugary), as a dye, source of vinegar, and ammonia
osage orange	Hedge plant which provides protection with strong, sharp thorns under the leaves
White-wood sorrel	Eat as a salad, antiseptic

Scarlet Virginia strawberry	Treats indigestion
smooth sumac	Dye for wool, to treat sore throat
wax myrtle	Soap, wax for candles, leather dye
Virginian veronica	Fever reducer
Virginia swallow-wort	Sugar, food (asparagus-like), stuffing for pillows, making thread

Porcher, Francis Peyre. *Resources of the southern fields and forests*. New York: Arno, 1970:1863.

In 1787, Thomas Jefferson wrote “Notes on the State of Virginia”. In it he detailed Virginia’s geography, climate, soil, people, government, roads, buildings, animals and plants. He listed useful Virginia plants in four categories: Medicinal, Esculent(edible), Ornamental, and Useful for Fabrication. The pages from the actual text are below:

Jefferson, Thomas. *Notes on the state of Virginia*. London: Printed for John Stockdale, opposite Burlington House, Piccadilly, 1787.

**NOTES on the state of VIRGINIA;**

written in the year 1781, somewhat corrected and enlarged in the winter of 1782, for the use of a Foreigner of distinction, in answer to certain queries proposed by him respecting

1. Its boundaries	-	-	-	page 1
2. Rivers	-	-	-	3
3. Sea ports	-	-	-	27
4. Mountains	-	-	-	28
5. Cascades and caverns	-	-	-	33
6. Productions mineral, vegetable and animal	-	-	-	41
7. Climate	-	-	-	134
8. Population	-	-	-	151
9. Military force	-	-	-	162
10. Marine force	-	-	-	165
11. Aborigines	-	-	-	166
12. Counties and towns	-	-	-	191
13. Constitution	-	-	-	193
14. Laws	-	-	-	235
15. Colleges, buildings, and roads	-	-	-	275
16. Proceedings as to tories	-	-	-	285
17. Religion	-	-	-	287
18. Manners	-	-	-	298
19. Manufactures	-	-	-	301
20. Subjects of commerce	-	-	-	304
21. Weights, Measures and Money	-	-	-	311
22. Public revenue and expences	-	-	-	313
23. Histories, memorials, and state-papers	-	-	-	322

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of grain at every flood of the spring. Another, near the Cow-pasture river, a mile and a half below its confluence with the Bull-pasture river, and 16 or 17 miles from the Hot-springs, which intermits once in every twelve hours. One also near the mouth of the North Holston.

After these may be mentioned the *Natural Well* on the lands of a Mr. Lewis in Frederick county. It is somewhat larger than a common well; the water rises in it as near the surface of the earth as in the neighbouring artificial wells, and is of a depth as yet unknown. It is said there is a current in it tending sensibly downwards. If this be true, it probably feeds some fountain, of which it is the natural reservoir, distinguished from others, like that of Madison's cave, by being accessible. It is used with a bucket and windlafs, as an ordinary well.

A complete catalogue of the trees, plants, <sup>Vegetables</sup> fruits, &c. is probably not desired. I will sketch out those which would principally attract notice, as being 1. Medicinal, 2. Esculent, 3. Ornamental, or 4. Useful for fabrication; adding the Linnaean to the popular

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names, as the latter might not convey precise information to a foreigner. I shall confine myself too to native plants.

1. Senna. *Cassia ligustrina*.

Arsmart. *Polygonum Sagittatum*.

Clivers or goosegrafs. *Galium spurium*.

Lobelia of several species.

Palma christi. *Ricinus*.

(3). James-town weed. *Datura Stramonium*.

Mallow. *Malva rotundifolia*.

Syrian mallow. *Hibiscus moschentos*.

*Hibiscus virginicus*.

Indian mallow. *Sida rhombifolia*.

*Sida abutilon*.

Virginia Marshmallow. *Napaea hermaphrodita*.

*Napaea dioica*.

Indian physic. *Spiraea trifoliata*.

Euphorbia *Ipecacuanhæ*.

Pleurisy root. *Asclepias decumbens*.

Virginia snake root. *Aristolochia serpentaria*.

Black snake root. *Actæa racemosa*.

Seneca rattlesnake root. *Polygala senega*.

Valerian. *Valeriana locusta radiata*.

Gentian. *Saponaria villosa & centaurium*.

Ginseng. *Panax quinquefolium*.

Angelica. *Angelica sylvestris*.

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Cassava. *Jatropha urens*.

2. Tuckahoe. *Lycoperdon tuber*.

Jerusalem artichoke. *Helianthus tuberosus*.

Long potatoes. *Convolvulus batatas*.

Granadillas. Maycocks. Maracocks. *Passiflora incarnata*.

Panic. *Panicum* of many species.

Indian millet. *Holcus laxus*.

*Holcus striosus*.

Wild oat. *Zizania aquatica*.

Wild pea. *Dolichos* of Clayton.

Lupine. *Lupinus perennis*.

Wild hop. *Humulus lupulus*.

Wild cherry. *Prunus virginiana*.

Cherokee plumb. *Prunus sylvestris* fructu majori. } Clayton.  
Wild plumb. *Prunus sylvestris* fructu minori. }

Wild crab apple. *Pyrus coronaria*.

Red mulberry. *Morus rubra*.

Perfimmon. *Diospyros virginiana*.

Sugar maple. *Acer saccharinum*.

Scaly bark hiccory. *Juglans alba* cortice squamoso. Clayton.

Common hiccory. *Juglans alba*, fructu minore rancido. Clayton.



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Paccan or Illinois nut. Not described by Linnæus, Miller or Clayton. Were I to venture to describe this, speaking of the fruit from memory, and of the leaf from plants of two years growth, I should specify it as the *Juglans alba, foliolis lanceolatis, acuminatis, ferratis, tomentosis, fructu minore, ovato, compresso, vix insculpto, dulci, putamine tenerimo*. It grows on the Illinois, Wabash, Ohio and Missisipi. It is spoken of by Don Ulloa under the name of *pacanos*, in his *Noticias Americanas*. Entret. 6.

Black walnut. *Juglans nigra*.

White walnut. *Juglans alba*.

Chestnut. *Fagus castanea*.

Chinquapin. *Fagus pumila*.

Hazlenut. *Corylus avellana*.

Grapes. *Vitis*. Various kinds, though only three described by Clayton.

Scarlet Strawberries. *Fragaria virginiana* of Millar.

Whortleberries. *Vaccinium uliginosum*?

Wild gooseberries. *Ribes grossularia*.

Cranberries. *Vaccinium oxycoccos*.

Black raspberries. *Rubus occidentalis*.

Blackberries. *Rubus fruticosus*.

Dewberries. *Rubus caesius*. Cloud-

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Cloudberries. *Rubus chamaemorus*.

3. Plane-tree. *Platanus occidentalis*.

Poplar. *Liriodendron tulipifera*.

*Populus heterophylla*.

Black poplar. *Populus nigra*.

Aspen. *Populus tremula*.

Linden or lime. *Tilia Americana*.

Red flowering maple. *Acer rubrum*.

Horse-chestnut or Buck's-eye. *Aesculus pavia*.

Catalpa. *Bignonia catalpa*.

Umbrella. *Magnolia tripetala*.

Swamp laurel. *Magnolia glauca*.

Cucumber-tree. *Magnolia acuminata*.

Portugal bay. *Laurus indica*.

Red bay. *Laurus borbonia*.

Dwarf-rose bay. *Rhododendron maximum*.

Laurel of the western country. *Qu. species?*

Wild pimento. *Laurus benzoin*.

Sassafras. *Laurus sassafras*.

Locust. *Robinia pseudo-acacia*.

Honey-locust. *Gleditsia*. I. 6.

Dogwood. *Cornus florida*.

Fringe or snowdrop-tree. *Chionanthus virginica*.

Barberry. *Berberis vulgaris*.

Redbud or Judas-tree. *Cercis canadensis*.

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Holly. *Ilex aquifolium*.  
Cockspur hawthorn. *Cratægus coccinea*.  
Spindle-tree. *Euonymus Europæus*.  
Evergreen spindle-tree. *Euonymus Ame-  
ricanus*.  
*Itea Virginica*.  
Elder. *Sambucus nigra*.  
Papaw. *Annona triloba*.  
Candleberry myrtle. *Myrica cerifera*.  
Dwarf laurel. *Kalmia angusti-  
folia* } called ivy  
*Kalmia latifolia* } with us.  
Ivy. *Hedera quinquefolia*.  
Trumpet honeysuckle. *Lonicera semper-  
virens*.  
Upright honeysuckle. *Azalea nudiflora*.  
Yellow jasmine. *Bignonia sempervirens*.  
*Calycanthus floridus*.  
American aloe. *Agave virginica*.  
Sumach. *Rhus*. Qu. species?  
Poke. *Phytolacca decandra*.  
Long mos. *Tillandsia Usneoides*.  
  
4. Reed. *Arundo phragmitis*.  
Virginia hemp. *Acnida cannabina*.  
Flax. *Linum virginianum*.  
Black or pitch-pine. *Pinus tæda*.



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- White pine. *Pinus strobus*.  
Yellow pine. *Pinus virginica*.  
Spruce pine. *Pinus foliis singularibus*.  
Clayton.  
Hemlock spruce fir. *Pinus canadensis*.  
Arbor vitæ. *Thuja occidentalis*.  
Juniper. *Juniperus virginica*. (Called cedar  
with us.)  
Cypress. *Cupressus disticha*.  
Black oak. *Quercus nigra*.  
White oak. *Quercus alba*.  
Red oak. *Quercus rubra*.  
Willow oak. *Quercus phellos*.  
Chefnut oak. *Quercus prinus*.  
Black jack oak. *Quercus aquatica*. Clay-  
ton. Query?  
Ground oak. *Quercus pumila*. Clayton.  
Live oak. *Quercus virginiana*. Millar.  
Black birch. *Betula nigra*.  
White birch. *Betula alba*.  
Beach. *Fagus sylvatica*.  
Ash. *Fraxinus americana*.  
*Fraxinus novæ angliaë*. Millar.  
Elm. *Ulmus americana*.  
Willow. *Salix*. Query species?  
Sweet Gum. *Liquidambar styraciflua*.

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The following were found in Virginia when first visited by the English; but it is not said whether of spontaneous growth or by cultivation only. Most probably they were natives of more southern climates, and handed along the continent from one nation to another of the savages.

Tobacco. *Nicotiana*.

Maize. *Zea mays*.

Round potatoes. *Solanum tuberosum*.

Pumpkins. *Cucurbita pepo*.

Cumlings. *Cucurbita verrucosa*.

Squashes. *Cucurbita melopepo*.

There is an infinitude of other plants and flowers, for an enumeration and scientific description of which I must refer to the *Flora Virginica* of our great botanist Dr. Clayton, published by Gronovius at Leyden, in 1762. This accurate observer was a native and resident of this state, passed a long life in exploring and describing its plants, and is supposed to have enlarged the botanical catalogue as much as almost any man who has lived.

Besides these plants, which are native, our *Farms* produce wheat, rye, barley, oats, buck wheat, broom corn, and Indian corn.

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The climate suits rice well enough wherever the lands do. Tobacco, hemp, flax and cotton are staple commodities. Indico yields two cuttings. The silk-worm is a native, and the mulberry, proper for its food, grows kindly.

We cultivate also potatoes, both the long and the round, turneps, carrots, parsneps, pumpkins and ground nuts (*Arachis*). Our grasses are Lucerne, St. Foin, Burnet, Timothy, ray and orchard grass, red, white and yellow clover, greenfwerd, blue grass and crab grass.

The *gardens* yield musk melons, water melons, tomatas, okra, pomegranates, figs, and the esculent plants of Europe.

The *orchards* produce apples, pears, cherries, quinces, peaches, nectarines, apricots, almonds, and plumbs.

Our quadrupeds have been mostly described **Animals.** by Linnæus and Monf. de Buffon. Of these the Mammoth, or big buffalo as called by the Indians, must certainly have been the largest. Their tradition is that he was carnivorous and still exists in the northern parts of America. A delegation of warriors from the Delaware tribe having visited the governor of

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