**LESSON 2**

**THE WORLD OF GREEN**

**Reference Material for Grade 3: Types of Plants and Functions of Plant Parts**

Hello, young plant explorers! Let’s dive into the wonderful world of plants. This guide will help you learn about different types of plants, their parts, and the special roles of tap and fibrous roots. Get ready to discover how plants live and grow!

**1. What Are Plants?**

Plants are living things that make their own food using sunlight. They grow in many places, like gardens, forests, and fields. Plants come in different types, each with a unique way of growing.

* **Types of Plants**:
  + **Trees**: Tall plants with a thick, woody stem called a trunk (e.g., mango tree, coconut tree).
  + **Shrubs**: Medium-sized plants with many woody stems (e.g., rose bush, tulsi).
  + **Herbs**: Small, soft plants that grow quickly and have green stems (e.g., grass, mint, coriander).
  + **Climbers**: Plants that climb up supports like walls or trees using tendrils (e.g., money plant, grapevine).
  + **Creepers**: Plants that spread along the ground (e.g., pumpkin, watermelon).

**Think About It**: Can you name one climber or creeper you’ve seen in a garden?

**2. Parts of a Plant and Their Functions**

Every plant has four main parts: roots, stem, leaves, and flowers. Each part has an important job to keep the plant healthy.

* **Roots**:
  + **Job**: Hold the plant in the soil, absorb water and nutrients, and sometimes store food.
  + Example: Carrot roots store food, which we eat!
* **Stem**:
  + **Job**: Supports the plant, carries water and nutrients from roots to leaves, and sometimes stores water or food.
  + Example: A rose stem supports its flowers and has thorns for protection.
* **Leaves**:
  + **Job**: Make food for the plant using sunlight, water, and air in a process called **photosynthesis**.
  + Example: Mint leaves make food and give a nice smell.
* **Flowers**:
  + **Job**: Attract bees and insects to help make seeds for new plants.
  + Example: A sunflower’s bright petals call bees to visit.

**Think About It**: Which plant part helps a climber hold onto a wall?

**3. Types of Roots: Tap and Fibrous**

Roots come in two main types, each helping the plant in a special way.

* **Tap Root**:
  + **What is it?**: One thick, main root that grows deep into the soil with smaller roots branching off.
  + **Job**: Finds water deep underground, holds the plant firmly, and sometimes stores food.
  + **Examples**: Carrot, radish, mango tree.
  + **Where it helps**: In dry places, tap roots reach deep water for trees or shrubs.
* **Fibrous Root**:
  + **What is it?**: Many thin roots that spread out like a net near the soil’s surface.
  + **Job**: Quickly absorb water from the surface and hold soil together.
  + **Examples**: Grass (a herb), wheat, onion.
  + **Where it helps**: In rainy places, fibrous roots grab water fast for herbs or creepers.

**Think About It**: Why might a creeper like pumpkin have fibrous roots?

**4. How Plant Parts Work Together**

Plant parts work as a team to keep the plant alive:

* Roots take in water and nutrients from the soil.
* The stem carries them to the leaves.
* Leaves use sunlight to make food.
* Flowers help make seeds for new plants.

If one part isn’t working, the plant struggles. For example, if roots can’t get water, leaves can’t make food, and the plant may droop.

**Think About It**: What happens if a climber’s stem is too weak to reach a support?

**5. Fun Facts to Explore**

* Climbers like money plants use tendrils to wrap around fences or sticks to grow higher.
* Creepers like watermelon spread out to cover the ground and get more sunlight.
* Some roots, like radish, store food to help the plant survive tough times.
* Leaves have tiny holes called stomata that let air in for photosynthesis.

**Think About It**: Can you think of a plant that stores food in its stem?