

THE STANDARD

Plant Growth

Support an argument that plants get the materials they need for growth chiefly from air and water.

DCI

DISCIPLINARY
CORE IDEA

LS1.C · Organization for Matter and Energy Flow in Organisms

"Plants acquire their material for growth chiefly from air and water."

Here is the surprising part for 5th graders. A giant tree did not eat the soil to get that big. Most of what a plant is made of comes from air and water. **The plant pulls in carbon dioxide from the air and takes up water through its roots, and it builds new plant material out of those.**

SEP

SCIENCE &
ENGINEERING
PRACTICE

Engaging in Argument from Evidence

"Support an argument with evidence, data, or a model."

5th graders are not told the answer and asked to repeat it. They make a claim, like "the plant's mass came from air and water," and then back it up with real data, like the before-and-after soil weights or a graph of how the plant grew. **The skill is connecting the claim to the numbers and observations that prove it.**

CCC

CROSSCUTTING
CONCEPT

Energy and Matter

"Matter is transported into, out of, and within systems."

Here is the idea 5th graders carry out the door: matter moves. A plant is a system, and stuff is constantly moving into it. Carbon dioxide moves in from the air through the leaves. Water moves in through the roots. The plant uses that incoming matter to build new leaves, stems, and roots. The new mass did not come from nowhere. **It was transported in.**