

Alyssa Hamill  
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PINEMAP

## Counting Carbon Outline

Virginia Earth Science SOL: ES 11; Virginia Biology SOL: BIO.2; Virginia Math SOL: G.5 & G.7

- I. Introduction to PINEMAP – 2 minutes**
  - A. Goals: Educate people about climate change and forestry
  - B. Internship this summer at Virginia Tech
- II. Carbon and Climate Change Background – 10 minutes**
  - A. Greenhouse gases
    - i. What are they
    - ii. What do they do – increase temperature, climate change theory
    - iii. Carbon dioxide – good for trees, bad for people
  - B. Process of photosynthesis
    - i. absorb carbon dioxide – show equation
    - ii. Stored in roots, leaves, stems; sequestration
- III. Goals for Today – 30 minutes**
  - A. How much carbon can an individual tree store?
    - i. Measure Diameter at Breast Height – explanation of math behind it
    - ii. Height with clinometer and trigonometry
  - B. Why is it important to know?
    - i. Trees are a valuable resource
- IV. Conclusion and Wrap-up -10 minutes**
  - A. What can you do in your everyday life to make a difference?
  - B. Calculate your own carbon footprint at home at EPA.org

Total: 52 minutes.