PHS tree tenders TREE PROGRAMS FOR KID

HOW TALL IS THAT TREE?

You don't have to carry your tape measure to the top of a tree to measure how tall it is! Here is a useful trick you can use to measure trees and other tall things too.

What You Need:
- A partner to work with
- A pencil
- A tape measure or ruler

What to Do:

1. Find a tall tree which is on fairly flat ground.

2. Back up from the tree.
   Stop when you are farther away from the tree than the tree is tall (if the tree fell, in your direction, it wouldn't reach you).

3. Ask your partner to stand at the base of the tree (see sketch).

4. Hold a pencil straight up and down. Hold it at the bottom edge. Line it up vertically with the tree.

5. Close one eye and move hand closer and farther from you face until it seems to be the same height as the tree.

6. Carefully turn the pencil sideways keeping your thumb lined up with the tree trunk. Your pencil should now look like it is lying along the ground (see sketch).
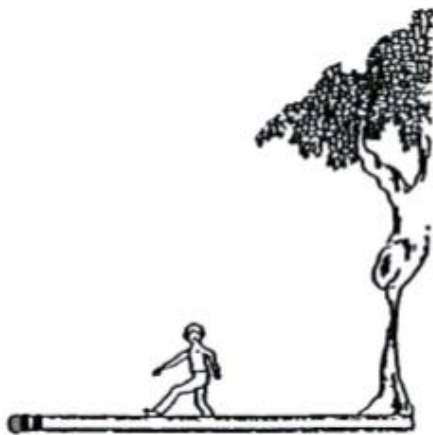
7. Ask your partner to walk away from the tree. It will seem as if your partner is walking along the pencil. Tell your partner to stop when he or she is lined up with the end of the pencil.

8. Use the measuring tape (or ruler) to measure the distance from the base of the tree out to the place where your partner is standing. This is about the height of the tree.

   Note: You could also have your partner measure their pace and then multiply that by the number of steps they take.

STUMPS TELL A STORY

Stumps Tell a Story

If you come upon a dry tree stump, you can take a rubbing that will tell you the tree's life story.

What You Need:
- Large paper
- Thumb Tacks
- Charcoal (from art supply stores)

What To Do:

1. Stretch the paper across the stump. Hold it in place with thumbtacks or tape, so it can't move.
2. Use the side of a piece of charcoal to rub across the paper. Rub in just one direction for best results.
3. Soon the tree rings and other marks on your stump will show on the paper.
4. While you are still at the stump, mark the center of the tree on your rubbing and count off the rings marking every 10th ring (and year). If anything is unclear on the rubbing you can check it while still at the stump.

Here is what you can learn about the tree's life.

1. The number of rings tells you how old the tree was when it was chopped down. By counting backward from the outermost ring you can find the ring that grew the year you were born.
2. Look at the growth rings. Are some of them wider or narrower than others? This could show good growing years, when there was lots of rain and bad growing years during droughts.
3. Was the tree growing evenly in all directions? If it grew more on one side than another can you see a reason for that? For example was the tree crowed on one side by a building or other tree?
4. If the tree is old, it might be interesting to discover what things were like when it sprouted from a seed and began to grow. Perhaps it is in the middle of a city now, but 50 years ago it may have been in the middle of a field.
5. How large was the tree when selected world events occurred?

Poet-Tree Corner

Cinquain Poem
(any stanza of five lines)

_____
Subject (one word)

_____ _____
Describe subject with two words

_____ _____ _____
Use three words to describe what the subject does

_____ _____ _____ _____
Write four words for how you feel about the subject

_____
Write another word (one word) for the subject

Example of Cinquain poem:

Acorns
With caps
Fall from oaks
Winter is almost here
Nuts

Haiku Poem

First Line=Five syllables
Second Line= seven syllables
Third Line= five syllables

Example of Haiku Poem:

Trees gently swaying
Shading and cooling me down
in body and mind

TREE STRESSES CHARADES

Props:

- Flashcards with various tree stresses written on one side and numbered   on the other side
- A list of numbered tree stress cards
- Two branches for the tree

Optional Props:

Twine or string - spread out for roots

A blindfold (around the mouth because trees can not speak!)

Yellow baseball cap (represents the sun)

Plastic knife (represents damage)

Empty container of bleach (represents chemical spills)

Plastic bags filled with balled-up paper (represents trash)

To Play:

1. Ask for a volunteer.
2. Transform that person into a tree using the branches.
3. Give out the flash cards to the players and request that they don't let anyone else see their flashcard.
4. Call up each flashcard starting with number 1 and have that person act out the stress on the tree.
5. The audience needs to guess which urban stress is being portrayed. For younger groups, provide a list of tree stresses to choose from.
6. After it is guessed correctly, ask how that stress would affect the tree.

Optional: Divide the groups into teams to compete against each other with points.

Tree Stresses that can be used in this game:

- Drought – an average large tree can release hundreds of gallons of water through transpiration.
- Compacted soil – does not allow for water or air infiltration. A tree's roots can be smothered without access to oxygen.
- Doggy doo (Dog litter) – can burn roots and can change the soil pH which can tie up some essential nutrients. (Note: the "doo" of non-vegetarian animals, such as dogs, is always unsuitable as a fertilizer.)
- Chemical spills – toxic effect
- Garbage – can compact soil and toxic materials can leak out; also implies a lack of respect for the tree.
- Small pit (Limited rooting space) - tree will not be able to develop a strong root system; tree can eventually die, be blown over in a storm, etc.
- Damage from cars – Car doors can damage the bark of the tree and the area right under the bark. The tree's ability to feed itself is compromised and damage to the bark can lead to diseases and insect infestation.
- Damage from lawnmowers and weedwackers – similar to damage from cars.
- Mulch Mountains – heaping mulch up against the trunk will cause rotting and encourage disease.
- Reflected light – can cause droughty symptoms or burn the leaves.

- Bark carving – tree's ability to feed itself is compromised and damage can lead to disease and insect infestation.
- Damage from vandalism – Carving letters into bark open the tree to disease and insects.

Note: There are other tree stresses. Those listed above lend themselves well to charades.

THE WORLD AS AN APPLE

This exercise uses an apple, to illustrate our dependency on the biosphere.
Discuss each step and what each part of the apple represents as you demonstrate this activity.

- Slice an apple, which represents the earth, into quarters.

- Set aside three quarters to represent the oceans.

- Slice the remaining quarter into two pieces and remove of one of the pieces that represents the land that is inhospitable for people to inhabit (deserts, flood plains, steep mountains).

- The remaining 1/8 of the apple represents the land where people live, but not all of which may grow the foods needed for survival.

- Slice the remaining 1/8 of the original apple into four sections and set aside three of the sections. These represent areas with climates too rocky, too steep, or too cold to produce food.

- Carefully peel the remaining 1/32 slice of the earth. This represents the surface, the very thin skin of the earth's crust, or topsoil upon which humanity depends. It is less than five feet deep and is capable of producing a relatively fixed amount of food. Due to erosion and over farming, we lose 24 billion tons of it per year. It takes 100 years for one inch of topsoil to form. Trees planted as stream buffers can prevent erosion of topsoil, and are effective recyclers of soil nutrients.

PINE CONE TREE and PINE CONE FEEDER

A. Pine Cone Tree

Time required: ½ hour

Materials:

- pine cones
- water
- small container
- soil
- seeds for sprouting
- bird decorations (optional)

Instructions:

• Remove stem of each cone so bottom is flat and cone will stand up.

• Soak each cone in water for a few minutes.

• Roll each cone in soil.

• Sprinkle more soil over top of cone.

• Sprinkle seeds evenly over each cone.

• Place in container filled with ½" of water. Put in a sunny spot and make sure the container always has water.

• In a few days the seeds will sprout. Trim with scissors into a tree shape. Decorate with birds, if desired.

B. Pine Cone Feeder

Time required: ½ hour

Materials:

- pine cones
- thin wire
- wax paper
- plastic knives
- peanut butter in dishes or large trays
- aluminum pie pans filled with bird seed
- rubber gloves (optional)

Instructions:

• Make hanger for each cone by twisting a length of wire around the scales at the

top of the cone. If participants may find this difficult, do this step in advance.

• Give each person a piece of wax paper to work on.

• With the knives, spread the peanut butter onto all the scales of each pine cone.

This can get messy, so use gloves if desired.

• Roll each pine cone into the bird seed, completely covering peanut butter with the bird seed.

• Place the finished cones onto trays to store until ready to hang outside for the birds.
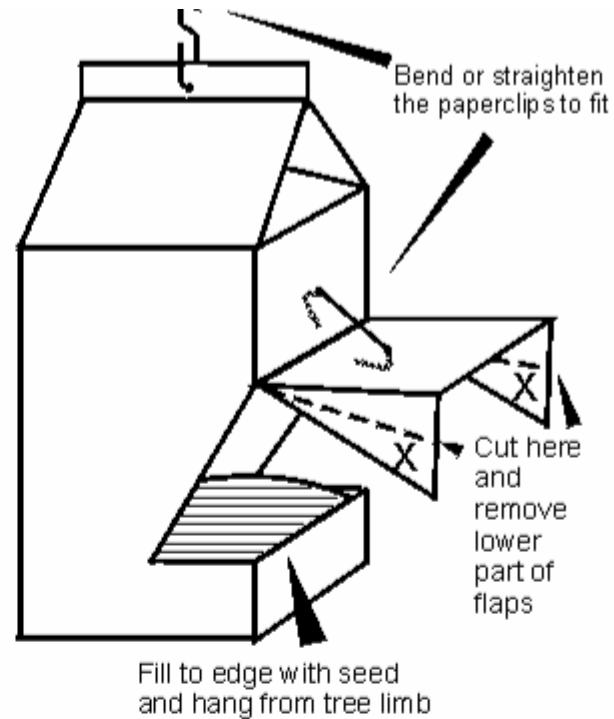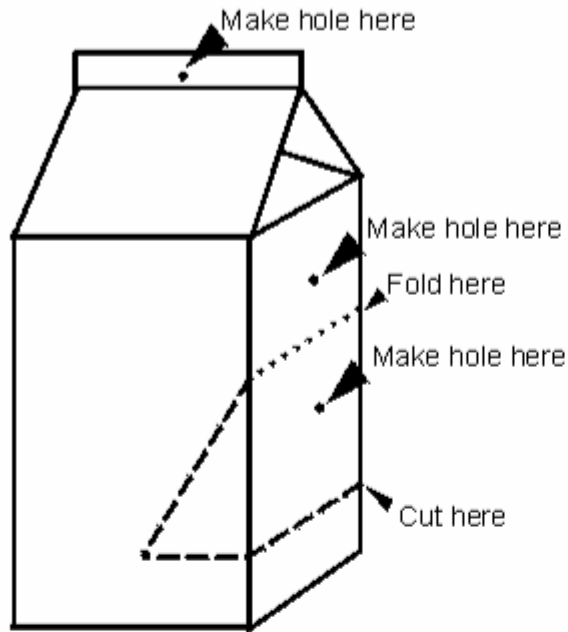
MAKING A RECYCLED BIRD FEEDER

Materials:

a clean 1/2 gallon milk carton
two large paper clips
a cup or two of fresh birdseed

Tools:

sharp scizzors
awl or small punch

Make hole here

Bend or straighten
the paperclips to fit

Make hole here

Fold here

Make hole here

Cut here
and
remove
lower
part of
flaps

Cut here

Fill to edge with seed
and hang from tree limb

From: Sassafrass Grove

Http://www.angelfire.com/mo/sassafrassgrove/index.html

Recycle an empty bleach bottle & make a bird feeder

Watch and listen to the step-by-step instructions at this website.
http://www.youtube.com/watch?v=oUAgGgpoY5k

You can find many other bird feeders made from recycled materials on youtube.com, type in
"recycled bird feeders"

Tips for hanging your bird feeder:

Hang it where you can observe the birds, but not where there is too much human activity. Trees a
shrubs are good spots, so birds can perch when flying to & from the feeder – but find a spot wher
squirrels and cats cannot easily reach the feeder too.

About Bird Seed:

Different kinds of seed attract different kinds of birds. Buying in quantity is cheaper. Don't let the s
spoil or become moldy – keep seeds dry in covered containers.

MAKING RECYCLED PAPER

Materials needed: Newspaper Buckets or bowls Blender or hand mixer

 Pieces of screen or felt Plastic wrap Rolling pin or a wood block

Instructions: (requires several days to complete)

Cut or tear the newspaper into small pieces (no larger than 1" x 1", or 1½" x 2" strips) and place into the bowl or bucket with water (1 part paper to 2 parts water) and let it soak overnight.

The next day, use the hand mixer or blender to "pulp" or break down the wet newspaper fibers.

Starch can be added for rigidity. Flower petals, leaves, cloth, fibers, dye or other materials can be added for color and texture.

Place the wet pulp onto a screen or the piece of felt and place this between a folded piece of plastic wrap.

Press down on plastic wrap and force the water out with a rolling pin or wood block, pushing the water towards the outer edges. Keep pressing until most of the water is removed. Keep wiping away the water to prevent it from being absorbed again. Let dry for a day or two.

Once dry, cut the paper into the proper size for cards or gift tags. Allow participants to decorate and write on their newly made paper.

Use the paper for an art project or use it to write a letter to a neighbor or relative explaining how the paper was made and the importance of recycling.

Note: If fibers are not used, paper may be very brittle. Use caution while decorating.

TREE FROM A SEED

What do acorns, avocado pits and walnuts have in common? They are all tree seeds.

Tree seeds, like all seeds, come in different colors, shapes and sizes. How many different tree seeds can you think of?

Go on a tree seed hunt. Explore the area around several trees to find seeds.

Line the seeds up by size from largest to smallest.

Compare their shapes and colors.

What kind of trees will grow from each seed?

Examine each seed and notice its different parts.

• The SEED COAT covers the outside of the seed.

• Inside the seed coat is the EMBRYO.

• The two largest parts of the embryo are the COTYLEDONS (kot-i-lee-dons).

• The young trunk and root of the tree will grow between the cotyledons.

When a seed grows, we say it germinates. Find out how long it takes a fruit tree seed to germinate:

• Dry a seed from a fresh lemon, orange, avocado, or other fruit.

• Soak the seed in a glass of water for a day or two.

• Plant it in soil in a cup or pot with holes in the bottom for drainage. (keep a saucer under the planter to catch water)

• Keep the soil moist.

• Before long – with sun, water and care – the seed will germinate and start to grow.

A special thanks for this activity to:

TreePeople School Education Program, 12601 Mulholland Drive, Beverly Hills, CA 90210

GROW-A-TREE RELAY

Materials needed:

16 empty plastic bottles

Representations of (or the actual items) to fill two bottles with each:

- Soil
- Water
- Air (empty or label as O2, oxygen)
- Sunlight (a cut-out of a sun)
- Seeds
- Room to Grow (a measuring tape or view of landscape)
- Mulch
- Trash (any kind of trash that fits in the plastic bottle)

 Activity:

Two sets of the bottles are filled with each of the above items. They are set at the end of a running path. The group is divided into two teams, lined up at the starting line. Each child takes a turn (1 at a time) running down (relay style) to the pile of plastic bottles to grab one thing they need to grow a tree and bring it back to the starting line.   If anyone brings back something that you don't want around your tree,

trash for instance, or if they collect two of the same thing, they must return it to the pile of bottles. The first group to get all 7 things a tree needs (without any trash)…GROWS A TREE and WINS!   Results: This activity will teach students the elements needed for a tree to grow, while they engage in physical activity and learn about teamwork and cooperation!

Race down to the pile of plastic water bottles, grab 1 bottle at a time and bring it back to begin building your tree.

Once you have returned to the starting line, the next runner on your team can run down and grab another plastic water bottle.

Keep running and collecting bottles until you have successfully built a tree by collecting ONE bottle with each of these elements: Soil Water Air Sunlight Seeds Place to Grow Mulch   (Watch out for trash! Collecting trash will keep your tree from growing & must be returned to the pile, along with extra bottles you don't need.)

The first team to collect the 7 elements & Grow-A-Tree wins!