

Forestry Test for Science Olympiad – 1/14/2012 – Athens Area High School

Definitions – give definitions of the following:

1. Calyx:

2. Drupe:

3. Phloem:

4. Xylem:

5. Dioecious:

6. Senescence:

Specimens: – provide genus and species name for each specimen:

Specimen 1:

Specimen 2:

Specimen 3:

Specimen 4:

Specimen 5:

Specimen 6:

General Knowledge Questions

1. What species of tree has nearly disappeared from the eastern forest because of disease?

2. Name three pigments responsible for autumn leaf colors of yellow, red and orange.

3. Why do Quaking Aspen leaves quake so easily

4. How did the Yaupon receive its species name?

5. Other than the Sugar Maple, name one other species that can be used to make maple syrup.

6. Individuals of what species on the Science Olympiad list can grow the tallest?

Forestry Answers for Science Olympiad – 1/14/2012 – Athens Area High School

One point for each correct answer

Definitions – write the definitions of the following:

1. Calyx - outermost whorl of sepals whose job is to protect a developing flower. It is usually green and is what we would recognize as the outside covering of a bud. – **Important part of definition is the first sentence. Full credit for that idea.**
2. Drupe - a berry with a hard pit like a cherry or a peach. – **It is important that team's answers indicate a single (singular) pit or seed in their definitions.**
3. Phloem - a protective layer made up of tiny tubes that transport the sugars from the leaves to the rest of the tree. – **Important part of the definition is transport of sugars away from the leaves to the rest of the tree. Full credit for that.**
4. Xylem - part of the tree made up of tiny tubes which transport water and minerals from the roots up the trunk and branches to the leaves. – **Important part of definition is the transport of water and minerals upward.**
5. Dioecious - **plants (trees) having male or female organs on separate individuals.**
6. Senescence - **death of a leaf triggered by an increase in the enzymes that promote the breakdown of plant cells begins when shorter days and cooler temperatures occur. Give full credit even if they don't mention cooler temperatures.**

Specimens: – provide genus and species name for each specimen: **Full credit for Latin genus and species names, half credit if genus is correct, half credit if common name is correct.**

1. – **Pinus strobus**, or Eastern White Pine.
2. – **Pinus taeda**, or Loblolly Pine
3. – **Platanus occidentalis**, or Sycamore
4. – **Pinus virginiana**, or Virginia Pine
5. – **Juniperus virginiana**, or Eastern Redcedar
6. – **Castanea dentata**, or American Chestnut

General Knowledge Questions

1. What species of tree has nearly disappeared from the eastern forest because of disease?

American Chestnut or Castanea Dentata – full credit for either answer

2. Name two pigments responsible for autumn leaf colors of yellow, red and orange.

Xanthophyll, Anthocyanins or Carotene (carotenoids). Chlorophyll is incorrect. – 1/3 credit for each correct answer

3. Why do Quaking Aspen leaves quake so easily?

They have flat leaf stems that wobble easily in light wind

4. How did the Yaupon receive its species name?

Yaupon, *Ilex vomitoria* received its species name (vomitoria) from early settlers watching native Indian rituals involving tea brewed from vomitoria. Part of the ritual involved vomiting. Settlers mistakenly thought that the tea caused the vomiting. Give partial credit or full credit liberally.

5. Other than the Sugar Maple, name one other species that can be used to make maple syrup.
 - a. **Red Maple (*Acer rubrum*) or Silver Maple (*Acer saccharinum*) or Boxelder (*Acer negundo*) or even Black Maple (*Acer nigrum*) which is not on the Science Olympiad list.** – full credit for either common names or genus and species names. One point for each correct species named.

6. Individuals of what species on the Science Olympiad list can grow the tallest?
 - a. **Douglas-fir (*Pseudotsuga menziesii*), tallest living specimen measured at 326 feet.** – full credit for either common name or genus and species name.