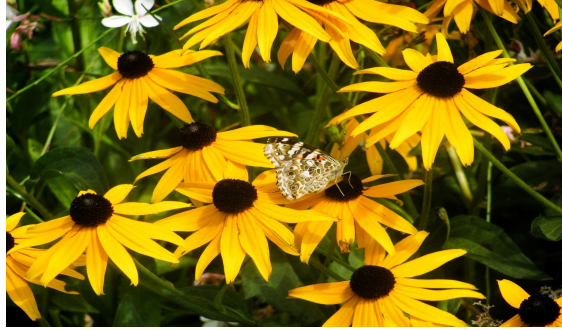




Plants on Earth Study Guide

North Carolina Essential Standard for Science 3.L.2

Do you understand the Big Picture?

- Plants are living organisms on Earth.
- Plants are part of Earth's ecosystems.
- Plants have needs, structures, and functions that are necessary for growth and survival.
- Plants depend on their environmental conditions (water, sunlight, space, air) for growth and survival.
- Plant structures perform necessary functions for survival:
 - Plant **roots** absorb nutrients (and water) from soil.
 - **Stems** provide support for plants.
 - Plant **leaves** synthesize (produce) food.
 - Plant **flowers** attract pollinators and produce seeds for reproduction.
- Many plants need soil for growth and survival.
- Soil is made of sand, clay, and humus.
- Soil has basic properties such as texture, capacity to hold water, and nutrient content.
- Seed plants have a particular life cycle:
 - Seed plants begin as a **seed**.
 - Seeds **germinate** and produce **seedlings**.
 - If a seedling has its needs met by the environment the seedling will grow into an **adult** plant.
 - An adult plant produces **seeds**.

Can you answer the "Essential Questions"?

- How do plants survive in their environments? (3.L.1, 3.L.2.2)
- How does the structure of plants support their function? (3.L.2.1)
- How does soil impact the growth and development of plants? (3.L.2.4)
- How would you describe the life cycle of a seed plant? (3.L.2.3)

Key Vocabulary: Can you explain these terms in your own words and tell how they are related?

☐ plants ☐ ecosystem ☐ survive ☐ environment ☐ function/functions ☐ plant structures: ☐ roots ☐ leaves ☐ stem ☐ flowers ☐ grow ☐ environmental conditions (<i>water, sunlight, space, air</i>) ☐ drought	☐ life cycle: ☐ seed ☐ germination ☐ seedling ☐ adult ☐ seed plants ☐ soil components: ☐ sand ☐ clay ☐ humus ☐ texture ☐ capacity to hold water ☐ nutrients ☐ nutrient content
---	---

“I Can...” Learning Targets

- ☐ I can explain that plants are living organisms on Earth that have needs, structures, and functions which are necessary for growth and survival in their environment.
- ☐ I can identify that roots are plant structures that function to absorb water and nutrients.
- ☐ I can identify that stems are plant structures that function to support plants.
- ☐ I can identify that leaves are plant structures that function to synthesize food.
- ☐ I can identify that flowers are plant structures that function to attract pollinators and produce seed for reproduction.
- ☐ I can label the names of major plant parts (roots, leaves, stems, flowers).
- ☐ I can explain the functions of the following plant structures: roots absorb water/nutrients, stem supports the plant, leaves synthesize food, and the flowers attract pollinators and produce seeds for reproduction.
- ☐ I can explain that how well a plant grows and survives is determined by a combination of environmental conditions.
- ☐ I can plan and carry out an investigation to see if plants need water and light to grow.
- ☐ I can describe how environmental conditions determine how well plants grow and survive. For example, drought conditions will impact the growth and survival of a plant.
- ☐ I can summarize the distinct stages of the life cycle of seed plants.
- ☐ I can illustrate the stages of a seed plant life cycle.
- ☐ I can explain that seed plants begin as a seed.

- ☐ I can discuss that seeds germinate and produce seedlings.
- ☐ I can explain that if a seedling's needs are met by the environment, the seedling will grow into an adult plant.
- ☐ I can explain that an adult plant produces seeds.
- ☐ I can compare the basic properties and components of soil.
- ☐ I can explain that soil is made of sand, clay, and humus.
- ☐ I can identify soil, based on properties (texture and capacity to hold water) and components (sand, clay, humus).
- ☐ I can discuss how the basic properties and components of soil determine the ability of the soil to support plant growth and survival.

