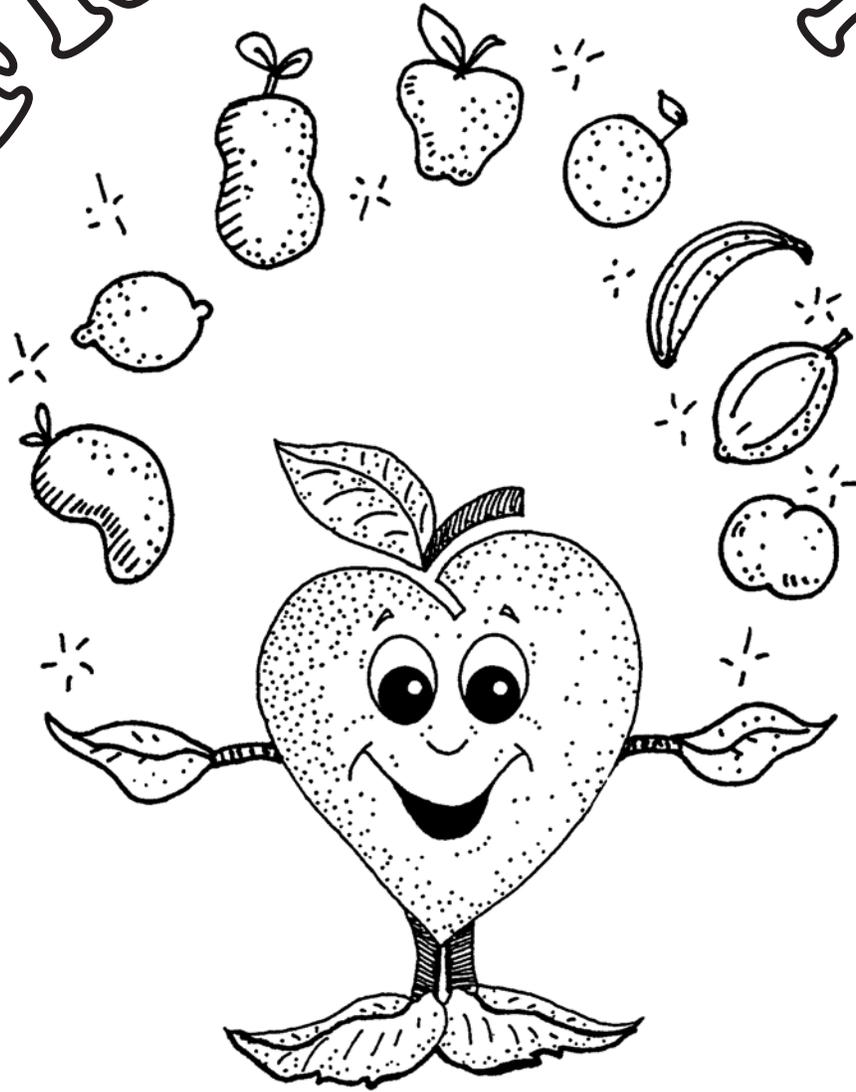


FRUIT FUN!

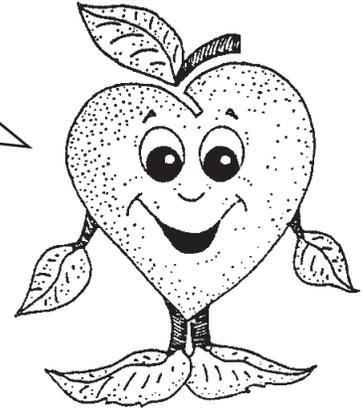


TEACHER'S HANDBOOK



"Fruit Fun" is an adventure in learning about fruit trees. It is a versatile program that can easily be adapted to your own style and curriculum. This booklet is supplied with a variety of activities to guide you and your students through the adventure.

Together, you will discover how fruit trees help us and our planet. Your students will then share what they have learned with others, and make a positive impact on their world in the process!



The 1st step

Share the vision of Trees for Life with your students. The two pages following this Introduction can be copied to help explain how our tree-planting projects work. The illustrations give each child an understanding of how each child can fit into the Trees for Life family.

The fruit tree adventure begins:

Eight different fruit trees are represented in this booklet: apple, banana, jackfruit, lemon, mango, orange, papaya, and peach. These are but a fraction of the great variety of trees planted in Trees for Life projects around the world.

There are four pages of information and activities for each tree.

The **1st** page presents a list of facts and interesting anecdotes that are specific to each fruit tree, and a cultural history of each to aid you in focusing on multicultural issues.

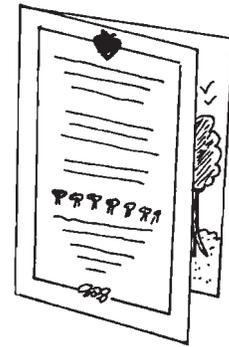
The **2nd** page discusses nutrition facts and gives instructions for hands-on activities, giving a broader understanding of the fruits in relation to ourselves.

The **3rd** page of each section is a coloring and activity sheet for you to copy and hand out to your students.

The **4th** page is a card activity that you may also copy as needed. The following page discusses this activity in detail.

The card activity

A card activity concludes each lesson. It gives your students an opportunity to remember what they have learned, practice letter writing skills, use their creativity and share the vision of Trees for Life with others.

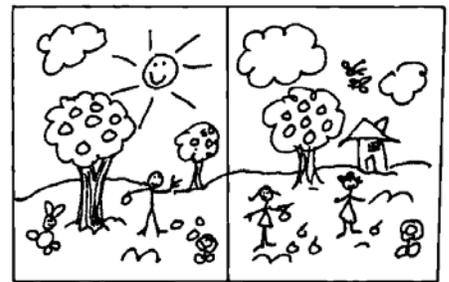


We suggest that the cards be copied on a thicker paper or card stock. When folded, they are self-mailers that require only a first class postage stamp.

The inside (the blank side) of the card can be filled with the student's creative writing or artwork.

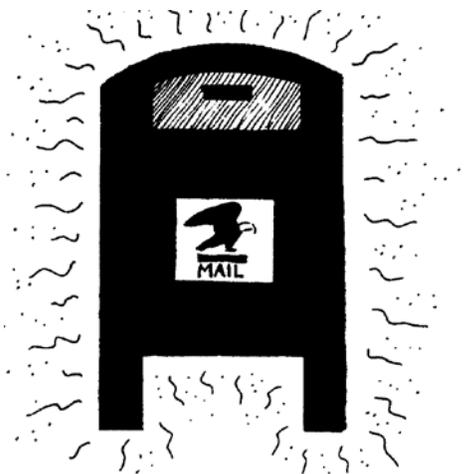
The front of each card introduces the tree studied in the corresponding lesson.

The back of the card briefly introduces Trees for Life, and gives the recipient the opportunity to support the child's efforts.



Encourage your students to be creative in addressing their cards to family, friends, dentists, pen-pals ... anything goes!

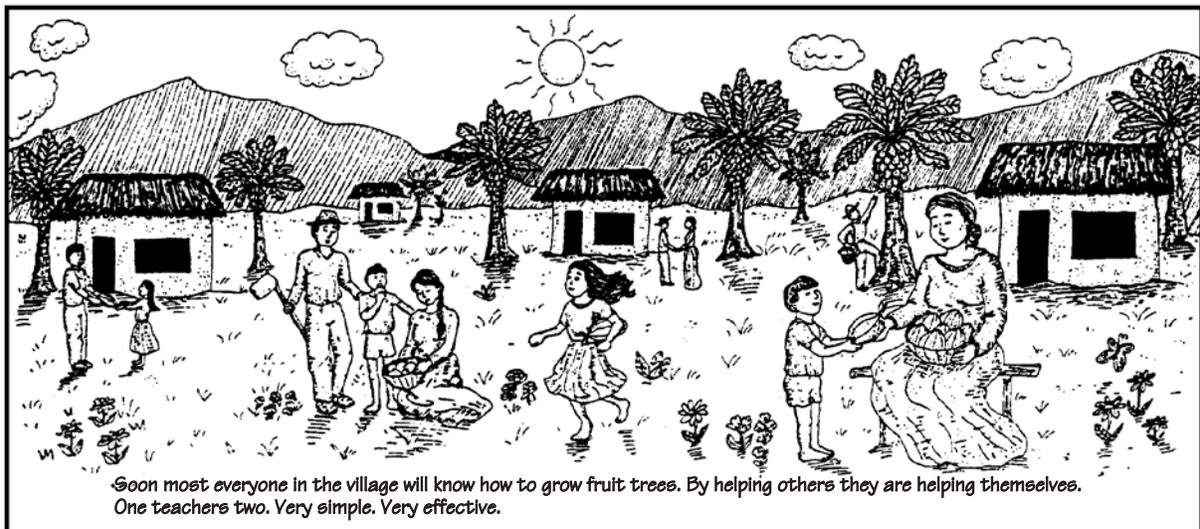
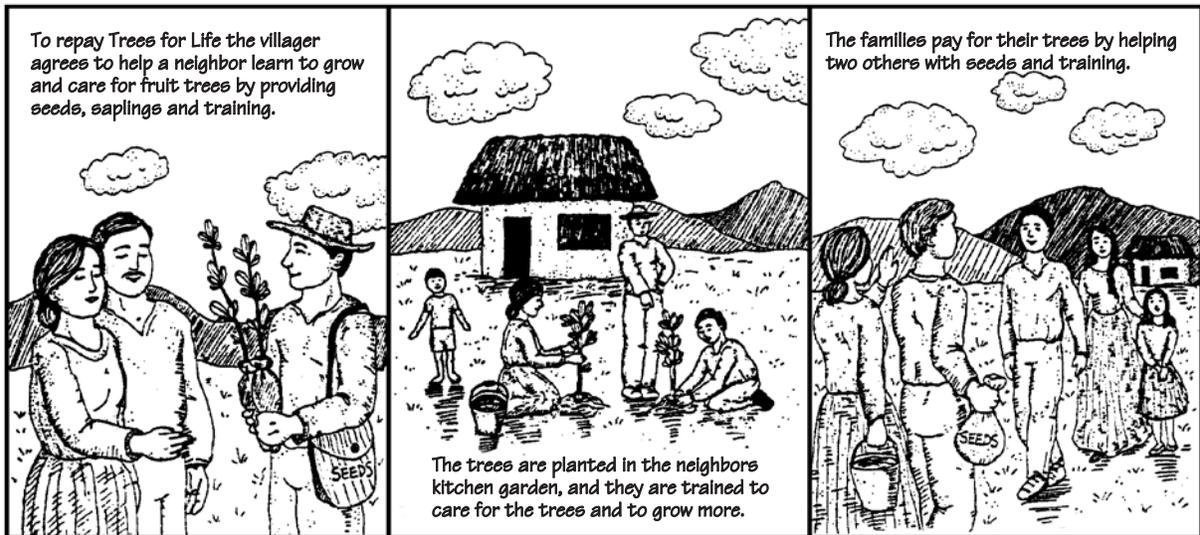
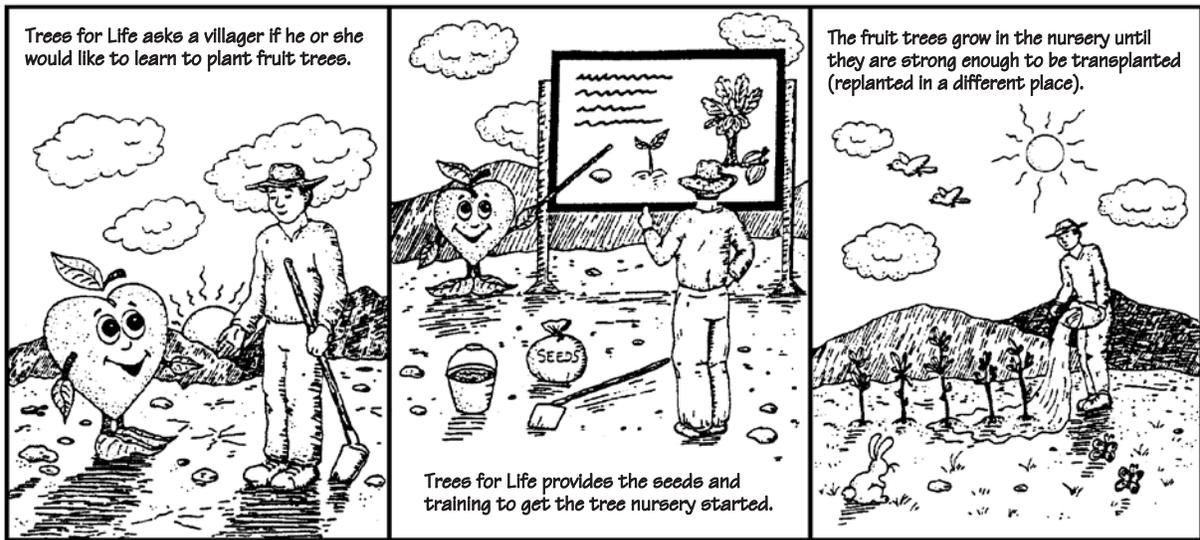
This activity allows students to share what they've learned with others. By doing so, they will make a real impact on their world and become important members of the Trees for Life family.

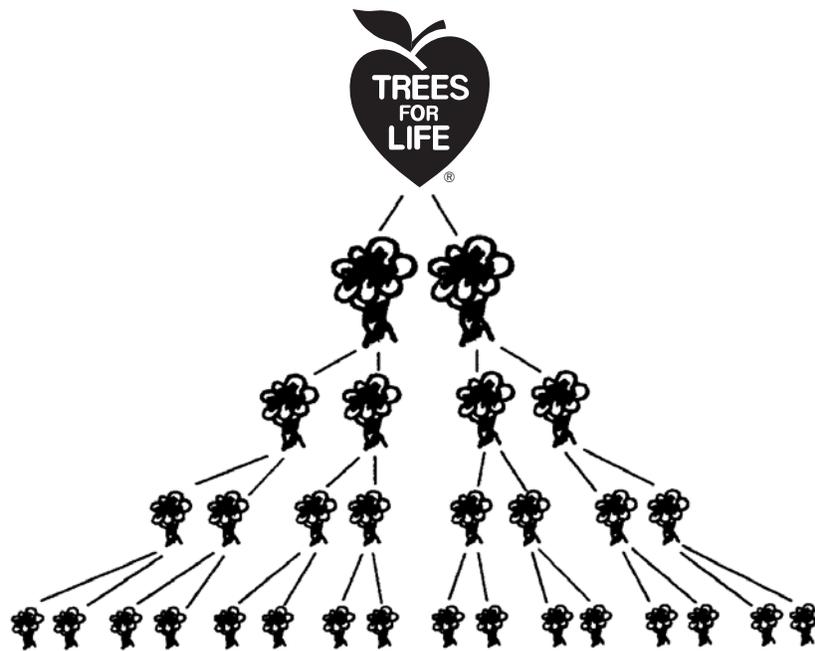


We hope that you and your class find this program both fun and rewarding! Questions, comments, stories, or pictures can be sent to:

Trees for Life, 3006 St. Louis, Wichita, KS 67203, www.treesforlife.org
Phone: (316) 945-6929 Fax: (316) 945-0909

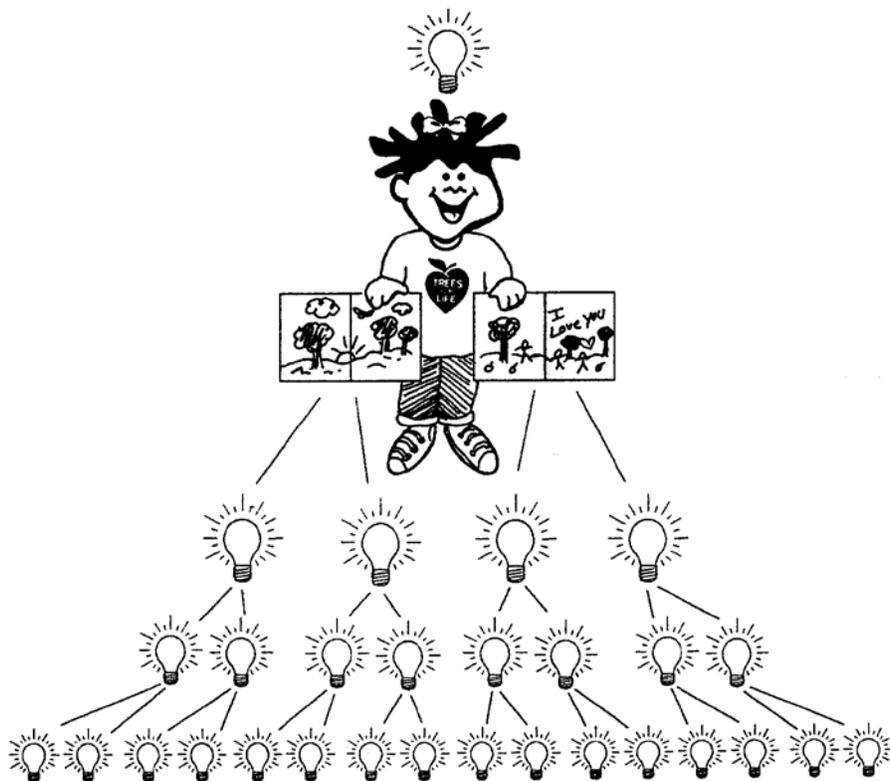
How it Works!





One teaches Two...

this is how Trees for Life has planted millions of fruit trees all over the world!



You can use the same formula to spread the idea of Trees for Life all over the world!

APPLE

"the portable meal"



Fruit Culture

Apples grow naturally in temperate climates all over the world. They were eaten by the earliest Europeans, and they spread throughout North America by Indians, trappers, and traveling settlers. Professional nurserymen like the midwesterner John Chapman (otherwise known as "Johnny Appleseed") were especially helpful in planting apple trees in large areas of the country.

Fascinating Fruit Facts:

- Beautiful *Arcade*, *Jonathan*, *Duchess*, *Granny Smith* and *Rome Beauty* are a few names for apples.
- Relatively speaking ... the apple tree is the first cousin of the pear tree, and also a member of the rose family!
- Up to 85% of an apple is water, so it is a portable food and drink all in one! It's ready to go, and even in its own packaging.
- Apple trees can produce fruit for up to 40 or 50 years. There are at least 7,500 known varieties worldwide and 2,500 of these are in the U.S.
- We aren't the only ones who eat apples. They get eaten by birds, deer and other animals who scatter the seeds, which then develop into new trees.

Fruition: Sugar

There are many kinds of sugars found throughout nature. They are divided into two groups: simple sugars and double sugars, according to their chemical makeup. The sugars found in the fruits we eat are simple sugars. The scientific names for these are "glucose" and "fructose".

Glucose, sometimes called dextrose, is the more important of the two sugars because it provides a steady source of energy for our body tissues. Fructose is the sweetest of the two natural sugars.

Class Activity

With an apple core, a lettuce leaf, a piece of plastic, and a styrofoam cup, let your class discover the meaning of "biodegradable".

Find a good spot outside to bury these items, and mark the holes (or, as an alternate, put them in aerated containers with soil in your classroom).

Have them discuss what they think will happen.

Then, in a month, go back and dig them up to see.

The apple and lettuce will have turned into soil, but the plastic and Styrofoam will probably still be there for hundreds of years.

Which is better for the earth?

Wordfind

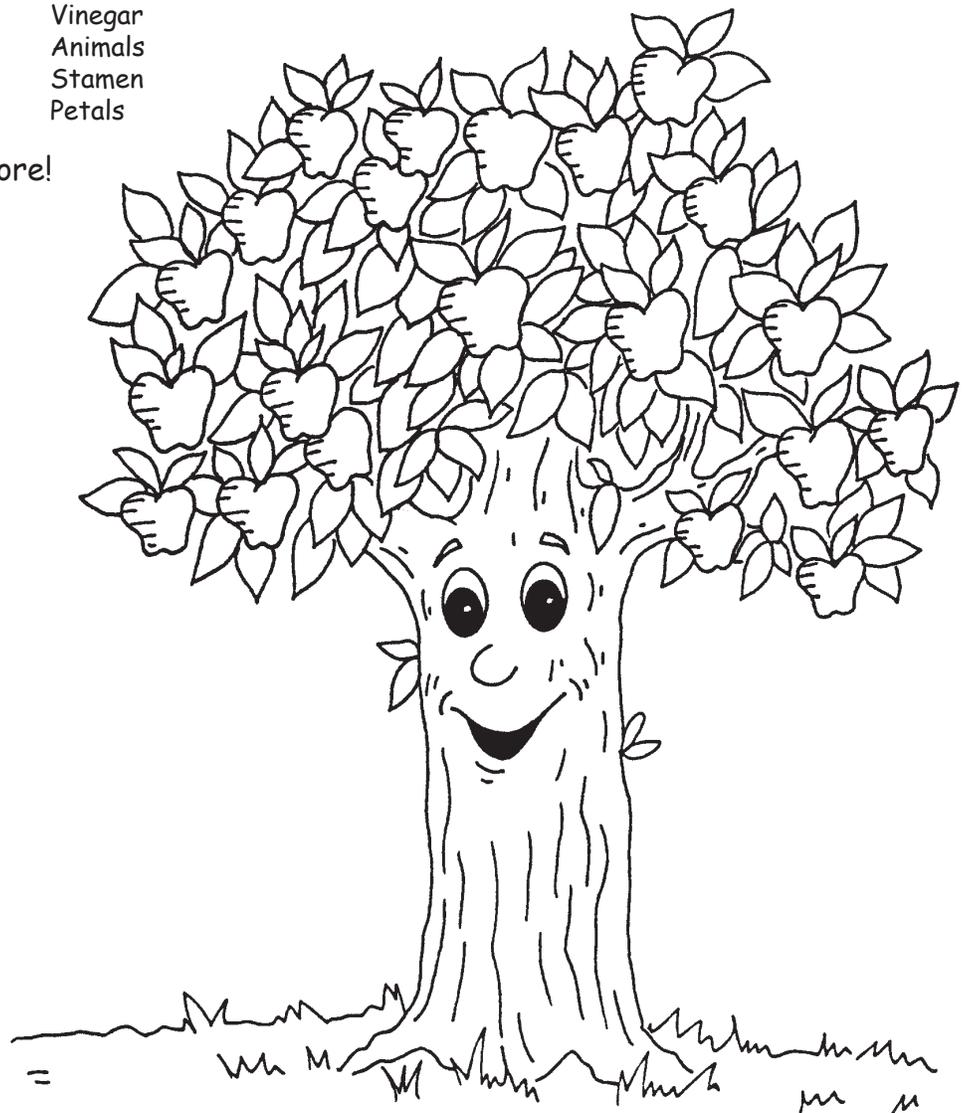
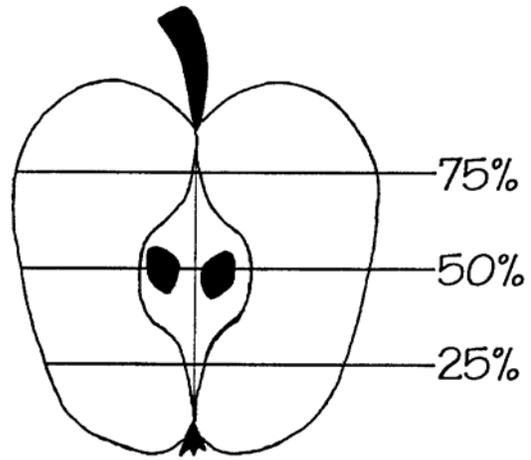
A V K N I P E T A L S Y E
 N N V I N E G A R H V L T
 I W T T Q U C L I M B L A
 M A S E E R T S Q A I E R
 A G L Z E M H T D W R J D
 L Y S W B Z C A F H D E Y
 S R O S E R R M B I S W H
 J L E O A G A E X T N R O
 F I D G E F T N P E U A B
 P T U D Y R S E E D S E R
 L S O E C U A S E L P P A
 C I D E R I P R E T N E C
 B P I R E T T A C S N W X

- | | | |
|--------------|---------------|---------|
| Pick | Biodegradable | Pistil |
| Flower | Seeds | Vinegar |
| Carbohydrate | Applesauce | Animals |
| Fruit | Jelly | Stamen |
| Cider | Scatter | Petals |

See if you can find ten more!

Graphing

With a blue crayon color in the percentage of water in an apple.





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The trees would feed their families for a lifetime. People helped each other. They received hope, not handouts.

The program grew rapidly in India and spread to Guatemala, Cambodia, Nepal, Costa Rica, Haiti, Indonesia, Brazil, Mexico, Ethiopia, Nicaragua and El Salvador. As a result, tens of millions of fruit trees have been planted.

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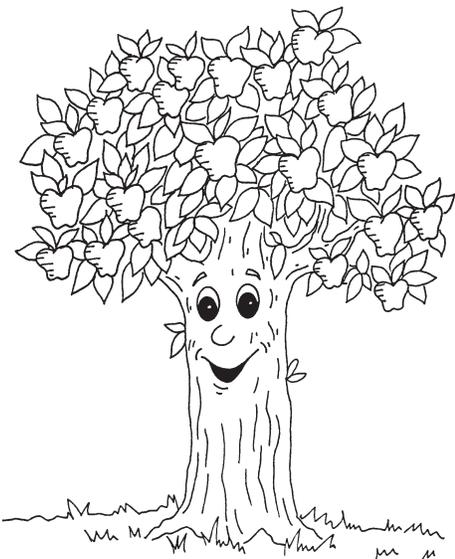
Please send contributions to:

Trees for Life, 3006 W St Louis, Wichita, KS 67203
www.treesforlife.org



From:

To:



An apple tree produces nearly 10,000 pounds of fruit during its 40 to 50 year lifespan. There are close to 7,500 varieties world-wide. Much of an apple's nutrition is found just below its skin, so taking this layer off really makes it much less appealing.

BANANA

"the botanical berry"



Fruit Culture

Nobody is quite sure exactly where they originated, but bananas are most likely from Arabia. They are now grown (and eaten!) in large quantities throughout the tropics - especially in Africa, where about half of the world's bananas come from. Many bananas also come from South America, where there is even a special word for the farm worker who cares for them - bananero. The leaves of the banana tree are so big that, legend says, they were human beings' first garments.

Fascinating Fruit Facts:

- Botanists (scientists who study plants) actually call bananas "berries". Their definition of a berry is a fruit with pulpy flesh surrounding several seeds. Other botanical "berries" are watermelon, tomatoes, grapefruit, green peppers, and oranges.
- The bananas we eat don't grow from seeds. They come from baby banana plants growing from the roots of an adult tree. These baby plants or shoots are called "suckers".
- Banana trees can live as long as 60 years and produce 96 to 192 fruits every year. The height of a banana tree varies, ranging from three to 30 feet (one to nine meters).
- Banana "trees" are actually gigantic herbs! The "trunk" part of a banana plant is not woody, so it is not a true stem, as trunks are. The real stem is underground, and the above-ground part is called a pseudostem ("pseudo" is a Greek word that means "false"). It is made of overlapping leaf sheaths that are wrapped tightly together.

Fruition: Trace metals and minerals

Very small amounts (called "trace" amounts) of metals and minerals are good for our bodies. It is important that we ingest a variety of these to insure a healthy body. Fruits such as bananas and apples provide minerals and metals that are necessary for bone growth and development, strong body tissue, good eyesight, and strong muscles.

Class Activity

Drying fruits actually increases their sugar content!

You can dry banana slices in a warm/sunlit place by placing them on cloth-covered racks.

Cover the slices with another cloth (to keep away fruitflies and other pests), and check them every day.

When they are ready to be eaten, they will be smaller and discolored, but chewy and sweet.

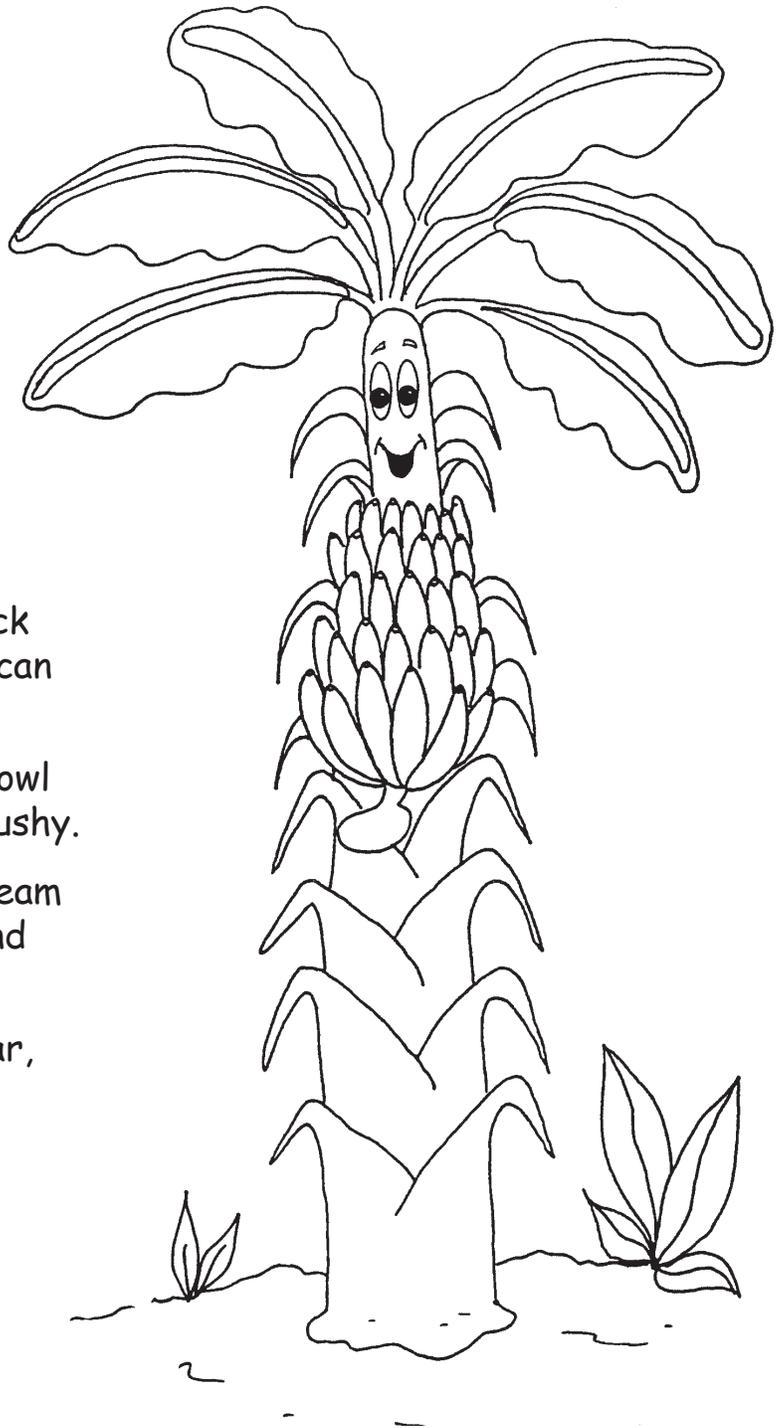
Multiplication

On the top line, write the number of fruits a banana tree can produce each year. Below that write the number of years a banana tree can live. Multiply the two numbers together to find how much fruit a banana tree can make in its lifetime.

_____ fruits

X _____ years

_____ total



Recipe

Here is a simple recipe for a thick & yummy banana shake that you can make at home!

1. Mash a very ripe banana in a bowl with a fork until it is soft and mushy.
2. Measure out one cup of ice cream into the banana mush, stirring and mashing until it is soupy.
3. Put this mixture into a 16oz jar, adding a 1/2 cup of milk. Put the jar lid on tightly, shake until it's all mixed up.

Enjoy!



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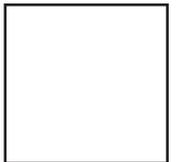


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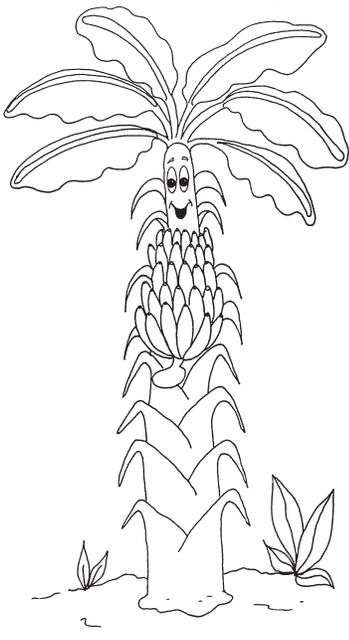
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From:

To:



Banana trees can live as long as 60 years and produce
 96 to 192 fruits every year. The height of a banana
 tree ranges from three to 30 feet.

JACK FRUIT

"big as a barrel"



Fruit Culture

Jackfruit trees are native to the mountainous areas of India and Indonesia. To be happy and healthy, the trees must have very hot and humid conditions all year round, which these areas provide.

Jackfruit is a staple food for the poorer people in tropical Asia, and is prepared in many ways - boiled, fried, or eaten raw. Even the seeds can be roasted and eaten!

Fascinating Fruit Facts:

- The fruits are large, oblong, and oval shaped, somewhat like a barrel.
- Just one jackfruit weighs about 40 pounds (18 kilograms) — and some can weigh up to 70 pounds (31 kilograms)!
- The skin of a jackfruit is rough with hard, pointed studs all over the surface and is brownish-yellow in color.
- A jackfruit's flesh (the part that you eat) is soft and juicy and has large white seeds.
- The jackfruit has been discovered to have some medicinal purposes (as a blood-clotting agent) and has even been used in cloning research!

Fruition: Vitamin A (or “Retinol”)

The A vitamin, also called retinol, is a vitamin that is important to the retinas of our eyes. It helps us see in dim light. Not getting enough vitamin A could lead to retina problems like night blindness, or even blindness. Jackfruit is rich in Vitamin A, and baby jack trees are sometimes given away by eye doctors in India to prevent blindness in their patients.

Vitamin A is equally important for healthy skin, clear breathing, and fighting off infections. It also helps our bodies in the healing of wounds. It is stored in the fat of our bodies, and in the healing of wounds. It is stored in the fat of our bodies, while other vitamins we eat dissolve in water right away.

Class Activity

Let your class expand their knowledge of weights, using themselves as an example.

A jackfruit can weigh up to 70 pounds. How does each student compare in relation to a jackfruit?

Using a scale, let the students demonstrate this in relation to other common things, such as different fruits, stacks of books, or other objects found in your classroom or school.

Hidden Answer

Fill in the missing words in these sentences, then use the numbers as clues to find the hidden answer.

1. A jackfruit can weigh up to 70 $\frac{\quad}{13}$ $\frac{\quad}{18}$ $\frac{\quad}{5}$ $\frac{\quad}{8}$ $\frac{\quad}{19}$ $\frac{\quad}{14}$!

2. The fruit of the Jack tree is rich in $\frac{\quad}{12}$ $\frac{\quad}{27}$ $\frac{\quad}{17}$ $\frac{\quad}{2}$ $\frac{\quad}{21}$ $\frac{\quad}{6}$ $\frac{\quad}{25}$ $\frac{\quad}{9}$.

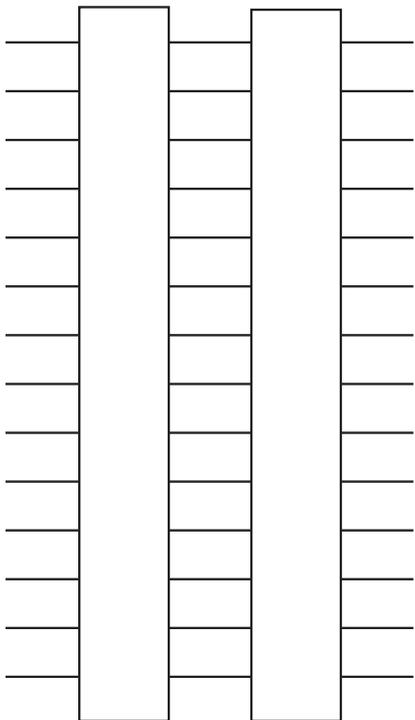
3. Vitamin A helps our $\frac{\quad}{26}$ $\frac{\quad}{1}$ $\frac{\quad}{15}$ $\frac{\quad}{4}$ $\frac{\quad}{23}$ $\frac{\quad}{16}$ heal wounds.

4. Vegetable $\frac{\quad}{7}$ $\frac{\quad}{10}$ $\frac{\quad}{3}$ $\frac{\quad}{20}$ $\frac{\quad}{24}$ $\frac{\quad}{11}$ $\frac{\quad}{28}$ $\frac{\quad}{22}$ make good compost.

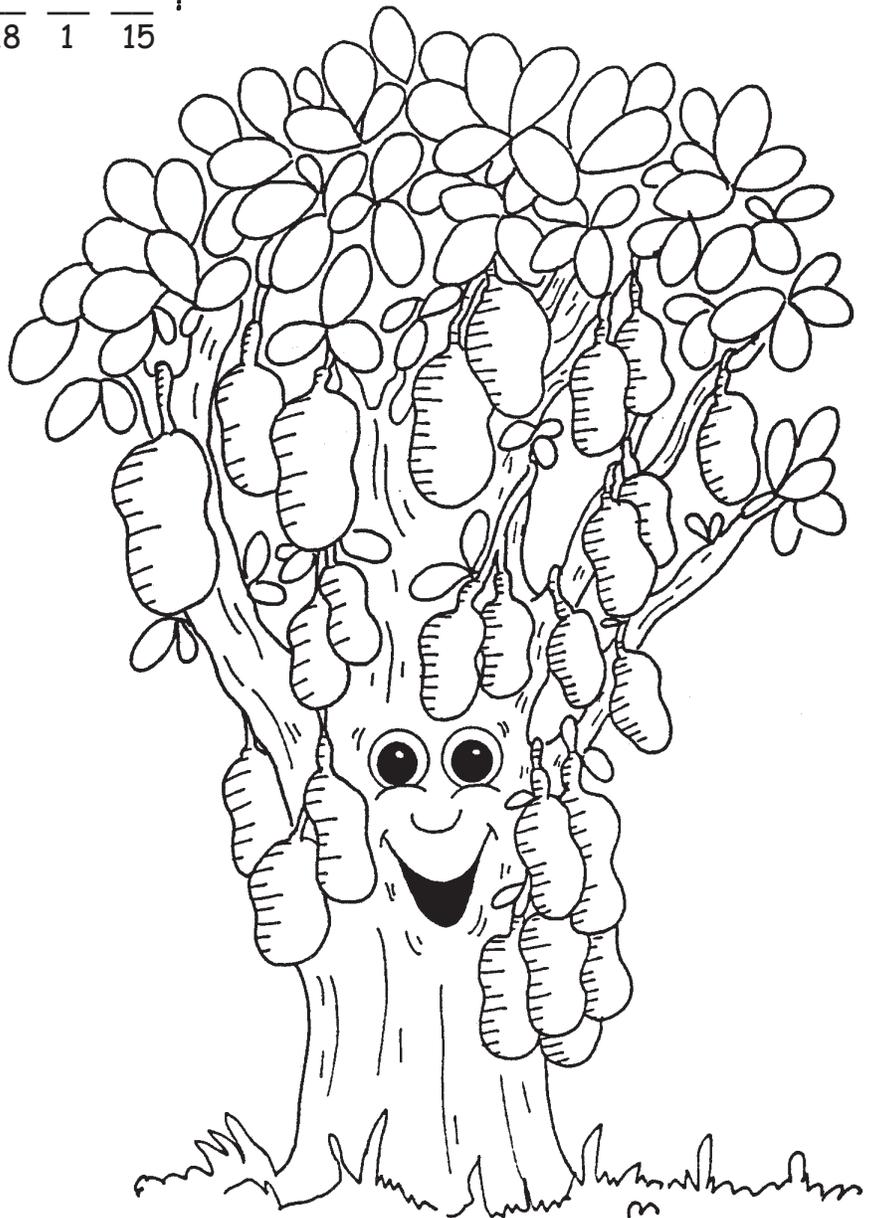
What is a Jackfruit to some of the people of tropical Asia?

$\frac{\quad}{9}$ $\frac{\quad}{14}$ $\frac{\quad}{17}$ $\frac{\quad}{2}$ $\frac{\quad}{7}$ $\frac{\quad}{20}$ $\frac{\quad}{3}$ $\frac{\quad}{29}$ $\frac{\quad}{18}$ $\frac{\quad}{1}$ $\frac{\quad}{15}$!

Graphing



Color in the bar how much you weigh. Then color in how much a Jackfruit weighs. Compare the difference.





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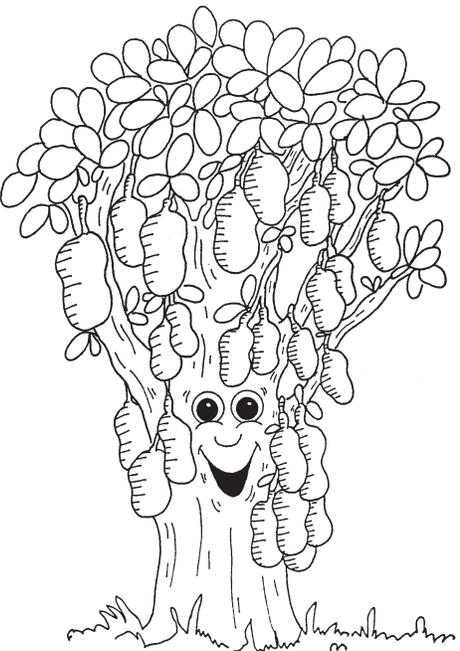
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www.treesforlife.org



From:

To:



The jackfruit tree is huge. It can grow to a height of
 65 feet. Each fruit weighs about 40 pounds - and some
 weigh up to 70 pounds!

LEMON

"the primitive toothpaste!"



Fruit Culture

The lemon is most likely from the area of East India, Burma, Japan, and South China. They also grow well in Brazil, Argentina and parts of the U.S. mainly the states of Florida, Texas and California. People used to brush their teeth with lemon juice instead of toothpaste.

Fascinating Fruit Facts:

- Oddities such as the Ponderosa weigh as much as 2 1/2 pounds (one kilogram)! And the "Turk's head" lemon is said to be the size of a man's head.
- A lemon tree could probably fit in your classroom. They only grow to be eight to 12 feet (two-and-a-half to three-and-a-half meters) high, but, then again, they are covered with thorns!
- The flowers of a lemon tree are magenta or red.
- In some areas, the flowers and fruit grow all year round, but in others they grow for only a few months.
- Lemons are made of 30 to 45% water. Compare this to 45 to 75% water in humans!

Fruition: Salt

While fruits may not taste salty, salt can be found in most of them! Actually, salt is present in a lot more foods than we may think. It is found in most of the fresh foods we eat, and even in our water.

Salt is used in all parts of our bodies. It is in our blood, our sweat, and our tears - you can even taste the salt in your tears when you cry. The salt that we eat in our foods is also called "sodium". Since most of the foods we eat naturally contain sodium, we do not need to add salt to them at the table.

Class Activity

1. Your students can be fruit sleuths with their own invisible ink!

With a toothpick, write a message with lemon juice on a piece of paper.

After the "ink" dries, the message can only be read by holding the paper over a bright light bulb.

2. Lemon juice contains citric acid, which gives it its sour taste.

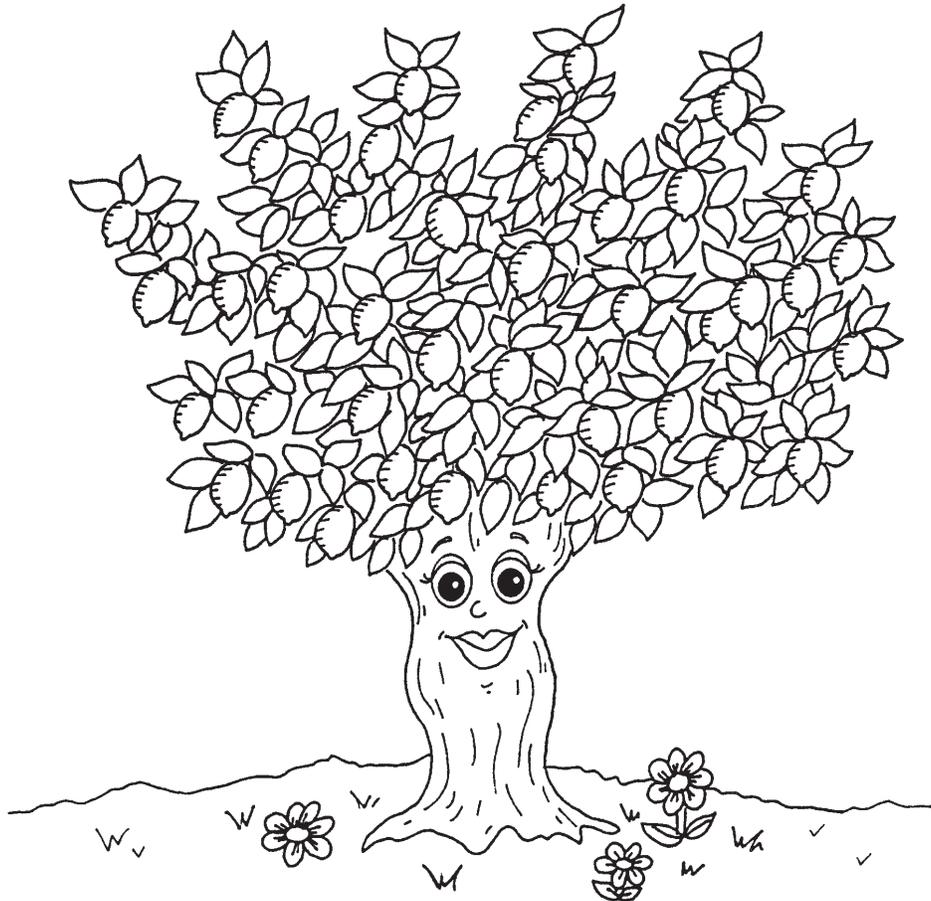
With litmus papers, let your students test the acidity of lemon juice and other common substances, such as tapwater, rainwater, soft drinks and milk.

Acids will redden litmus paper, while bases will turn red litmus blue.

Geography



Find where you live in the United States and mark it with a dot. Find the states where lemons are grown and color them yellow. Draw a line from those states to your home to see how far lemons need to travel to get to you.





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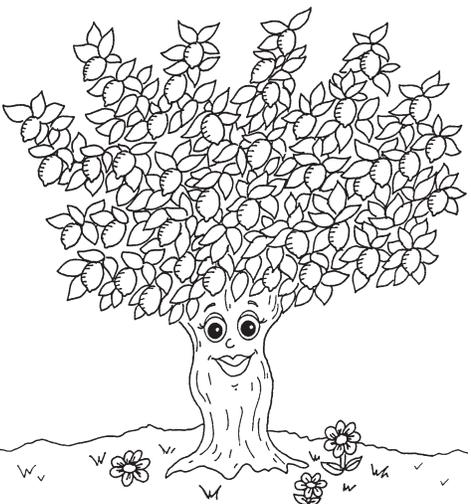
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From:

To:



The lemon tree is native to areas of East India, Burma, Japan, and southern China. Today the countries around the Mediterranean sea provide the best growing conditions for lemons.

MANGO

"the Peach of the Tropics"



Fruit Culture

Tropical Asia is where most mangoes are found, being of east Asian origin. They are native to areas of north India, Burma, and West Malaysia, where they have been cultivated for over 4,000 years. They now also grow successfully in Caribbean countries, as well as in Hawaii, California, and Florida, where they have grown since 1833. In India, the leaves of the plant are sometimes rubbed on the teeth to treat dental ailments.

Fascinating Fruit Facts:

- Mango trees grow as tall as 90 feet (27 meters) or more!
- Mango trees are green all year round and grow best in warm, rainy, tropical regions.
- The leaves of a mango tree spread out very wide. Sometimes they span 125 feet.
- Mangoes are used for many different recipes. They can be put in desserts, marmalades, pickles, preserves and chutney, a spicy relish made of fruits, spices, and herbs.
- Mangoes are found in lots of shapes, oval, spherical (like a ball), heart-shaped and kidney shaped.

Fruition: Starch

Starch is a white, odorless, tasteless substance that is found mainly in grains and cereals, but is also found in fruit. It is the most widely eaten carbohydrate.

Carbohydrates provide our bodies with energy. When inside the body, they are broken down into simple sugars. This does not mean that we should only eat simple sugars to give us energy. They would be used up too quickly! Starches stay in the body longer, giving us a longer lasting source of energy.

Class Activity

Living in the tropics, mango trees drink a lot of water.

See just how important water is to all plants in a simple experiment with bean seeds.

Place four bean seeds in each of four paper cups.

Give the first cup no water, the second one spoonful, the third 50 ml, and the fourth 100 mls.

Check them every day and compare the seeds.

Shapes

Draw and name four mango shapes.

Word Unscramble

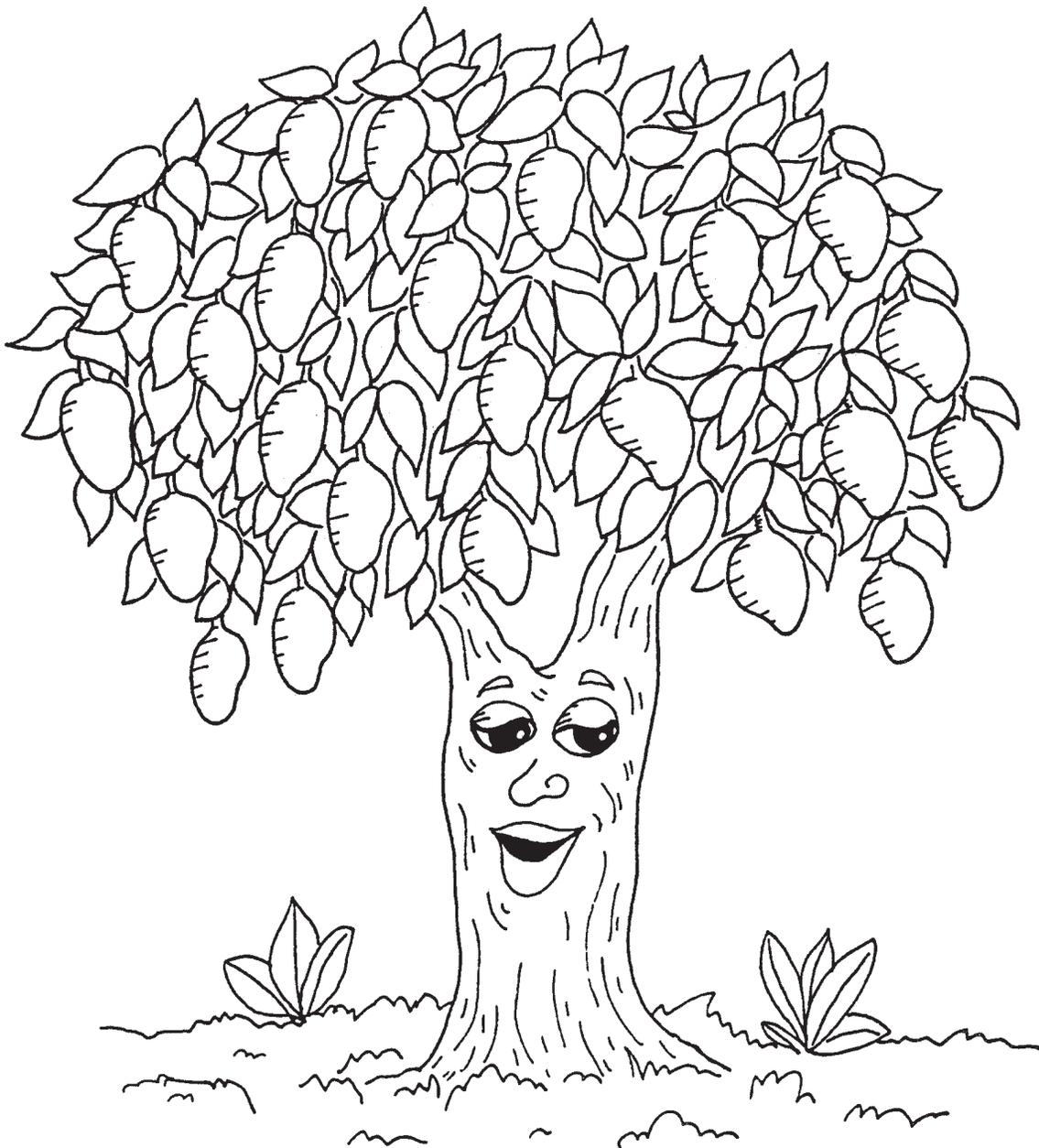
Countries where mangos grow?

WAIHA _____

DOLAIRF _____

RENABIANC _____

SWET YAILASAM _____





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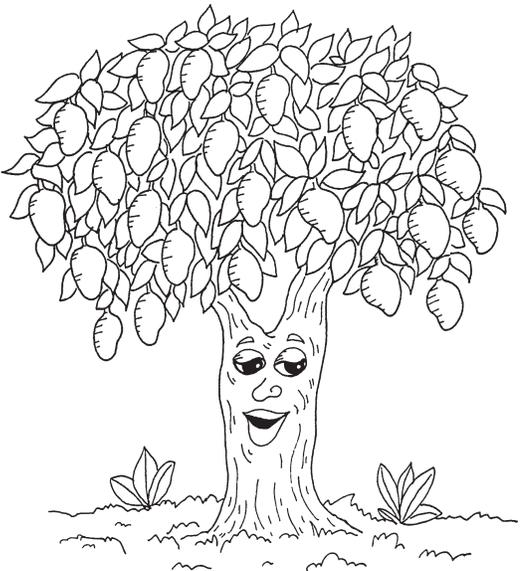
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From:

To:



Most mango trees are found in Tropical Asia. They are native to northern India, Burma, and west Malaysia, where they have been cultivated for over 4,000 years.

PAPAYA

"the melon tree!"



Fruit Culture

The papaya tree is native to the tropical regions of the Western Hemisphere, and is most commonly found in the tropical lowlands of central America. It is also planted to some extent in the southernmost, humid regions of the United States, such as the southern tip of Florida.

Fascinating Fruit Facts:

- Like the banana plant, the papaya is not a real "tree" according to botanists. But it is like a tree, having soft wood and palm-like, evergreen leaves.
- The papaya fruit contains an enzyme (called "papain") that is used as a meat tenderizer.
- The fruit is round and ranges in weight from just four ounces (113 grams) to 20 pounds (9 kilograms) or more.
- A papaya is greenish yellow on the outside. On the inside, it ranges from yellow to orange, pink, or red, with black seeds.
- The papaya is sometimes called the "papaw" or "pawpaw".

Fruition: Protein

Although most protein is found in nuts, beans, and meats, some can be found in fruits. Protein is what makes up most of our body parts; our muscles, tendons (which connect the muscles to the bones), cartilage (which act as cushions for the bones), brains, livers, skin, hair and nails.

Proteins are important to the many chemical reactions that take place within our bodies every day. If we do not get enough protein from the foods that we eat, our bodies take it from our cells - first from the fat cells and later from the muscle cells. This can lead to infections and sickness.

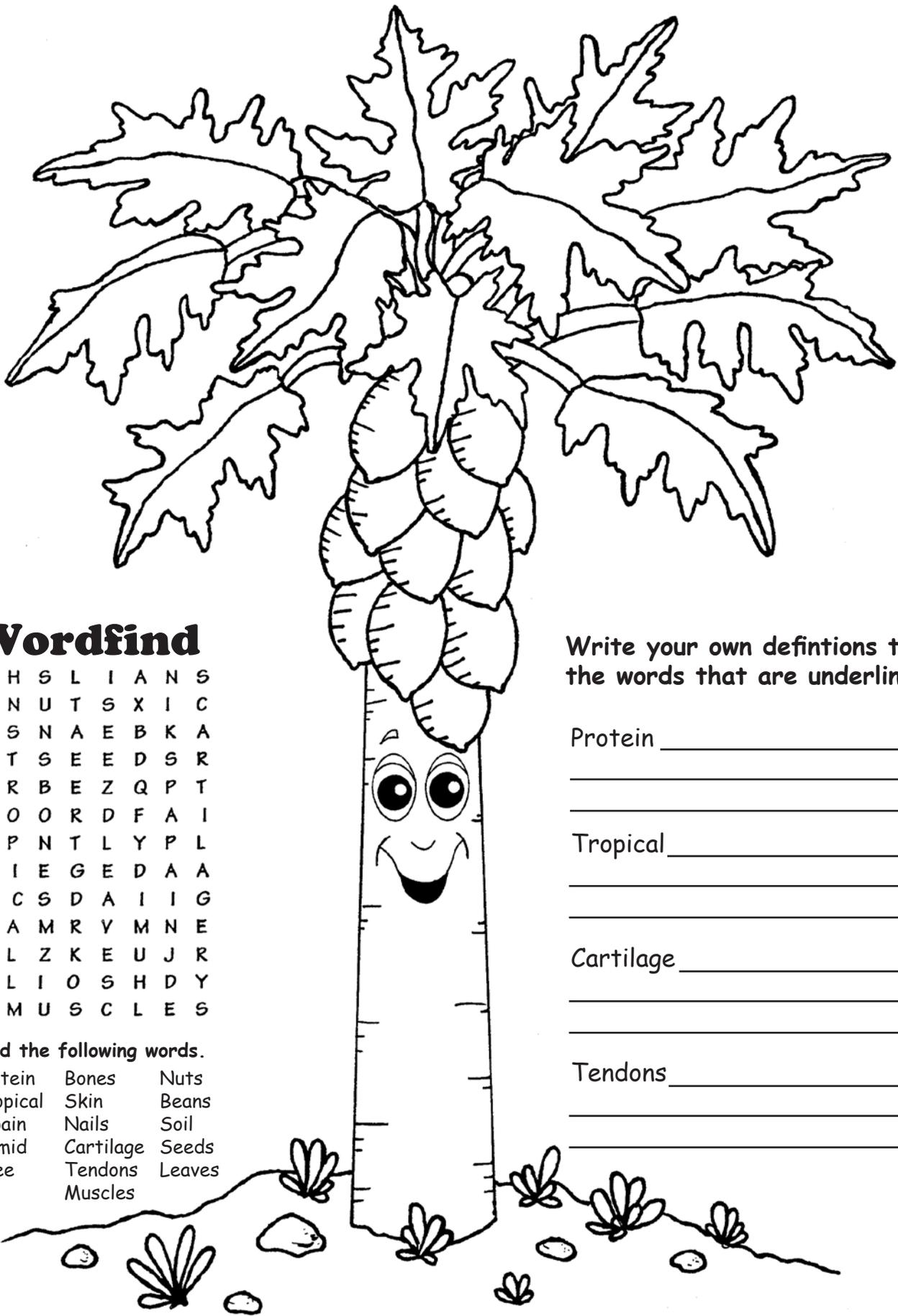
Class Activity

Papaya trees produce fruit after only six months and can be grown indoors. Your class can try to grow one with the seeds of a fresh papaya fruit from a grocery store or oriental food market.

We suggest planting four to 12 seeds in moist potting soil in a milk carton with a few holes for draining.

The seeds must first be rinsed in cold water to remove the gelatinous outer covering (preferably in a wire strainer) and dried in the shade.

Papaya seedlings grow rapidly, but some may die after they get to be about six inches tall. Re-pot each of the survivors in their own pots, and keep them in a humid environment to stay healthy.



Wordfind

P H S L I A N S
 Q N U T S X I C
 I S N A E B K A
 P T S E E D S R
 J R B E Z Q P T
 L O O R D F A I
 S P N T L Y P L
 N I E G E D A A
 O C S D A I I G
 D A M R V M N E
 N L Z K E U J R
 E L I O S H D Y
 T M U S C L E S

Find the following words.

Protein	Bones	Nuts
Tropical	Skin	Beans
Papain	Nails	Soil
Humid	Cartilage	Seeds
Tree	Tendons	Leaves
	Muscles	

Write your own definitions to the words that are underlined.

Protein _____

Tropical _____

Cartilage _____

Tendons _____



Our class is learning about fruit trees. They give people food and they're good for the earth. We want to help, so we made these cards to tell you the story of Trees for Life . . .

. . . Millions of trees ago, one person had an idea—an idea that would help lots of hungry people help themselves.

This person started to teach people how to plant and care for fruit trees. Each person promised to teach two others so the work would multiply and help more and more people.

The trees would feed their families for a lifetime. People helped each other. They received hope, not handouts.

The program grew rapidly in India and spread to Guatemala, Cambodia, Nepal, Costa Rica, Haiti, Indonesia, Brazil, Mexico, Ethiopia, Nicaragua and El Salvador. As a result, tens of millions of fruit trees have been planted.

The story of Trees for Life continues . . . and each one of us can write our own chapter!



Could you please join us as a partner in planting fruit trees

- \$ 25 will plant 25 fruit trees
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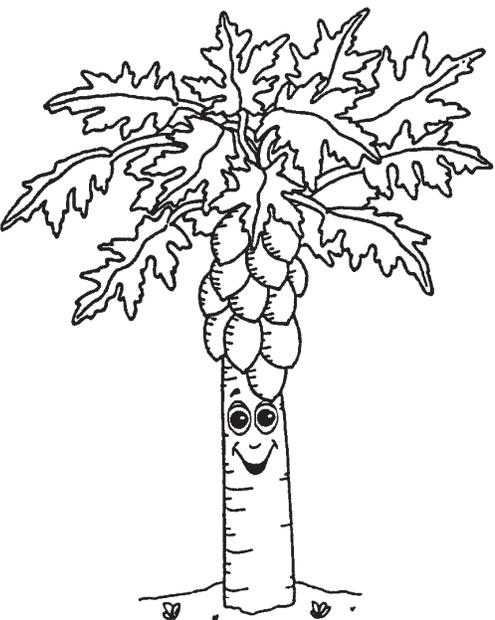
Please send contributions to:

Trees for Life, 3006 W St Louis, Wichita, KS 67203
www.treesforlife.org



From:

To:



The papaya tree is native to the tropical regions of the Western Hemisphere, and is most commonly found in the lowlands of central America. It is also planted in the southernmost, humid regions of the United States.

PEACHES

"pruning, and pickles"



Fruit Culture

The peach tree has traveled far! It is native to China and was introduced to Persia by silk traders, according to legend. It was then introduced into Europe. Colonists brought the tree to the New World, and it was spread throughout North America by westward-bound pioneers. Now, peaches grow mainly in the United States and Italy. Greece, France, Argentina, Japan and Spain are also important peach production areas.

Fascinating Fruit Facts:

- The trees are "trained" to grow in a vase or goblet form.
- Peaches aren't always peach colored! They also have white-flesh and yellow-flesh.
- Peaches that are to be used for desserts are "de-fuzzed" before they are packaged and shipped. This is partly because it makes them look better, but also because some people are allergic to fuzz.
- Undersized peaches are used to make pickles. Fruits that are too big, or have small defects are canned as sliced peaches or added to fruit cocktail mix.
- Peach trees have to spend at least 750 hours of the year in cold weather. In this case, "cold" means below 45 degrees Fahrenheit! This winter sleeping period, called dormancy, is necessary for the trees to grow healthy buds in the spring.

Fruition: Fiber

Cellulose, or fiber, is the name of the substance that makes up the walls of the cells in all plants. Lots of this can be found in fruits, as well as in whole grain breads and cereals, nuts, and legumes.

Our bodies do not digest fiber, but we still need a small amount of it to help keep our digestive system in good working order. It serves as "roughage," which cleans out our digestive system, and helps the food we do digest move more easily through our bodies. Not enough fiber in the diet can lead to diseases of the digestive system or the circulatory system.

Class Activity:

The roots of peach trees, like the roots of all plants, help keep the soil around them from eroding (washing or blowing away).

Let your students simulate soil erosion to see for themselves what can happen. Using a screen over two pans, cover one with just dirt, and one with a section of sod, grass, or short weeds holding the dirt together.

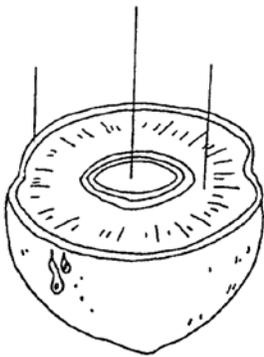
Pour several cups of water over each one and observe.

Which one loses the most dirt?

Discuss how damaging soil erosion can be on a larger scale. What could happen if soil fills up the rivers and underground water sources, or if it blows away all together?

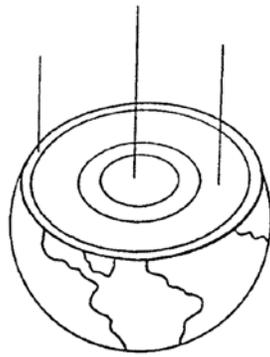
Lableling

How many words can you make from
PEACH PRODUCTION



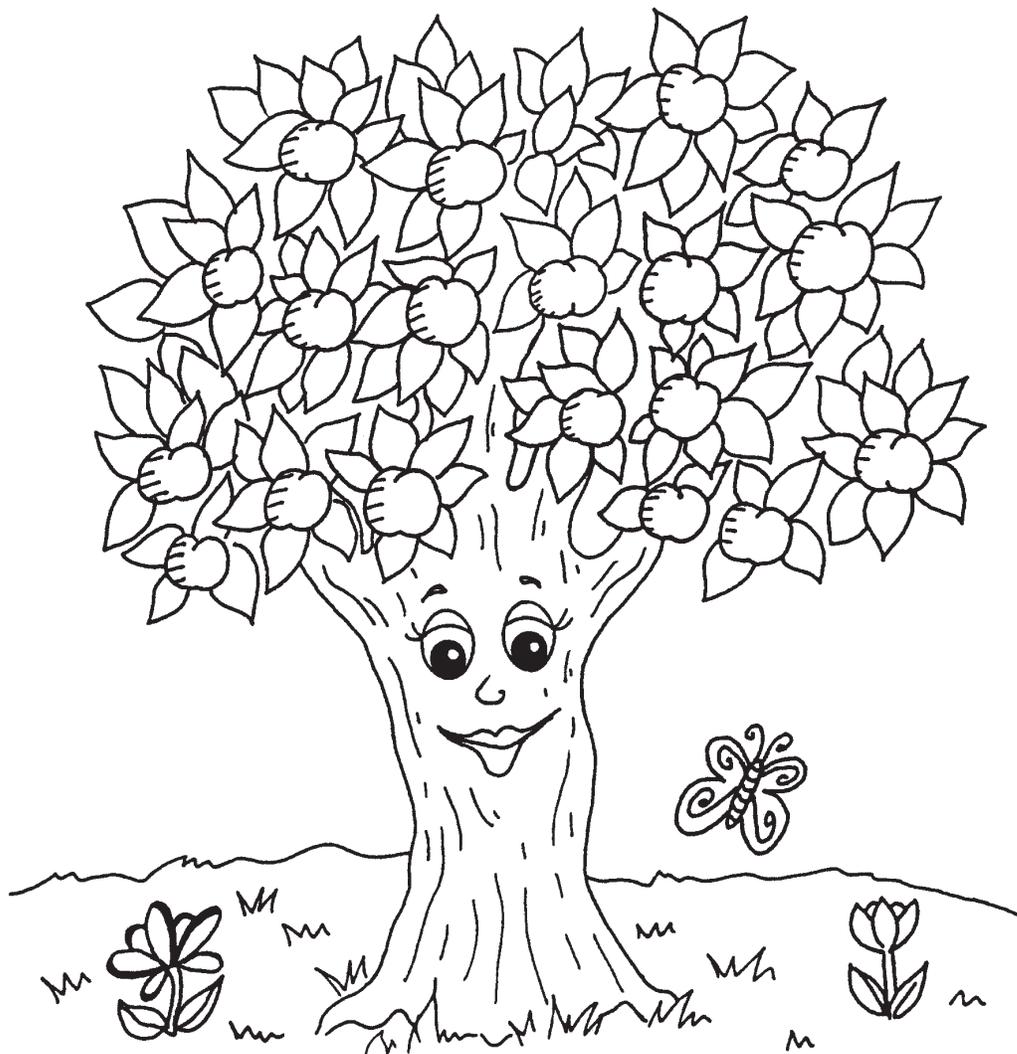
PEACH

Fruit
Seed
Skin



EARTH

Crust
Mantle
Core





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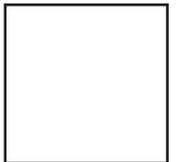


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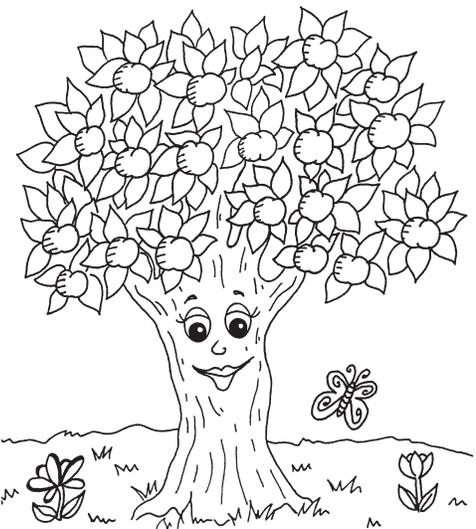
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www.treesforlife.org



From:

To:



The peach tree has traveled far! It is native to China,
 and it was introduced to Persia and Europe by silk
 traders. Colonists brought the tree to America where
 it continues to flourish.

ORANGE

"for food, fodder, and fragrance!"



Fruit Culture

The orange appears to have first come from Asia. Now, Brazil is the world leader in orange production, while the United States is second, with Florida being the number one state. Texas, Arizona and California are also important orange-producing states.

Fascinating Fruit Facts:

- The oil found in the rind of Bergamot oranges is used in the manufacture of perfumes in European countries, especially in Italy.
- There are four types of oranges: normal, navel (with a "belly-button"), blood (with streaks of red pigmentation) and acidless.
- Seedless oranges aren't necessarily without seeds! They fall into this category if they have 6 seeds or less.
- Florida oranges are usually much juicier than California oranges because trees in Florida get more rain than those in California. They get more water to drink, so they have more to store in their fruits!
- There are differences in the taste of oranges even from the same tree. Fruit that can be reached from the ground is not as sweet as the fruit that grows high up on the tree. Fruit from the outside of the tree is sweeter than the fruit growing closer to the trunk. The ones that grow towards the sun are the sweetest; those that grow away from the sun have less sugar and vitamin C. The blossom end is even sweeter than the stem end!

Frustration: Vitamin C

Vitamin C can be produced in the bodies of many animals, but, unfortunately, not in human beings. Since we are one of the few animals who cannot manufacture it in ourselves, we must get it from our food. This vitamin is good for the growth and functions of cells.

It is important for strong bones and teeth, and helps our bodies fight off germs. Scurvy, a disease that causes bleeding gums, fatigue, easy bruising and hair loss is an illness caused by a lack of vitamin C.

Class Activity

1. Some oranges are used for perfume, rather than for nutritional value. Your students can make a pomander from an orange that has been dried in a warm place for two weeks, by pressing cloves into holes that have been punched into it with a skewer.

Tie a ribbon around it with a hanging loop, roll it in cinnamon powder, and let it hang in a warm, dry place for a week. Now it can freshen a closet or dresser!

2. Nature has divided oranges into segments by thin, see-through walls that have tiny, juice-filled vesicles.

Let your students examine the structure of an orange, using magnifying glasses, microscopes, and their senses.

Can they tell if the blossom end really tastes sweeter than the stem end? What other discoveries can they make?

Word Unscramble

What are five components of orange juice?

RUSAG _____

CADI _____

NEMGITP _____

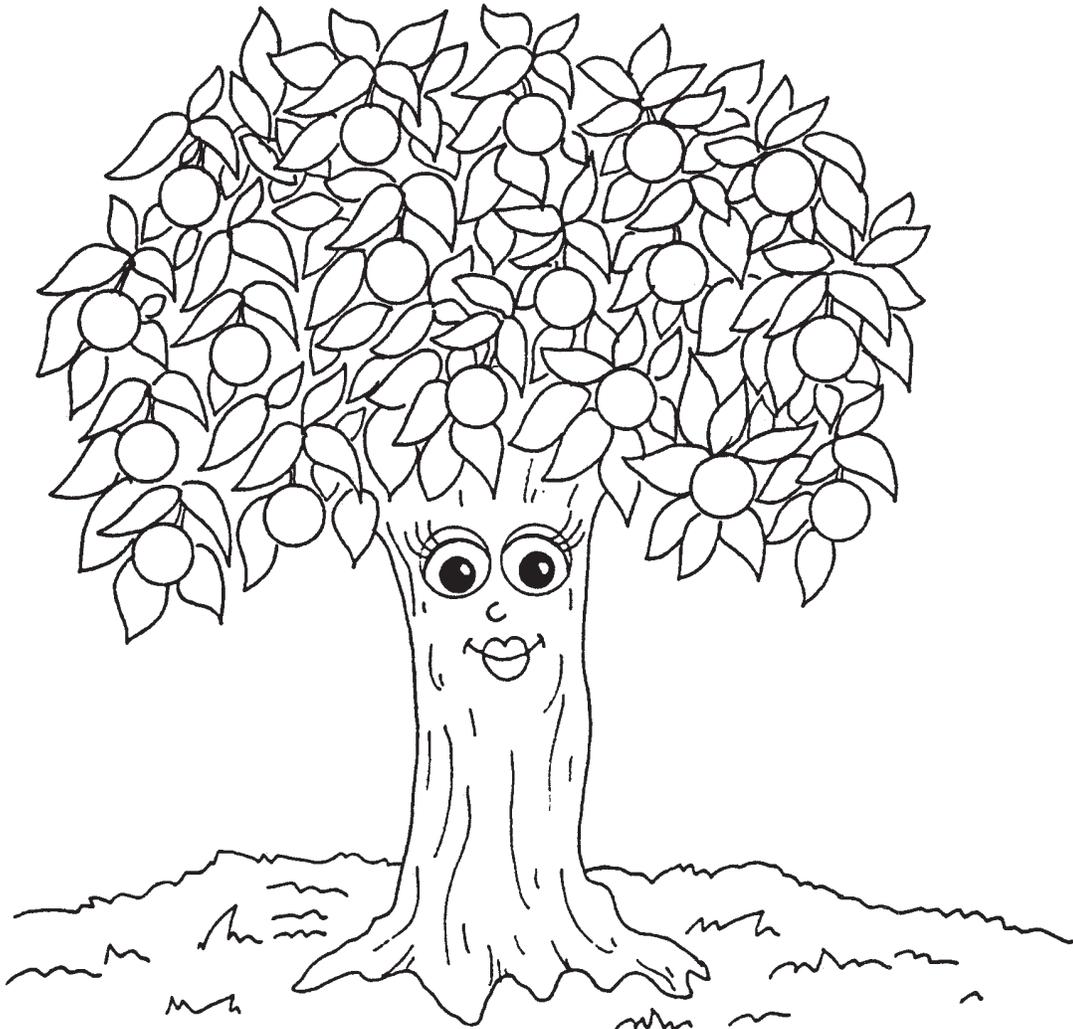
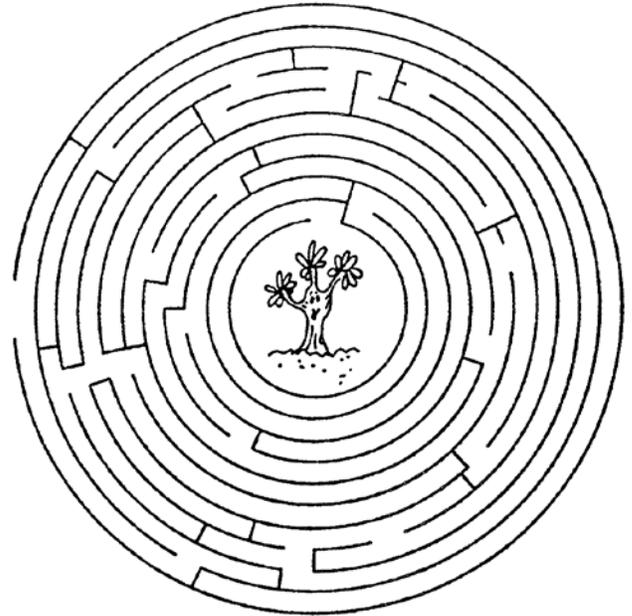
TASL _____

ATWER _____



Maze

Help bring some water to the thirsty fruit tree!





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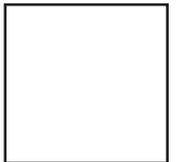


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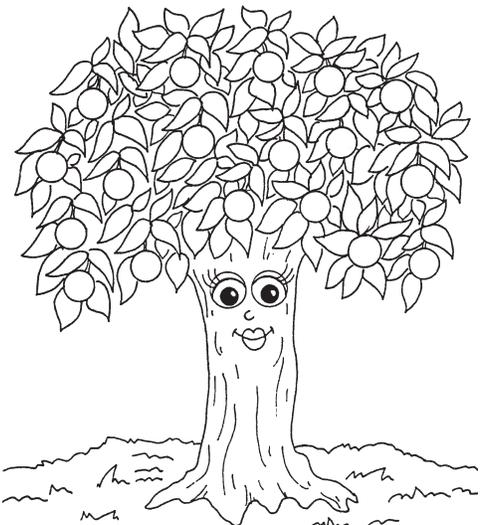
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From:

To:



All orange tree fruit are not created equal. Oranges from the outer branches of the tree, growing closer to the sun, are sweeter and richer in vitamin C than those found closer to the trunk.

Trees for Life

is a grass-roots, non-profit movement that helps people in developing countries plant fruit trees.

Each tree protects the environment and provides people with a self-renewing source of food.

The trees feed their families for a lifetime.
People help each other.
They receive hope, not handouts.

Since 1984, the program has grown rapidly in India and spread to Guatemala, Cambodia, Nepal, Costa Rica, Haiti, Indonesia, Brazil, Mexico, Ethiopia, Nicaragua and El Salvador.

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Suggested Reading / Further information ... for teacher and student alike

Ancona, George. *Bananas: From Manolo to Margie*. Clarion Books, New York, 1982. Follow the trail of a banana from Manolo's home in Honduras to Margie's home in the U.S.

Cooper, Elizabeth K. and Padraic. *Sweet and Delicious: Fruits of Tree, Bush, and Vine*. Childrens Press, Chicago, 1973. An illustrated book containing histories and biological information about a variety of fruits.

Dowden, Anne Ophelia. *From Flower to Fruit*. Thomas Y. Crowell, NY, 1984. A detailed, illustrated account of how flowers mature into fruits.

Earthworks Group. *50 Simple Things Kids Can Do to Save the Earth*. Andrews and McMeel, New York, 1990. Environmental facts and activities for kids of all ages who want to take care of our planet.

Johnson, Sylvia A. *Apple Trees*. Lerner Publications Company, Minneapolis, 1983. With color photos, demonstrates the growth and cultivation of apple trees and the development, harvesting, and storage of apples.

Moore, Eva. *The Great Banana Cookbook for Boys and Girls*. Clarion Books, New York, 1983. An illustrated cookbook featuring facts about and hints on how to select bananas.

Price, Lowi, and Marilyn Wronsky. *Concoctions*. E.P. Dutton & Co., Inc., NY, 1976. Recipes for Creeping Crystals, Invisible Ink, Self-Stick Plastic, Grease Paint, Playdough, and Other Inedibles.

Schnieper, Claudia. *An Apple Tree Through the Year*. Carolrhoda Books, Inc., Minneapolis, 1982. A detailed book about the growth cycle of apple trees throughout the four seasons.

Silverstein, Alvin and Virginia B. *Oranges: All About Them*. Prentice Hall, Inc., Englewood Cliffs, NJ, 1975. An illustrated guide to the growth and distribution of oranges, containing projects and recipes.

Wake, Susan. *Citrus Fruits*. Wayland Publishers Ltd., East Sussex, 1989. A colorful guide to citrus fruit facts and activities.