

MAPLE EDUCATION WORKSHEET

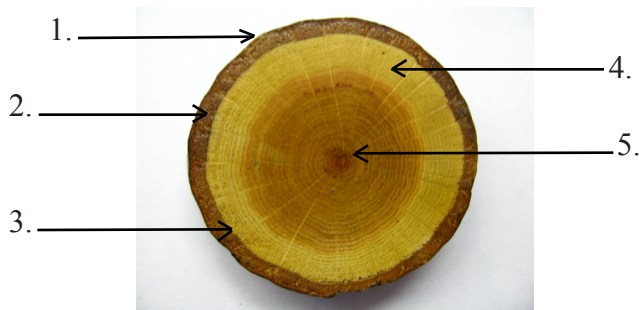
1. Match the following vocabulary with the matching definition:

- | | |
|-------------------|---|
| _____ Sugar Bush | A. Ojibwa term for “time of the melting snow” |
| _____ Sugar Maple | B. Grove of Maple Trees |
| _____ Sugarhouse | C. Place where sap and syrup are processed |
| _____ Sugar Maker | D. Processes sap into syrup |
| _____ Sisibaskwat | E. Produces sap |

2. What is the Wisconsin State Tree?

3. What are 3 important functions of trees?

4. Identify the layers of a tree:



5. What are ideal conditions weather for the maple sap to run?

6. What are 3 ways to identify a sugar maple tree in the spring time?

7. What is maple sap made of? How does it differ from maple syrup?

8. Who made the first maple sugar?

9. How was sap boiled before iron kettles?



10. What are 2 improvements the settlers brought to the maple process?

11. How many taps can be put in a maple tree and how is this determined?

12. Can the same tap hole be used year after year?

13. What causes different colors and tastes in maple syrup?

14. What is the equation for photosynthesis?

_____ + _____ + _____ = _____ + _____

15. True or False: Maple sap turns into maple sugar before maple syrup.



ANSWERS:

1. __B__ Sugar Bush
 __E__ Sugar Maple
 __C__ Sugarhouse
 __D__ Sugar Maker
 __A__ Sisibaskwat

2. The Sugar Maple became the Wisconsin State Tree in 1949.

3. Economic: wood; paper; houses; furniture; canoes; anything made with wood; jobs associated with creating those things
 Environmental: produces oxygen; sap; homes for animals; prevent erosion; shade
 Recreational: hiking; hunting; bird watching; foraging; tree climbing

4. 1 - Outer Bark
 2 – Phloem/Inner Bark
 3 – Cambium
 4 – Xylem/Sapwood
 5 - Heartwood

5. When daytime temperatures reach in the 40's and nighttime temperatures are in the 20's (Degrees F), conditions are ideal for sap to flow. If there are too many warm days without freezing nights or visa versa, conditions are not ideal.

6. A sugar maple can be identified by having opposite branches, versus alternate branches. Buds are reddish brown to black, and the bark is grayish, rough, with ridges and may look like it is peeling off of the tree.

7. Maple sap usually averages 3-5% sugar and 95-97% water. Maple syrup is 66-68% sugar and the rest water. Trees vary in percentage sugar from 1% to up to 10%, but average at around 3% sugar.

8. Maple sugar was first made by American Indians.

9. Before iron kettles, American Indians used hollowed logs and rotated hot rocks through the sap. Rocks were kept warm on a fire and then moved into the hollowed log filled with sap using a forked branch. Sap was stirred with a large spoon or paddle.

10. Settlers brought many improvements to maple production, including drills with bits, wooden buckets, metal spiles, sugar houses, iron kettles, and many more.

11. The amount of taps a tree can have depends on the diameter and age of a sugar maple tree. A sugar maple is usually 30 – 40 years old before it can be tapped.
 10” -14” diameter – 1 spile
 15” -19” diameter – 2 spiles
 20” - 24” diameter – 3 spiles



12. The same tap hole can NOT be used year after year. Tapping a tree will create a scar in the tree, just like on your skin. New tap holes should be at least 6 inches away from an old tap scar.
13. Colors and tastes differ in maple syrup due to many variables, including the amount of nutrients and minerals in the soil, temperature conditions, and how much sunlight the tree receives.
14. The equation for photosynthesis is:

Energy/sunlight + carbon dioxide + Water = Sugar + Oxygen
15. FALSE. Maple sap turns into syrup and then sugar. Sugar has a very small liquid content, whereas syrup is about 67% sugar and 33% water.

