EARTHLABS: Climate and the Carbon Cycle

LAB 1B: Student Data Worksheet - How Much Carbon is Stored in a Local Tree?
Name:_______________________________  Date:________________

Team members:
____________________________________________________________________

TREE species name: ________________________________

TREE common name: ________________________________

Hardwood or Softwood: ________________________________

Observations of your tree and its environment.

DATA and CALCULATIONS:
Circumference of tree: _______________(cm)

**Diameter(D) of tree: _______________(cm)** To calculate diameter, divide the circumference by 3.14(\(\pi\))
Allometric coefficients for your species of tree:

“a” coefficient _________________ “b” coefficient _________________

Biomass(M): _________________(kg) Use formula \( M = aD^b \)

Mass of carbon stored _________________(kg)

Multiply total tree biomass \((M) \times 0.521\) for mass of carbon in hardwood trees: _________________(kg)

Or:

Multiply total tree biomass \((M) \times 0.498\) for mass of carbon in softwood trees: _________________(kg)

Amount of carbon dioxide (CO2) absorbed from air to create the mass of carbon stored in tree ______________kg

Multiply mass of carbon stored(kg) by 3.67

Optional:

Amount of tree carbon(kg) = _________________metric tons (1 metric ton = 1000 kg)

This is equivalent to _______________ (lbs) of carbon (1 metric ton = 2,205 lbs)
NOTES: