

Trees Work for a Healthier Me

Objectives

1. Students should be able to identify at least two food or food products that come from trees and at least two benefits of tree products to our diet.
2. Students should be able to explain, with one example, how trees and the outdoors provide opportunities for play and exercise.
3. Students should be able to describe their favorite tree and its importance to them.

Time Considerations

Activity 1: 30 minutes indoors or classroom

Activity 2: 30 minutes outdoors in school yard

Activity 3: 30 minutes or on-going at home or at school

Additional Resources

The following book has ideas for extending Activities 2 and 3 with careful design for play and developing interest in nature and in natural settings that include trees.

Sobel, David. (2008). *Childhood and nature: design principles for educators*. Stenhouse Publishers, Portland, ME.

References

Adopt a Tree. (2012). *Project Learning Tree*, American Forest Foundation, Washington, DC, pp. 97-101.

<https://nature.mdc.mo.gov/discover-nature/field-guide/black-walnut>

https://nature.mdc.mo.gov/discover-nature/field-guide/search?f%5B0%5D=field_fg_types%3A5591

<https://www.choosemyplate.gov/>

Kola-Olusanya, Anthony. (2005). Free-choice environmental education: understanding where children learn outside of school. *Environmental Education Research*, Vol. 11, No. 3, July 2005, pp. 2970307.

Sobel, David. (1993). *Children's special places: exploring the roles of forts, dens, and bush houses in middle childhood*, Zephyr Press, Tucson, AZ.

Missouri Learning Standards

English/Language Arts

RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (Activity 1)

W.4.8: Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information and provide a list of sources. (Activity 1 and 2—neither ask students to “categorize” or “provide a list of sources”).

SL.4.1 and SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4/grade 5 topics and texts, building on others' ideas and expressing their own clearly.

Science

Activity 2 leads to 5.ETS1.A.1: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Resources Needed

Activity 1: Access to websites, projector or Smartboard; paper and writing implement.

Activity 2: Half sheet of paper for Field Notebook (or use classroom notebook or journal), pencils, another half sheet of paper for tree bark rubbing and optional tree identification field guides.

Activity 3: One student handout for A Tree for Me, construction paper and white paper, stapler. Optional: camera to take pictures of tree or colored pencils or crayons to draw a picture of tree.

Activity 1: Food and a Healthy Diet

Objectives

1. Students should be able to identify at least two food or food products that come from trees and at least two benefits of tree products to our diet.

Background Information for Teacher and Preparing for the Activity

Trees provide a large number of resources and benefits to children and adults. Health benefits attributed to trees are many, including food and nutrition, oxygen and better air quality, opportunities for outdoor activities such as walking or playing and benefits to emotional well-being.

Food products from trees such as fruits, nuts and spices should be a part of a healthy diet. The most current food pyramid is found at <https://www.choosemyplate.gov/> and identifies how many servings per day of all foods are needed for good health. Fifth graders need 1 1/2 cups of fruit daily (which often come from trees—oranges and other citrus, apples and pears, bananas, cherries, peaches and plums and pineapple). Missouri native tree species that produce fruits include persimmon, wild apple and plum and the pawpaw, which produces a fruit compared to a banana. Blackberries come from shrubs and are also common summer fruits that grow wild in Missouri. Girls are recommended to get 2 cups of vegetables daily, while boys are recommended to get 2 1/2 cups of vegetables daily. Although vegetables all come from plants, they typically do not come from trees.

Nuts and seeds, which come from trees primarily, are part of the protein group. Pecans, walnuts, cashews, hazelnuts (or filberts), almonds and pistachios are nut and seed products that come from trees. Missouri is the largest producer of black walnuts in the world. Many families gather black walnuts each year and take them to local areas for the black walnut harvest. Pecans are grown in Missouri, as well, with the majority of the other nuts mentioned originating from other places in the U.S. and world. According to the USDA's Choose Your Plate website, nuts and seeds help reduce the occurrence of heart disease when eaten in small quantities (they are often high in calories) and along with other heart-healthy practices. It is also good to point out that peanuts are not truly nuts, even though their name suggests that they are. They are technically a legume and are grown commercially for peanut butter in the U.S. in places like Georgia and Mississippi.

Common spices such as cinnamon, come from the bark of the Cinnamomum tree, native to the East Indies and Southeast Asia. Other tree varieties produce cassia, which is what those of us in the U.S. consider to be cinnamon. Other spices such as nutmeg and bay leaves come from trees. Another popular substance, maple syrup, comes from a maple tree. Many spices are thought to have a variety of health benefits, depending upon the spice. In Missouri, many "old timers" know of medicinal uses for plants and trees such as sassafras and wild ginger.

The following web page at the Missouri Department of Conservation website shows Missouri tree and shrub (like a smaller tree) species that exist, and has a fork and knife next to those that are edible.

https://nature.mdc.mo.gov/discover-nature/field-guide/search?f%5B0%5D=field_fg_types%3A5591

Trees Work for a Healthier Me | Activity 1

Steps for Activity 1: Food and a Healthy Diet

- 1) Help students to the following website, sponsored by the U.S. Department of Agriculture:
<https://www.choosemyplate.gov/>
- 2) Help students identify which parts of the “plate” come from plants (vegetables, fruits, proteins, grains). 3) Which parts of the plate include foods that come from trees? (fruits & nuts)
- 4) How many servings of the foods that come from trees are needed by the body each day? What are the health benefits of these foods? What nuts that we eat are products of trees? Take a look at the Nuts & Seed Gallery to see pictures of each type of nut that we commonly eat.
- 5) Have students create a list of food that come from trees—this may include some they have seen on the website, but encourage them to come up with others. Examples are found in the Background Information and others may be used too. Students may either create their own list, and then compare with a partner or group OR the list may be created as a class.
- 6) Challenge students to work on identifying which trees on their list are found in Missouri. Refer to https://nature.mdc.mo.gov/discover-nature/field-guide/search?f%5B0%5D=field_fg_types%3A5591, if needed. This list includes trees that are native to Missouri meaning that they grow here naturally. Students may also identify trees (for example, an English walnut) that can be found in nurseries for sale and planted in yards. In any town, there will be a mix of native tree species and tree species that were planted in yards and other natural areas.
- 7) Have any students tasted any of the Missouri tree and shrub species on the list? Or, do they know anyone in their family who may have tasted them? If so, please have them share their experiences with the class. Another familiar link may be to ask if students have tasted sassafras candy from a place like Silver Dollar City. Sassafras tree roots are used for flavoring and teas.
- 8) Wrap up the activity by asking students to pick any two foods that come from trees and have them identify the health benefits of these two foods. They may either use the two websites from Steps 1 and 6 (may have to compare similar fruits to the ones selected) or they may use other websites.

Activity 2: Exercise and Play for Your Health

Objective

1. Students should be able to explain, with one example, how trees and the outdoors provide opportunities for play and exercise.

Background Information for Teacher and Preparing for the Activity

Physical exercise is part of a healthy body and it is recommended that children get at least 30 minutes of exercise daily. Recess provides some of this time, as well as activities after school. Additionally, time for children to play is getting increasing attention, as many students participate in organized activities, leaving them little time to play on their own.

The benefits of exercise are widely known, but the benefits of play are not as commonly understood. David Sobel, an environmental education researcher and former elementary teacher, identified the importance of play as early as the early 1990's. He identified students between the ages of 8-11, which includes 4th and 5th graders, as in "middle childhood" and the prime years for the use and importance of building forts, dens and other special places for play (Sobel, 1993). Other environmental education researchers find that at this same age level, children begin to learn in other places, besides school. Outdoor experiences can help students develop higher order thinking skills and greater understanding and curiosity for the natural world. It is thought that natural places including trees, such as parks and nature centers, can help students develop a love of the natural world (Kola-Olusanya, 2005). Trees represent much of the natural world and given their abundance and availability help to provide a natural setting for both play, exercise and learning. Spending time outdoors for play and exercise can also benefit learning in the classroom and learning about the environment. Children who spend some time playing and playing outside may have an increased attention span, are more imaginative and creative and exhibit fewer signs of stress. Trees are present in most Missouri landscapes, both rural and urban, and can serve as an important backdrop for outdoor exercise and play. In the following activity and into the last activity, the focus is on trees as places to play, as well as helping students identify a favorite tree.

It might be necessary to explain the word "play" to students. What does it mean to play? Play time can sometimes be difficult for schools to implement, given the unstructured nature of play, but the benefits to children are important, as well as getting enough exercise.

The MDC website shares that adults can also benefit from natural places and urban forests:

* Park users report urban forests and parks offer a place for reflective thought, resting the mind and creative thinking; better than home.

* ADHD symptoms are relieved after spending time in forested areas contributing to better concentration, completed tasks and follow-through of directions.

Trees Work for A Healthier Me | Activity 2

Check out the following link to see the benefits of Active Living for adults and children, along with some Fast Facts about exercise, obesity and healthy living.

http://depts.washington.edu/hhwb/Thm_ActiveLiving.html

The following benefits of trees may be incorporated in discussion, as students bring up these topics:

Physical

Oxygen, Food for Humans and Animals, Medicines, Physical Activity (swing/climbing), Absorbs air pollution gases, Filters particulate pollution, Shelter (storms, shade) for humans and animals, Reduces UV –B rays approximately 50% (minimize skin cancer risk), and Reduces noise pollution.


Emotional

Aids in concentration, Calms internal stress response and creates a feeling relaxation, Minimizes ADHD symptoms, and Improves creativity and imagination.

Steps for Activity 2: Exercise and Play for Your Health

- 1) Prepare to take students outside by making a field notebook to use outside.
- 2) Students need a half sheet of paper each and will make two hamburger folds so they have a small “book” that they may carry easily and write notes on while outside. Pencils are preferred for outdoor work over pens, since they will not run, even in wet weather. If students already keep a classroom notebook or journal, then this may be used instead.
- 3) Either keep students outside a few minutes after recess or take them outside to their playground area and the school grounds at another time (let them focus on recess activities while outside during recess time).
- 4) Ask students to make a list of all of the features of their school playground that they like and think are good about the site. After a couple of minutes or so on their own, ask them to either share with a partner or group or to share with the class. Students may add to their own lists as they hear other answers that they like too.
- 5) Did trees on the property come up on anyone’s list? If so, what specifically do they like about the trees? What are the benefits of trees in our school yard and at home?
- 6) If students were given time to play and explore the school campus on their own, where would they go? What would they do or play?

Trees Work for A Healthier Me | Activity 2



7) Take a short walk around the school property, asking students to identify places that they would like to play. What would they like to do in a particular area? Students can write down their ideas in their field notebooks. Once again, note if any students mentioned trees as part of their ideas. Does anyone have a favorite tree here at school? At home?

8) To wrap up the activity, ask students to think again about the benefit trees add to their school yard and list at least one benefit in their field notebook. Then, ask them to consider whether or not their current school yard could use anything else to make it a better place to play and exercise. If so, what would they add? Would they add more trees? Even stumps and logs can provide play places. Where would they put the tree(s) and what would be the benefits of adding them?

9) If time allows, have students make a bark rubbing of a tree in the school yard, using a crayon to color over their paper, held up against a tree trunk. If they made a field notebook, they can simply open it up to provide a surface for the bark rubbing. If they've brought a science notebook or journal outside, they might prefer to use a half sheet of paper and then put it into their notebook or journal later.

10) If there are several trees at school and students do a bark rubbing on a number of trees, then have them compare their bark rubbing with another rubbing from a different tree, as students pair up or get into groups of three. It is not necessary for them to identify their trees, but bark is one identifying feature used in identifying trees. Ask them to identify what is similar and different between the tree bark rubbings? If you know the tree species, go ahead and share with students or have them use field guides to identify the trees in the school yard.

Activity 3: A Tree for Me

Objective

1. Students should be able to describe their favorite tree and its importance to them.

Background Information for Teacher Preparing the Activity


This activity can either be done at school or at home, but students will be asked to identify a tree that they can easily see each day. They will then have the opportunity to see the changes in their tree throughout the year and record the changes through an adaptation of a Project Learning Tree activity. Please see the background for Activity 2—Exercise and Play for Your Health. This information explains the importance of trees for health, but also provides more information about other benefits of trees as well. When students take the time to find a tree to observe throughout the year, they gradually become attached to their tree. Exposure and purposeful consideration of trees leads children to care about trees and other natural resources.

In addition to the student page, students may want to create a journal for their tree. A piece of construction paper, folded in half with a hamburger fold can serve as the outside cover with two or three pieces of paper put inside and stapled in the center.

Steps for Activity 2. Exercise and Play for Your Health

- 1) Explain that each child or student will select a tree that will be theirs to observe for a length of time. The tree may be found either at school (and several students may be observing the same tree) or at home or at a family member's house. No matter where the tree is located, it should be some place that can be visited on a regular basis.
- 2) Using the construction paper and paper journal, have students begin keeping track of their tree by answering the following items:
 - a. My tree looks like...
 - b. My tree smells like...
 - c. My tree feels like...
- 3) They may add anything else that they wish to include such as a drawing of their tree, bark rubbing or even a picture.
- 4) Either ask students to do certain items from the A Tree for Me student page or allow them to pick certain items that they want to focus on about their tree.

Trees Work for a Healthier Me | Activity 3

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- 5) It is best for this activity to span at least a season or two, in order for students to see the changes that occur to the tree. What do they note about the seasonal changes in their tree or does their tree appear to not change?
 - 6) At the conclusion of this activity, ask students to summarize what they now know about their tree. What did they learn? What was most surprising about their tree? What else would they like to learn about their tree?
 - 7) Encourage students to continue to watch and follow their tree, even after the conclusion of the activity.