

Maple Vocabulary

Name _____

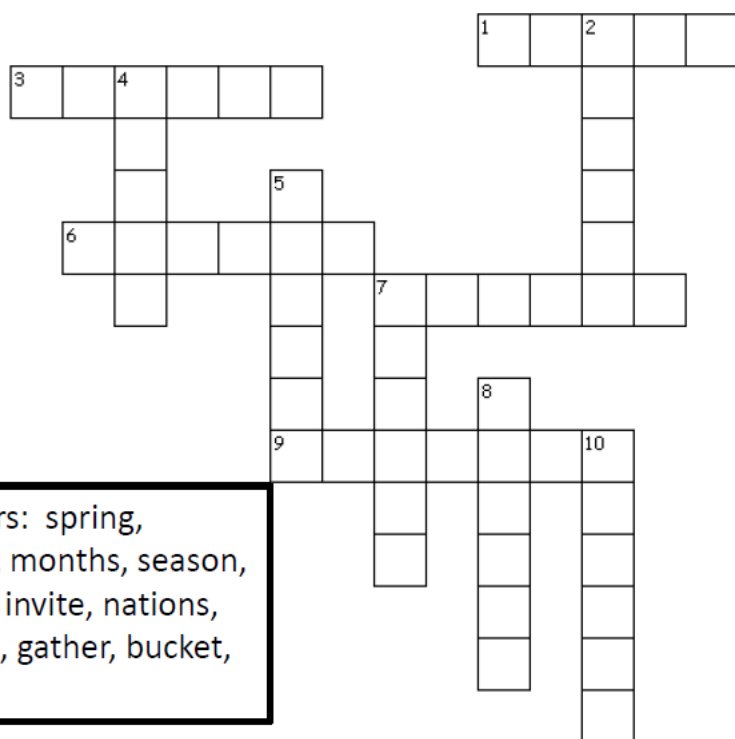
Maple syrup is an **annual** crop. It is made each year. The sugar **content** of sap is about 2% so it takes **considerable** effort and energy to **concentrate** the sap into the **attractive** sweet maple syrup. It is **essential** that a **vast** amount of water be removed from the sap to **increase** the sugar content to 66%. The common **practice** is to boil the water out of the sap in a **shallow** pan with lots of **surface** area exposed to the fire. A **benefit** of this boiling is that it helps **create** the color and flavor of maple syrup. For many families it is a **tradition** to **tour** a local sugarhouse each spring during the maple season.

Unscramble the words below shown in bold above then use The second box to put them in alphabetical order.

- | | |
|------------------------|-----------|
| 1. asincree _____ | 1. _____ |
| 2. tibneef _____ | 2. _____ |
| 3. tranocentce _____ | 3. _____ |
| 4. crapteci _____ | 4. _____ |
| 5. tasv _____ | 5. _____ |
| 6. tecnonc _____ | 6. _____ |
| 7. civtaettra _____ | 7. _____ |
| 8. naulan _____ | 8. _____ |
| 9. wallsho _____ | 9. _____ |
| 10. rout _____ | 10. _____ |
| 11. tassileen _____ | 11. _____ |
| 12. bradeblocsni _____ | 12. _____ |
| 13. tearec _____ | 13. _____ |
| 14. racefus _____ | 14. _____ |
| 15. drattinoi _____ | 15. _____ |

Maple Words

Name _____



Answers: spring,
hollow, months, season,
cream, invite, nations,
market, gather, bucket,
daily

Across

1. Sap is collected _____
3. Sap is usually collected with plastic tubing or in a _____
6. Maple produces _____ sap into holding tanks
7. Many maple producers sell maple products at a farmers _____
9. Two _____ make all the worlds maple syrup USA and Canada

Down

2. On maple weekend maple producers _____ the public to visit the sugarhouse
4. Syrup is often made into other great products like maple candy and maple _____
5. Spring is known as the maple _____
7. Maple syrup is made in the _____ of February, March and April
8. A _____ tree is home to sugarbush wildlife
10. _____ is known as the maple season

Circle the words on the list as you find them in the puzzle

Branch

Dollar

Froze

Blossom

Sap House

Cool

Annual

Cream

North

Market

New York

Noise

Dry

Maple

Serve

Income

Ice

Steam

Time

Tap

Woods

Kitchen

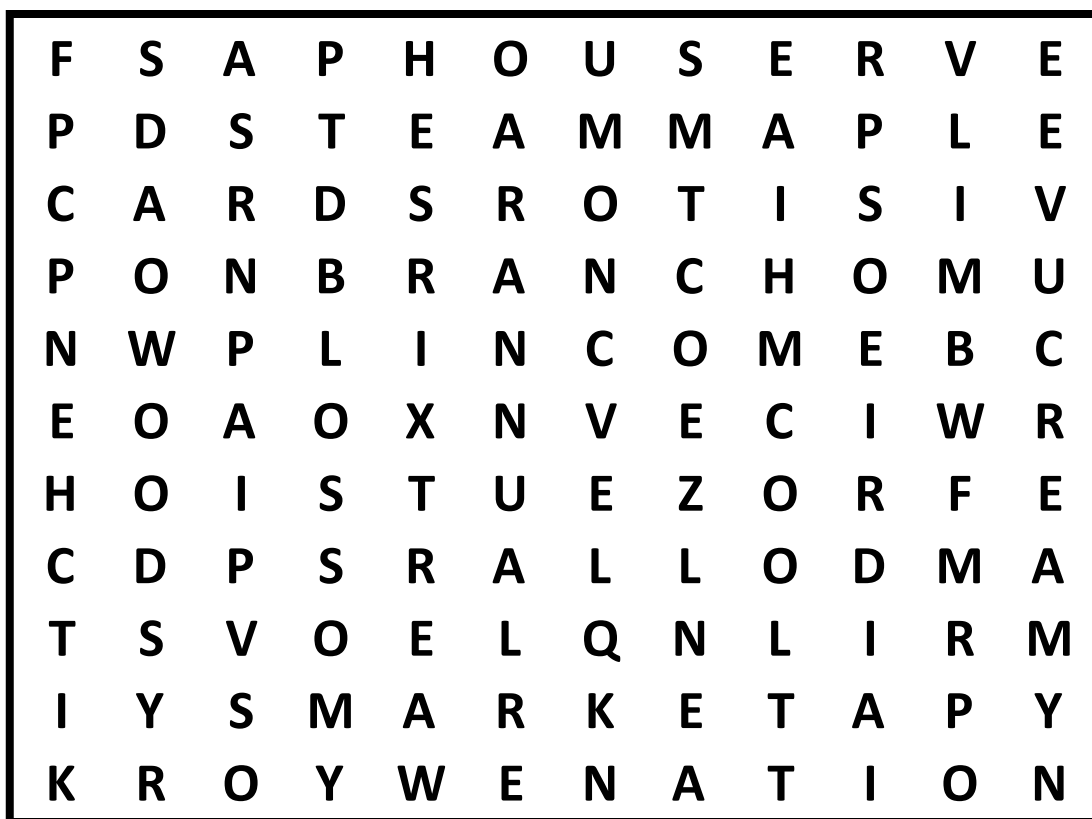
Sap

Pan

Visitor

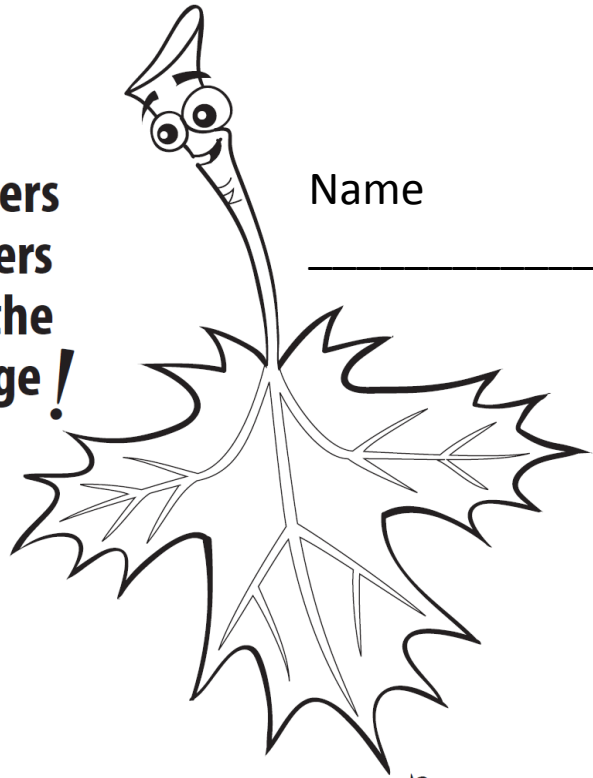
Limb

Nation



- 1 = a
 2 = b
 3 = c
 4 = d
 5 = e
 6 = f
 7 = g
 8 = h
 9 = i
 10 = j
 11 = k
 12 = l
 13 = m
 14 = n
 15 = o
 16 = p
 17 = q
 18 = r
 19 = s
 20 = t
 21 = u
 22 = v
 23 = w
 24 = x
 25 = y
 26 = z

**Match the letters
 to the numbers
 to complete the
 secret message!**



Name _____

Give a 13 1 16 12 5 20 18 5 5 a 20 1 16.

Fill a 2 21 3 11 5 20 up with 19 1 16.

2 15 9 12 it down and it gets 19 23 5 5 20,

13 1 16 12 5 19 25 18 21 16,

a 7 15 12 4 5 14 20 18 5 1 20!



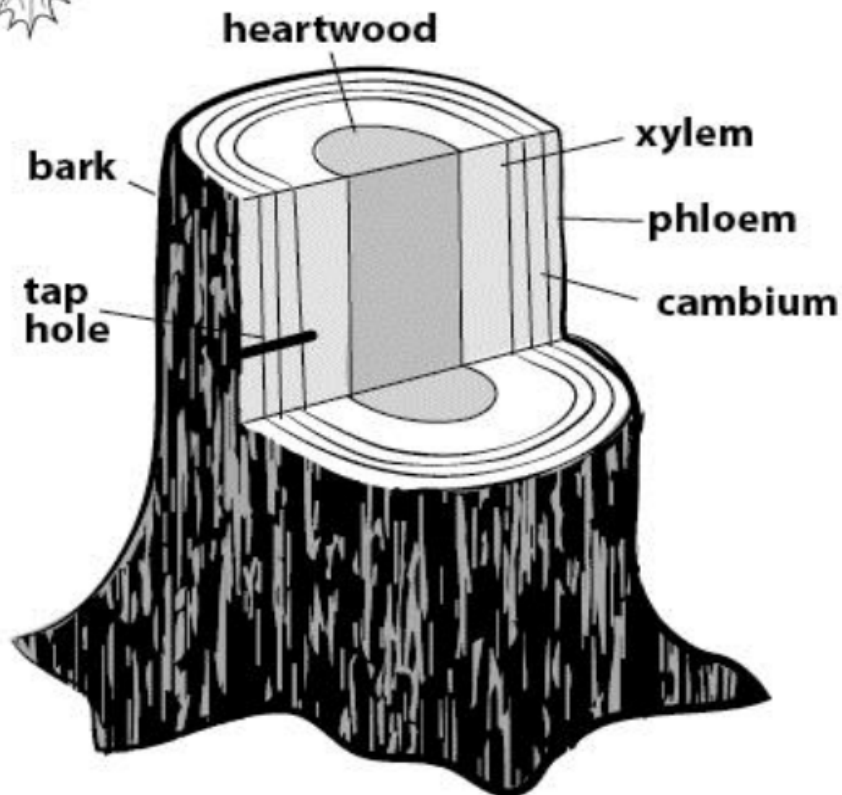
ANSWER: Give a maple tree a tap. Fill a bucket up with sap. Boil it down and it gets sweet,
 maple syrup, a golden treat!



Maple Production -

Tree Parts

Name _____



A **Tap hole** is drilled into the trunk of the tree. The tree trunk has several parts serving a variety of functions. The **Bark** provides a tough outer covering for the woody trunk of the tree.

The **Phloem** is just inside the bark and it conducts sugar produced in the leaves down to the roots.

The **Cambium** is the living layer from which the trunk of the tree grows.

Xylem conducts water and minerals from the roots up to the leaves.

The **Heartwood** is older, inactive xylem that provides structural support to the trunk.

Question from the picture and description

Fill in the blank:

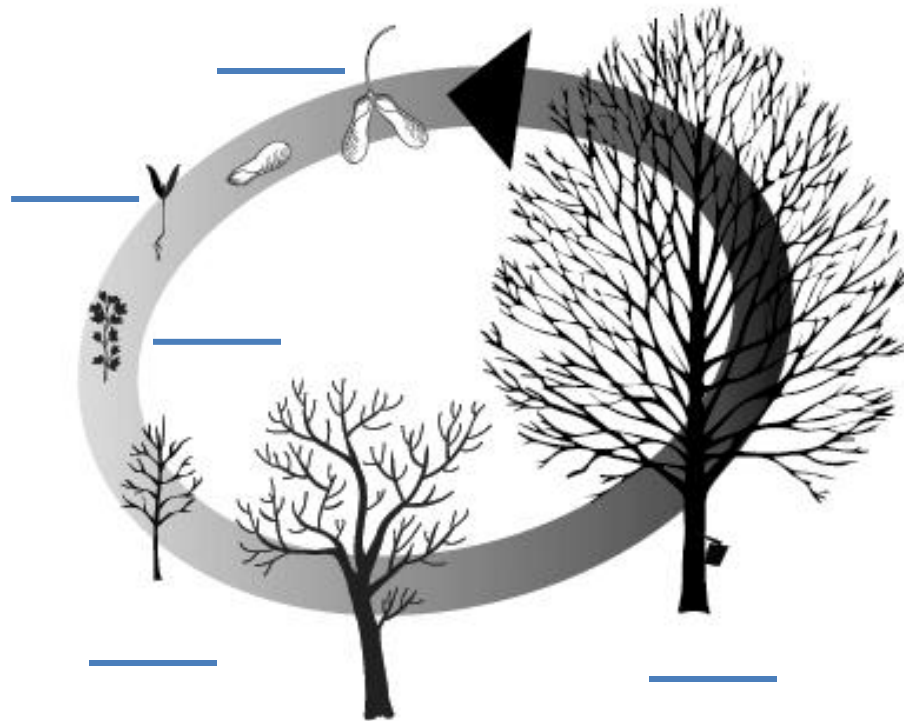
A taphole cuts through the bark, phloem, _____ and Xylem.



Maple Production i Worksheet

Life Cycle

Name _____



A typical sugar maple tree will begin producing seed when it is 30 years old or more. Seed develops from maple flowers that bloom in spring. The seed matures through the summer and falls to the ground in September and October. The seed lays dormant in the soil until spring when it grows into a seedling. In the first couple years it grows a single stem called a whip. Once the whip begins to develop side tranches it becomes known as a sapling. The sapling gradually grows into a mature seed bearing tree that can be tapped for maple sap

Questions from the story and picture:

From the descriptions given above fill in the blanks in the life cycle chart with the correct titles:

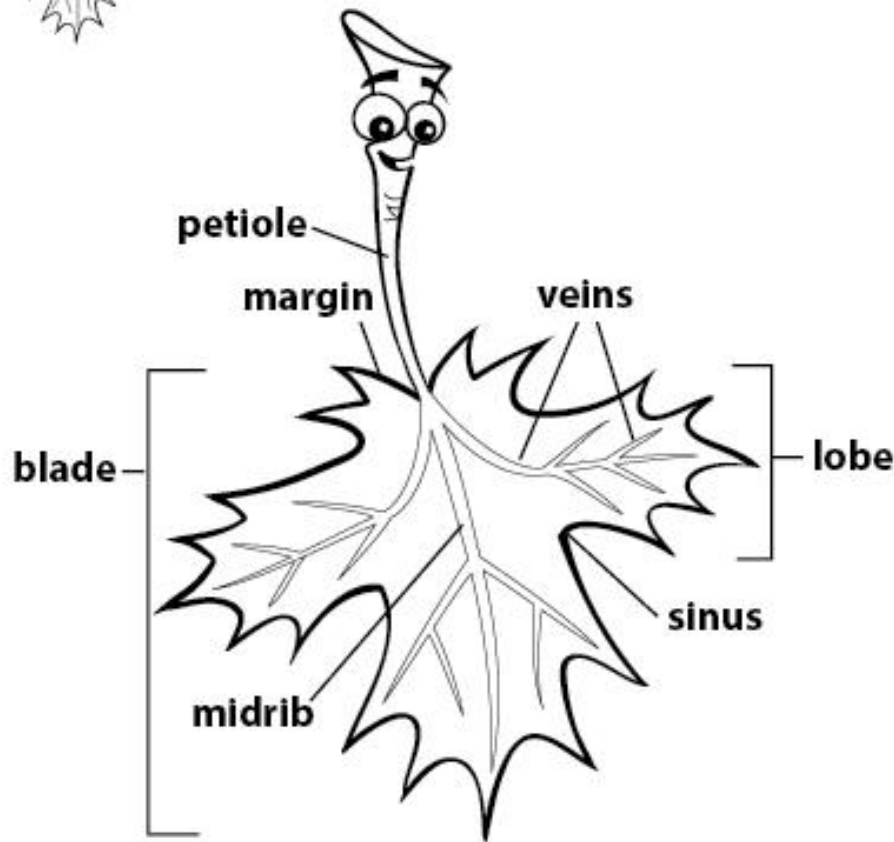
Seed, Seedling, Whip, Sapling, Mature Tree



Maple Production Worksheet

Leaf Parts

Name _____



The leaf of a maple tree produces the sugar that makes maple syrup sweet. A maple leaf is made up of several important parts. The leaf blade is the broad portion of the leaf which provides the surface for photosynthesis. The blade is made up of 3 or 5 lobes. A sinus is the valley between lobes. The Margin is the outer edge of the leaf blade. The petiole attaches the leaf blade to the tree and extends into the midrib. The midrib and veins provide structure to the leaf blade. They also send sugar back to the tree and receive water and minerals from the tree through the petiole.

Questions from the story and picture:

1. Sugar is made in the leaf _____.
2. The outer edge of the leaf is called the _____.
3. The petiole, midrib and veins conduct _____, water and _____ between the leaf and the tree



Maple Production in History - Thomas Jefferson

Name _____



At the end of November in 1790, while in the city of Philadelphia, Thomas Jefferson purchased a fifty pound bag of pure maple sugar. The sugar was to be used to sweeten tea, a very common beverage in that time. He did not want to purchase white sugar as it had to be bought from the British who were producing it with slave labor. A gallon of maple syrup can make about 8 pounds of maple sugar so a 50 pound bag of maple sugar would have been made from over 6 gallons of maple syrup.

Questions from the story and picture:

1. What year did Thomas Jefferson purchase the bag of maple sugar? _____
2. In what city did Thomas Jefferson purchase the bag of maple sugar? _____
3. In what beverage did Thomas Jefferson plan to use the maple sugar? _____
4. 50 pounds of maple sugar would be made from about ____ gallons of maple syrup.



Maple Production in History -

Thomas Jefferson

Name _____



Once a maple tree is mature, 30 years or more old, it produces some seeds each year. However the number of seeds produced in a year changes dramatically depending on the weather and climate. Thomas Jefferson obtained some sugar maple seeds around 1790 and had them sent to his farm called Monticello located in Charlottesville Virginia. He attempted to start a sugar maple plantation by having the seeds planted on this farm but the planting was a complete failure. None of the seeds grew into trees.

Questions from the story and picture:

1. In what state was Thomas Jefferson's farm? _____
2. Maple trees always produce the same number of seeds. True or False
3. Thomas Jefferson sent the seeds to his farm to start a maple _____



Maple Production in History - Thomas Jefferson

Name _____



Thomas Jefferson was so excited about the idea of producing sugar from maple trees that he sent letters to many other important people about this idea. Letters about maple sugar were written to George Washington, the first U.S. President, James Madison, the fourth U.S. president, Thomas Mann Randolph, Congressman and Governor of Virginia, and Dr. Benjamin Rush, a fellow signer of the Declaration of Independence. Do to limitations of the time Jefferson could not talk on the phone about it, go on TV or on the radio or internet about it he could only write letters or talk face to face.

Questions from the story and picture:

1. What was Thomas Jefferson so excited about that he would write letters to such important people? _____
2. List one kind of communication that could not use to promote maple sugar. _____
3. List one kind of communication that Jefferson could not use. _____



Maple Production in History - Thomas Jefferson

Name _____



One of the main uses for sugar in the 1790's was to sweeten tea which was a very common beverage at that time. To prove that maple sugar could be used to sweeten tea just as well as cane sugar a "scientific tea party" was held by Thomas Jefferson's friends Dr. Benjamin Rush and Alexander Hamilton with the aid of "several ladies". Each sipped cups of hyson tea sweetened with equal amounts of cane and maple sugar. All agreed the sugar from the maple was as sweet as cane sugar

Questions from the story and picture:

1. In this story maple sugar was being compared with _____ sugar.
2. What was a very common beverage in the 1790's? _____
3. Jefferson's friends were Dr. Benjamin Rush and _____ .
4. Maple sugar was just as sweet cane sugar in the tea party test. True or False



Maple Production in History - Thomas Jefferson

Name _____



When planting sugar maple seeds failed at Thomas Jefferson's farm Monticello, he tried planting sapling sugar maple trees. In 1791 sixty sugar maple trees were ordered from a nursery on Long Island and planted in November. This planting also completely failed. In 1792 eighty more were planted but only eight survived into 1794. A couple of these survived for many years. Though sugar maple is an ideal tree for producing maple sugar, other species of maples would probably have grown better in the climate at Monticello. Most species of maple can be used to produce sugar.

Questions from the story and picture:

1. Monticello was a great place to grow sugar maple trees. True or False
2. How many sugar maple trees lived from the 1791 planting? _____
3. Sugar maple trees are the best to plant no matter what the climate. True or False

Maple Math Links

Add your way to lots of maple information on the internet

Name _____

Find a sugarbush open on maple weekend

1 2 3 4 5 6 7 8 9 10 11 12 . 13 14 15

M. 987 P. 1270 D. 1150 K. 723 E. 1166 O. 885
L. 372 C. 1064 A. 466 W. 1863 N. 1411 D. 579

184 322 658 109 252 988 604 699
1. +803 2. +144 3. +612 4. +263 5. +914 6. +875 7. +562 8. +467

534 786 812 123 656 469 123
9. +189 10. +380 11. +599 12. +456 13. +408 14. +416 15. +864

A maple science website

M. 987 P. 1270 E. 1166 O. 885
L. 372 C. 1064 A. 466 N. 1411 R. 1110

1 2 3 4 5 6 7 8 9 10 11 12 . 13 14 15

578 437 333 560 813 101 237 416
1. +486 2. +448 3. +777 4. +851 5. +353 6. +271 7. +135 8. +571

118 297 114 665 388 295 543
9. +348 10. +973 11. +258 12. +501 13. +676 14. +590 15. +444

Maple Regions of New York State

Name _____

Maple producers in New York State have come together to form the New York State Maple Producers Association. A producer association is an organization of persons having a common interest, in this case the production and sales of maple syrup and related maple products. This Association is broken in to seven sub-regions as represented in the map to the right. Maple producers who are members of the association get together in their regions on a regular basis for providing education, marketing opportunities and sharing experience.



In which county do you live? _____

In which of the seven regions do you live? _____

What region is the furthest from where you live? _____

Which of the seven regions do you think has the most people living in it? _____

Which of the seven regions has the least number of counties in it? _____

How many counties are in the maple region where you live? _____

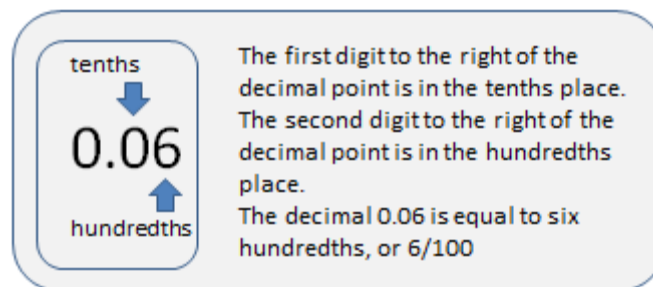
Maple Math – Hundredths Place

Name _____



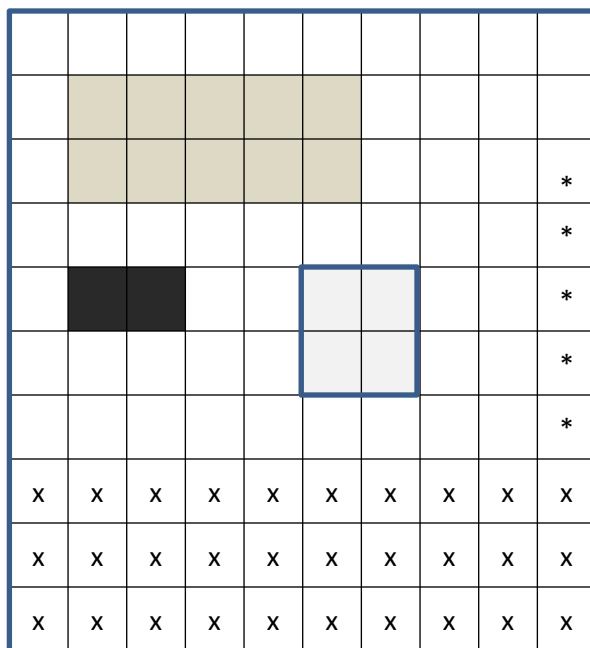
What uses the space in the maple sugarhouse?

The sugarhouse floor plan is divided into 100 equal squares. Determine how much of the sugarhouse space is used by the different items.



Save for last:

How much of the space is empty?
 ____/100 or ____ as a decimal



5

Evaporator has squares, this represents /100 or as a decimal

7

Finishing pan has 1 squares, this represents 1 /100 or 0.01 as a decimal

7

Sales display has squares, this represents
/100 or as a decimal

	X
--	---

Wood pile has squares, this represents
/100 or as a decimal

	*
--	---

Counter and sinks has 1 squares, this represents 1 /100 or 0.01 as a decimal

Maple Spelling Words

Name _____

Say the word

Write the word

Use the word

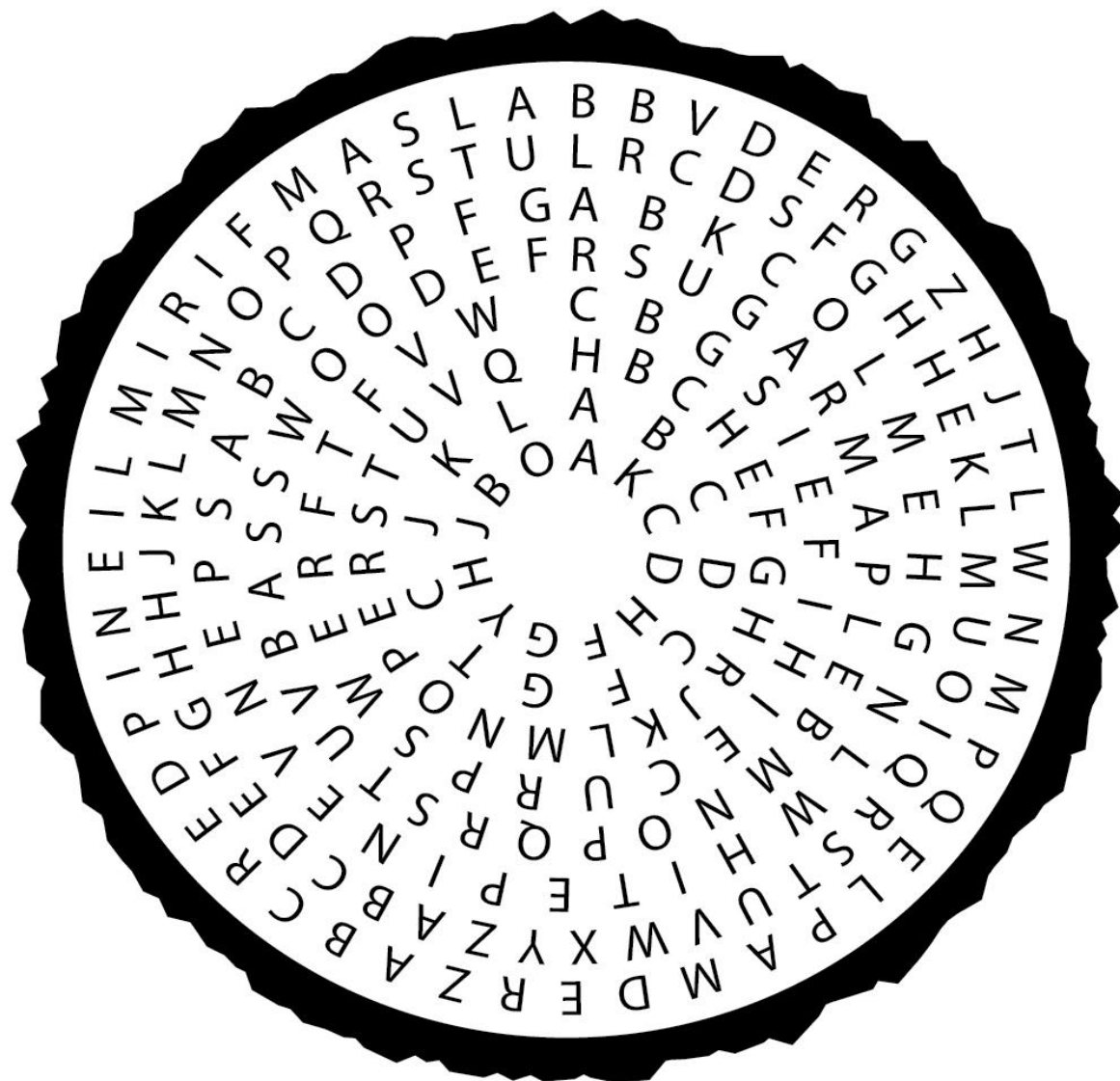
1. Season _____ .
2. Annual _____ Maple syrup is made during one season each year it is an **annual** crop.
3. People _____ **People** can order maple products on line.
4. Bucket _____ Maple sap is collected from the tree with tubing or a **bucket**.
5. Chimney _____ The smoke made when cooking maple syrup goes up the **chimney**.
6. Icicle _____ On a cold morning you can see an **icicle** hanging from a maple spout.
7. Income _____ Maple syrup is sold so farmers can have some **income**.
8. Freeze _____ Sap will only run after a **freeze** in the sugarbush.
9. Kitchen _____ Maple sugar, candy and cream are often made in the **kitchen**.
10. Inches _____ The tap hole, a hole drilled in the tree to collect sap is 1.5 **inches** deep.
11. Month _____ The maple season usually starts in the **month** of February or March.
12. Cream _____ Maple **cream** is made by cooking syrup more, cooling it, then stirring.
13. Visitor _____ A **visitor** to a maple sugarhouse can see maple sap made into syrup.
14. Dollar _____ A **dollar** can buy some great tasting maple sugar candy
15. Order _____ People can **order** maple products on line.



Maple Production -

Word Search

Name _____



Ash

Sugar Maple

Beech

Oak

Birch

Bass Wood

Red Maple

Aspen

Spruce

Pine

Hemlock

Larch

Red Pine

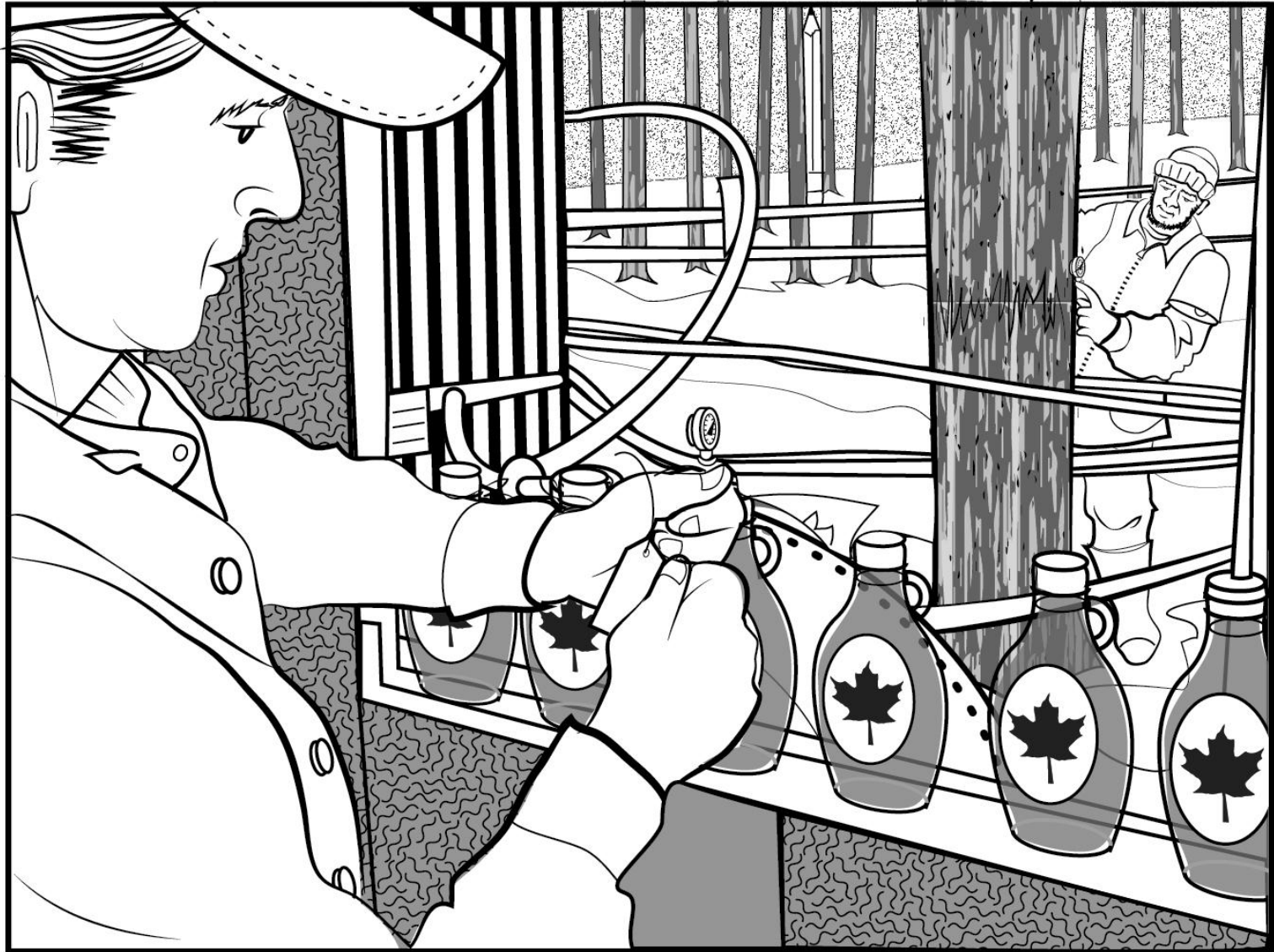
White Pine

Balsam Fir



Maple Production in History - Hidden Objects

Name _____



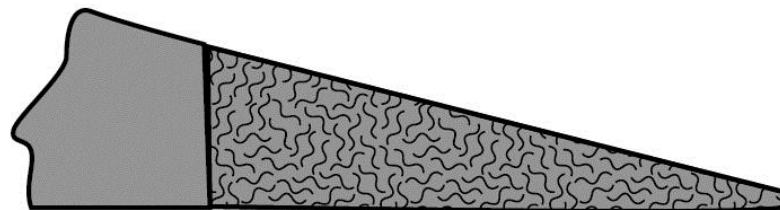
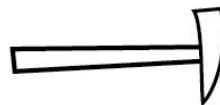
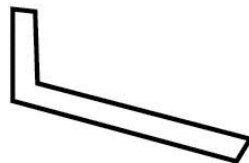
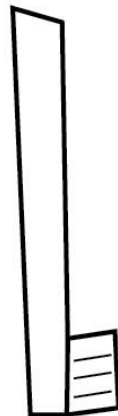
Hidden objects: ice cream cone, toothbrush, nail, tennis shoe, pencil, paper clip, fish, hockey stick, bell, hammer



Maple Production in History -

Hidden Objects

Name _____



Hidden objects: ice cream cone, toothbrush, nail, tennis shoe, pencil, paper clip, fish , hockey stick, bell, hammer

Maple Syrup Measuring

Convert the measuring units as indicated

Name _____

**One barrel of maple
syrup holds 40 gallons**



**One gallon of syrup
weighs 11 pounds**



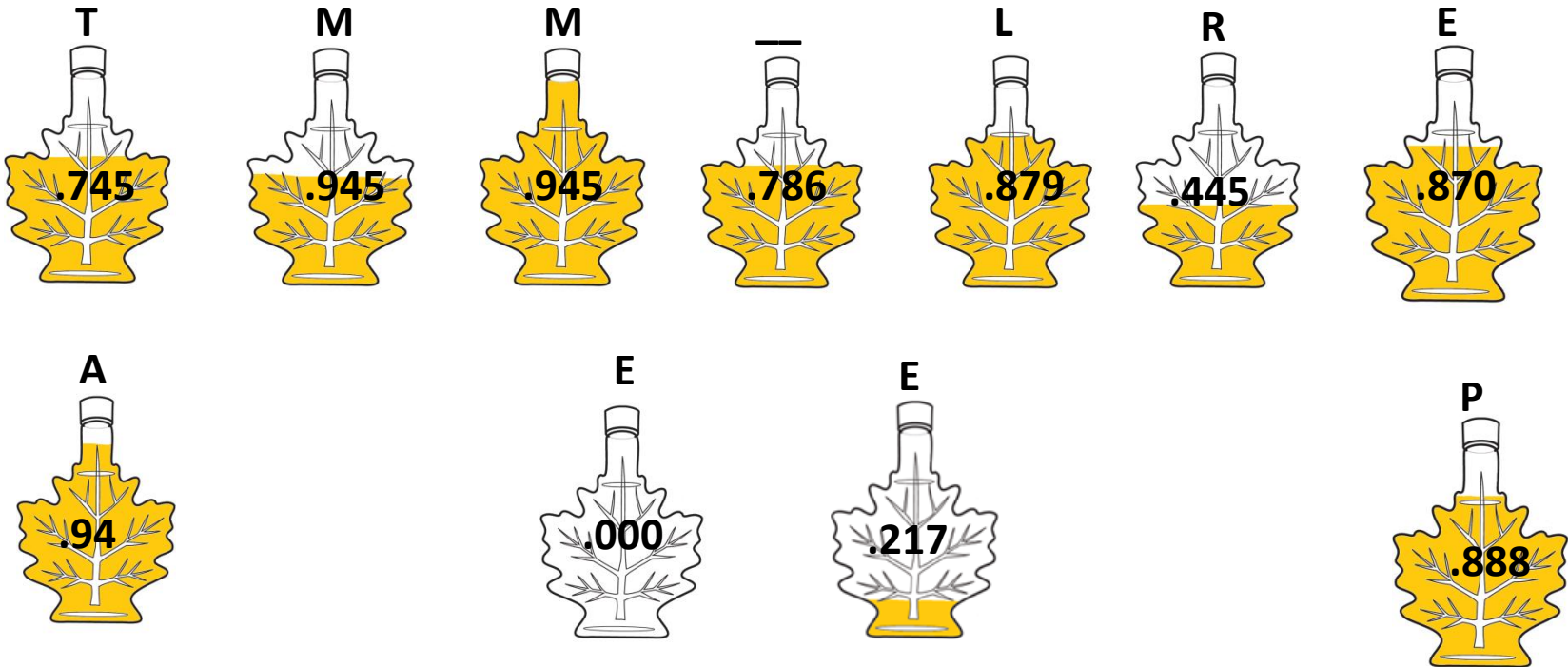
- One barrel of maple syrup weighs _____ pounds
Two barrels of maple syrup weighs _____ pounds
Five barrels of maple syrup weighs _____ pounds
Ten barrels of maple syrup weighs _____ pounds
Two gallons of maple syrup weighs _____ pounds
Six gallons of maple syrup weighs _____ pounds
Nine gallons of maple syrup weighs _____ pounds
Two quarts of maple syrup weighs _____ pounds
One quart of maple syrup weighs _____ pounds
Six quarts of maple syrup weighs _____ pounds
Thirty two quarts of maple syrup = _____ gallons
Three gallons of maple syrup = _____ quarts
Twelve gallons of maple syrup = _____ quarts
Twelve quarts of maple syrup = _____ gallons
One barrel of maple syrup = _____ quarts
- If one pound of maple syrup is worth \$3 then one
barrel of maple syrup would have a value of \$ _____



Maple Math – Maple Leaf Maple Syrup Bottle Ordering Decimals

Name _____

Place in order the decimal numbers on the maple leaf maple syrup bottles from the largest to smallest, then use the letters to answer the questions below.



Maple syrup can only be made from a _____