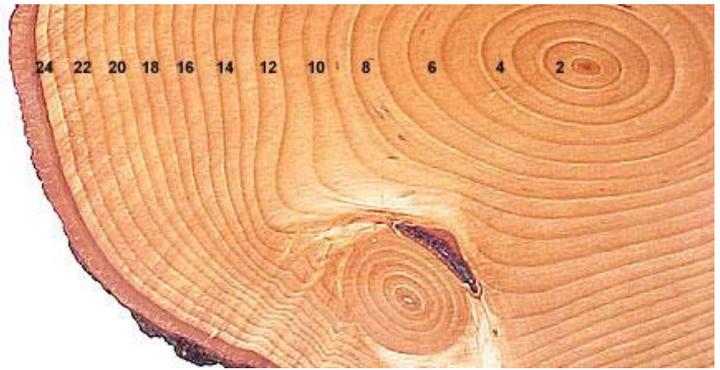


Additional Information for Activity 3: The Giving Tree

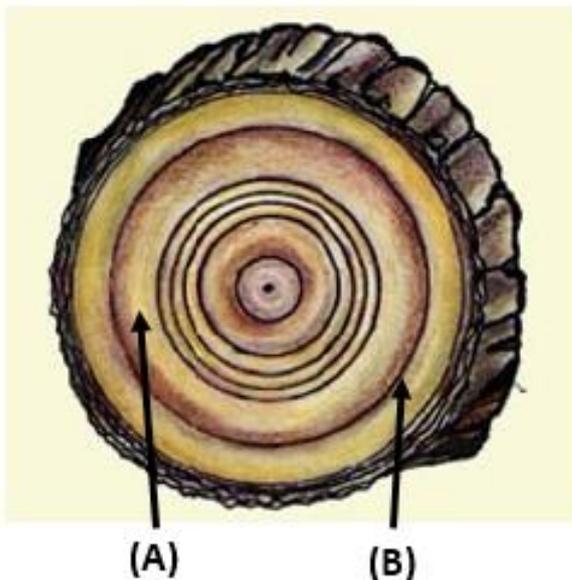
Tree Annual Growth Rings Info

Like many plants, trees continue to grow throughout their lives. They not only grow taller, stretching towards the sun, but they also grow **wider**, expanding their trunks outward, each year. We know this because the outward growth leaves behind a **trail of rings**, starting from the tree's centre and expanding outward like a target as the tree ages. These are called **Annual Growth Rings**.



Annual Growth Rings work like this:

Each year, during the rainy season (often the spring), the tree grows very quickly because there are lots of nutrients available. This is when trees form the lighter, wider sections of the rings **(A)**. For the rest of the year, they grow very slowly, either because the summer heat prevents their roots from receiving enough water, or because the winter cold forces them to protect themselves. This is when the dark, thinner parts of the rings form **(B)**. When the rainy season returns, the tree starts forming a new ring, **marking another year** (see numbers above).



While Growth Rings are useful for knowing the age of a tree, not every tree grows in a place where the seasons change. In places like that, trees **act like history books** for different **weather events**. If one year had a long period of intense rain, trees will have formed wider light rings to reflect the extra nutrients. On the other hand, if the tree's surroundings are struck by long periods of drought, cold, or fire, the darker rings will appear closer together, because the tree was unable to grow due to lack of nutrients. Scientists therefore can **use old trees to understand how whole ecosystems have been affected over time**.

Additional Information for Activity 3: The Giving Tree

Tree Rings Picture (Large)

