

## Tree Factory

What makes up the center of the tree and gives it strength? (Heartwood) Stand in the center, tighten muscles and chant "I Support, I support."

What tree part transports water to all parts of the tree? ( Xylem) Join hands to form a small circle around the heartwood and chant "Gurgle, slurp. Gurgle, slurp. Transport water" as raise their joined hands up and down

Where does the water in the xylem comes from? (Roots) Taproot sits down with back against xylem and have the lateral roots lie down on the ground with their feet toward the xylem and their arms and fingers spread out to represent root hairs – make sucking noises

Where does the water in the xylem travel to? (Leaves) Have the heartwood hold the ends of the pieces of yarn and the other end of each piece to a different student who represents leaves – ask leaves what they do all day (make food through photosynthesis) – have leaves flutter their hands and chant "We make food; we make food."

Ask leaves what happens to all the food they make using sunlight, air and water (it gets transported to the rest of the tree). Ask everyone what part of the tree transports the food from the leaves to the rest of the tree (phloem). Have the phloem students join hands and form a large circle around the tree. Then have them simulate the role of the phloem by reaching above their heads and grabbing for food , and then squatting and opening their hands (releasing food) while chanting "Food to the tree!"

What layer produces new xylem and phloem to keep the tree growing and healthy? (cambium) Have cambium students form a circle between the phloem and xylem and tell them to sway form side to side and chant, "New phloem, xylem and cambium. New phloem, xylem and cambium."

What final component is missing? Bark. Have students lock arms and forma circle that faces out from the center of the tree. Ask them to look tough. Have them march in place chanting "We are bark. Please keep out."