

Power Point Notes for Teachers – From the Forest

This lesson looks at the parts of a tree and their purpose.

#2 Leaves – regardless of size or shape, their purpose is to make food.

#3 Chlorophyll and Photosynthesis. This may be related to other biology lessons students have had in the past. Important to note that CO₂ is necessary, and the tree keeps the carbon, releasing the oxygen.

#4 The tree trunk is important to the following tree ring information.

#5 The tree roots grow in a similar manner to the tree branches. If the branches are wide and spreading, the roots are similar. (There is research focused on root rings which are much more difficult to obtain.)

6 Bark is similar to fingernails; it is not growing, but is the dead phloem pushed out as new phloem is formed. As the tree grows in diameter, the bark cannot stretch, so cracks appear in the outer layers.

#7, #8, #9 – A closer look at the growing cells of the tree trunk, Phloem, Cambium and Xylem.

#10 The older rings of xylem, called sapwood, are not growing, but remain useful in fluid movement for many years. These slowly become clogged and lose function, becoming much darker and called heartwood.

#11 The growth of tropical trees does not demonstrate the clear rings of temperate rings. The fast growing springwood has larger cells and thinner cell walls – making it appear lighter in color. The slower growing summerwood cells are smaller, have thicker cell walls and are packed together more tightly, which makes them appear darker.

#12 Several factors influence cell growth, and changes in any component change the appearance of the rings.

#13 The grain in wood is actually the exposed rings. Depending on the location of the cut of the board (through the center, along the side, etc.) the grain may “wave”, curve, or show other characteristics.

#14 The difference between wood terms should be clear. Logs produce lumber, and scraps, branches, and leaves are grouped together as woody biomass.

#15, #16 These repeat the tree parts and provide a mnemonic to use.