BRANCHING OUT

Science and Engineering Education Center | The University of Texas at Dallas

Challenge

Test your knowledge of trees and their uses.

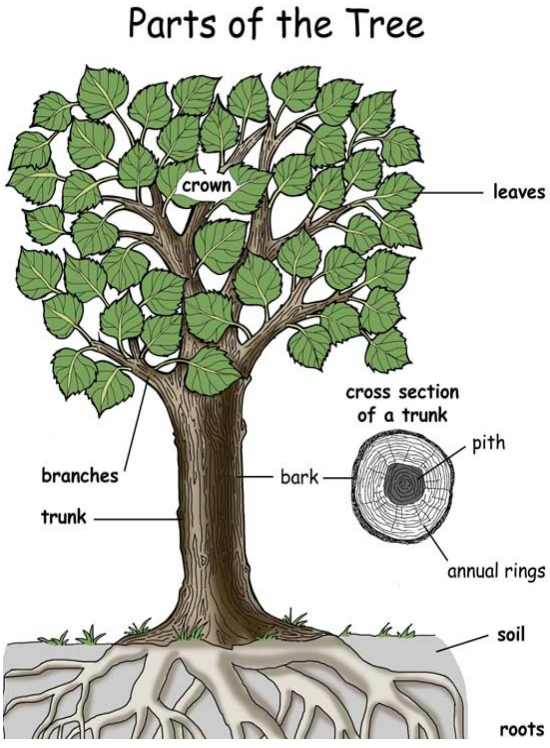
Procedure

1. **Work** in small groups to name as many things from the list below as you can in the time alotted. See which team can come up with the longest lists!

   - Name types of trees.
   - Name the ways that trees can be sorted.
   - Name fruit that grows on trees.
   - Name nuts that come from trees.
   - Name things that are made out of wood.
   - Name ways that trees are used in culture and tradition.
   - Name stories you have read that are about trees.

More to do...

- Go on a hike around your neighborhood. Collect some leaves from trees that grow in the area. Make a leaf rubbing using a pencil and paper.
- Dissect an apple and an orange. Count the number of seeds in each. Compare and contrast the color, number and arrangements of the seeds in each fruit.
- Examine wood specimens. Compare and contrast the differences. If you look at a cross-section of the trunk, can you tell anything about the age or growing conditions of the tree?



Science Scoop

Trees are a key component of any ecosystem, as they influence everything around them, including the local weather and the wildlife that lives in the region. Getting to know the trees in your area is a great place to start if you want to appreciate and understand the ecology of your state. This is true not only of rural areas, but also in cities where trees are an important part of the urban ecology.

What can a tree do? A lot!

Trees help clean out our air. In Los Angeles, trees remove nearly 2,000 tons of air pollution each year.

Trees provide us with oxygen. One large tree can provide a day's supply of oxygen for up to four people.. The Amazon rainforest produces more than 20% of the world/s oxygen.

Trees help clean our drinking water. Forested watersheds provide quality drinking water to more than 180 million Americans.

Trees provide much-needed cooling. Trees lower surface and air temperatures by providing shade. Shaded surfaces may be 20-45% cooler than the peak temperatures of unshaded materials.

Trees help reduce the effects of climate change by absorbing carbon dioxide.

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Branching out: Leaf Rubbing [Y,O]

Find leaves from trees in your neighborhood.

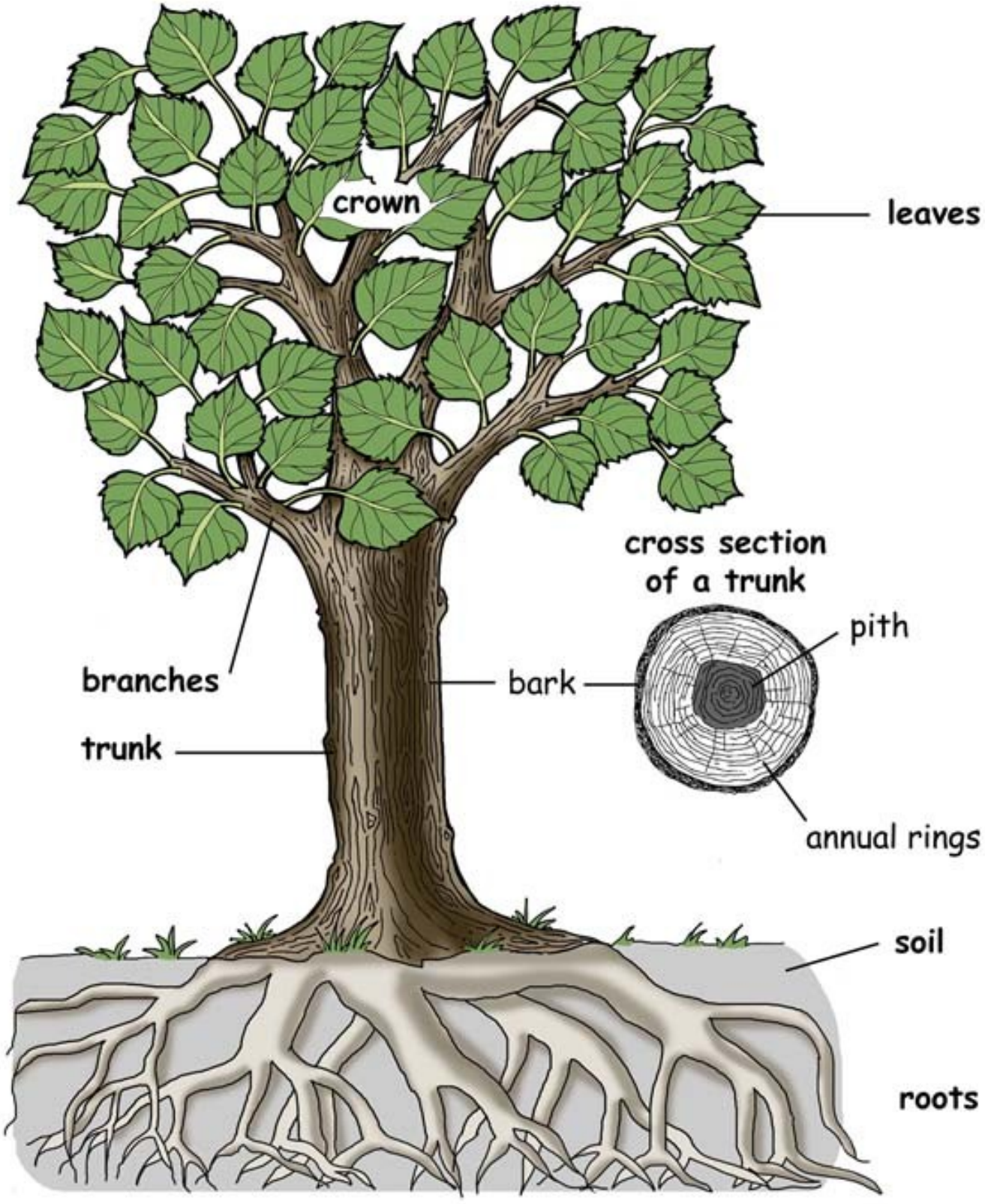
Create a leaf rubbing (or rubbings) in the space below.

Based on your observation of these trees, what do you know about them?

- How tall do they get?
- Are they evergreen (do not loose their leaves) or deciduous (do loose leaves)?
- Do they produce fruit?
- What types of seeds do they have?
- What growing conditions to they like best?
- Do they produce a lot of shade?

Do some research and find out both the common and scientific name of each tree!

Parts of the Tree



Branching Out: Investigation Log– Wood Specimens

Record your observations below.

Dendrochronology (tree ring dating) counts the annual growth rings on long-lived trees and compares these “master” ring patterns with pieces of wood found at archeological sites. The patterns in wood can tell you about the type of wood it is (different woods grow in different ways) and about the growing conditions.

Look at two specimens from two different pieces of wood.

Compare and contrast the two specimens. How are they similar? How are they different?

Draw a picture of what you see below.

Can you tell the approximate age of each specimen by counting the rings?

Branching Out: Investigation Log- Apples & Oranges[Y]

Record your observations below.

Cut an apple and orange in half, right in the center.

Look at two specimens– one from an apple and one from an orange.

Compare and contrast the two specimens. How are they similar? How are they different?

Draw a picture of what you see below.