Healthy Tree, Healthy Me

Science Activity | Grades 3-5

Standards: 5-PS1 (Matter & Its Interactions,
Connection Literacy W.5.7, W.5.8)
4-ESS2-1 (Earth's Systems)
3-LS3-1 (Heredity: Inheritance & Variation of Traits)

CALIFORNIA
ARBOR WEEK
MARCH 7 - 14

Overview:
Just like you, urban trees need health checkups too! A visit from an arborist can keep trees healthy. This activity walks the students through the steps an arborist takes to inspect a tree.

Materials:
Clipboard, paper, pencil

Arborists are men and women who study the care of trees. They become doctors for the trees. They must take special classes and pass tests that prove they are ready to do such an important job!

A certified arborists inspects trees by checking all the parts ***(this might be a good time to review the parts of the tree if the students have gone through the previous activities***):

- They begin with the trees' ***upper crown***. That is the part of the tree where all the leaves grow. They check for dieback at the tips of the branches and twigs.
- They then check the tree branches for places where the tree may be becoming weak. Weakness can be caused by cracked limbs, ***decay*** (rot or decompose through the action of fungi) crisscrossing limbs and a weak ***crotch*** (the angle formed by the junction of two branches or a branch and the trunk of a tree), which might split. They check to see if the tree is growing too fast or too slowly.
- On the tree's leaves they check for size, color, ***scorch*** (the surface burn from flame or heat) disease and insect damage.
- Next comes the tree's trunk. They check the trunk for bark splitting, decay, boring insects that leave holes in the trunk, and vascular disease, which causes sap to leak out of the tree. Trunks can be damaged by vandalism or equipment.
- The tree's roots get checked for ***girdling*** (They check to see if the tree shows symptoms that the trunk is being strangled by something like a root or wire or rope. Girdling would stop food and nutrients from reaching the tree.
- Next, they check the root mass (either wood or fibrous) and ***Mycorrhiza content*** (special beneficial fungi growing on the tree's roots). Some fungi helps the tree's roots get air and food and water. Drainage gets checked because too much water should not surround the roots and water should drain away from the tree. Damage by construction happens when people build near trees or drive over the roots.

Tree Tidbit:

Invite a local arborist to come share about their trade and tools with your class!

- Lastly, the arborist checks the tree's soil. They check for moisture or dryness of the soil, and they look for plant or animal life such as **earth worms** that help to loosen the soil (aerate) so that the tree can get oxygen and water more easily. Certain fungi may mean decay is happening in the roots. They check for ***compaction*** (when the soil around the tree is pressed down too hard, the tree cannot get enough moisture or oxygen to its roots). And they look at the soil level around the trunk -- the trunk at the base of the tree cannot be buried.
- Different kinds (species) of trees in different climates need different types of soil and weather conditions to keep healthy. Arborists say, "Happy Roots Make Happy Trees!"

When should an Arborist be called?

- If you see a break in a branch that might split and cause harm to you or your property or
- If you see holes and/or abundant holes in your tree that could have been made by insects, animals, or equipment that have that bore into the tree.
- Can you think of any other times?

Now it's time to help your group become arborists! Take students around to the trees on your campus and check their health together.

- Have one student with a clip board and pencil write down your findings be sure to date it. Show your findings to the grounds keeper.
- Work together to brainstorm what you can do to help restore health to the tree.
- Check the tree often and record the date and progress of your work.

Photo by: Western Chapter ISA

Additional Activities:

The first Arbor Day took place on April 10, 1872 in Nebraska. It was the brainchild of Julis Morton, a Nebraska journalist and politician originally from Michigan. He proposed that a special day be set aside dedicated to tree planting and increasing awareness of the importance of trees. Nebraska's first Arbor Day was a great success with more than one million trees being planted. Today all 50 states celebrate Arbor Day on the last Friday in April. California Arbor Week is March 7-14 every year. For more information -- or to participate in one of our annual poster contests for grades 3-5 -- visit **www.arborweek.org**.

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