

ANGIOSPERM PLANT MORPHOLOGY



Two Groups of Plants

- Nonvascular - most primitive, rely on water coming to them.
- Vascular - contain vascular tissue that transports water.
- And Fungi – which are not plants



- **Nonvascular**
 - no vascular tissue
 - no leaves, stems, or roots
 - low growing, close to the ground
 - reach maturity quickly
 - can grow in varying climates
 - Produce food in every cell



VASCULAR PLANTS

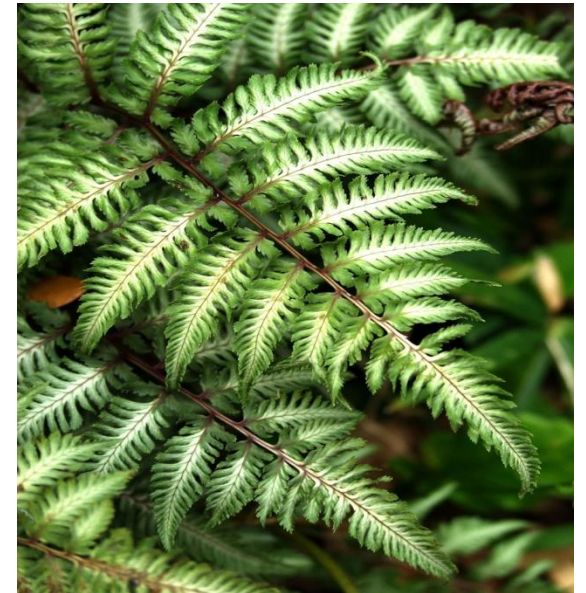
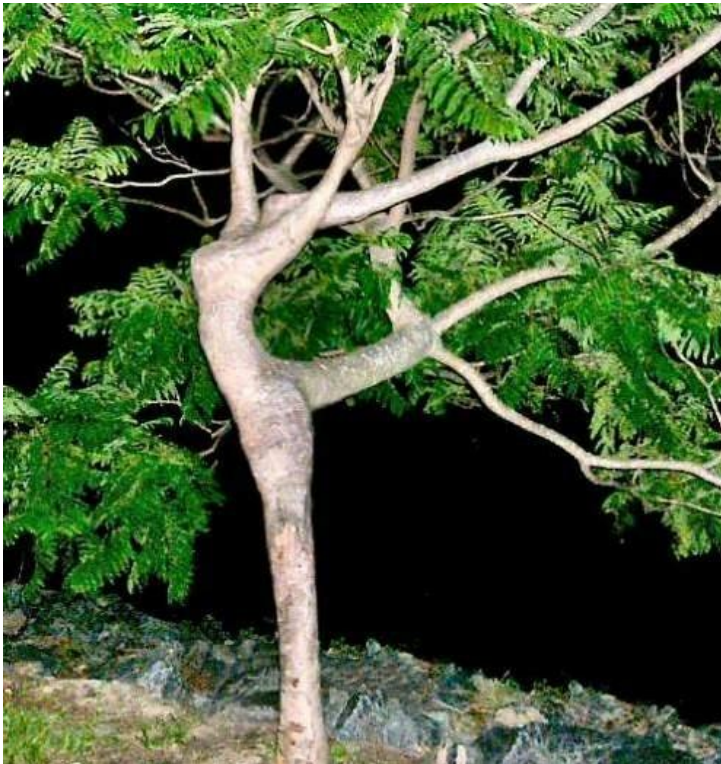
- has vascular tissue – tissue that moves food and nutrients around plant
- leaves, stems, and roots
- produces food for plant only in leaves



- **May have a long life span –**
- **one season or many**
- **grows tall and wide**
- **Has chlorophyll for photosynthesis**



**examples: ferns, trees, grasses
and flowering plants**

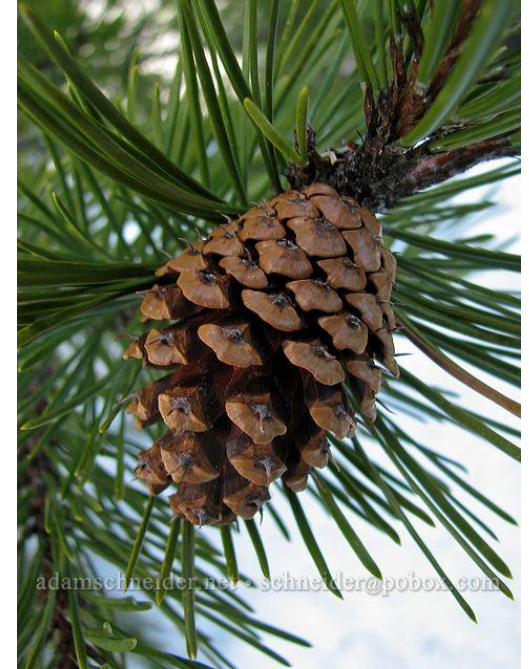
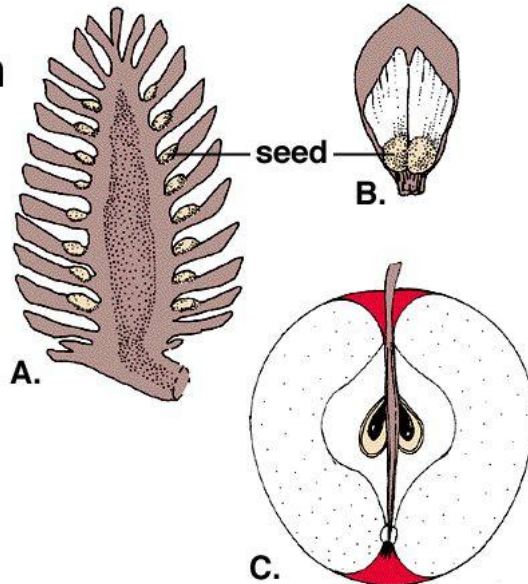


Two Groups of Vascular Plants

- Gymnosperms - naked seed
- Angiosperms - protected seed

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**Exposed
Gymnosperm
Seeds and
Enclosed
Angiosperm**



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A photograph of a forest scene. In the foreground, there are several large, bushy plants with vibrant pink flowers. The background is filled with tall, green trees, some of which have white blossoms. The overall scene is lush and colorful.

Angiosperm

**produce and store their seeds
in an ovary – often called fruit
examples - roses, elm trees,
geraniums, apple trees, etc.**

Subclasses of Angiosperms

A. Monocots –

- single seed leaf (cotyledon)
- flowers/petals grow in groups of three
- leaves have parallel veins

- Flowers often small, overlooked
- Usually grow for only one year
- Examples: corn, grasses, onions, lilies and many grains



Dicots

- two seed leaves (cotyledons)
- flowers/petals grow in groups of four or five
- leaves have network veins that branch out

Greatest number of plants are dicots

Tend to live a long time – one season or many

Produce food, clothing, housing

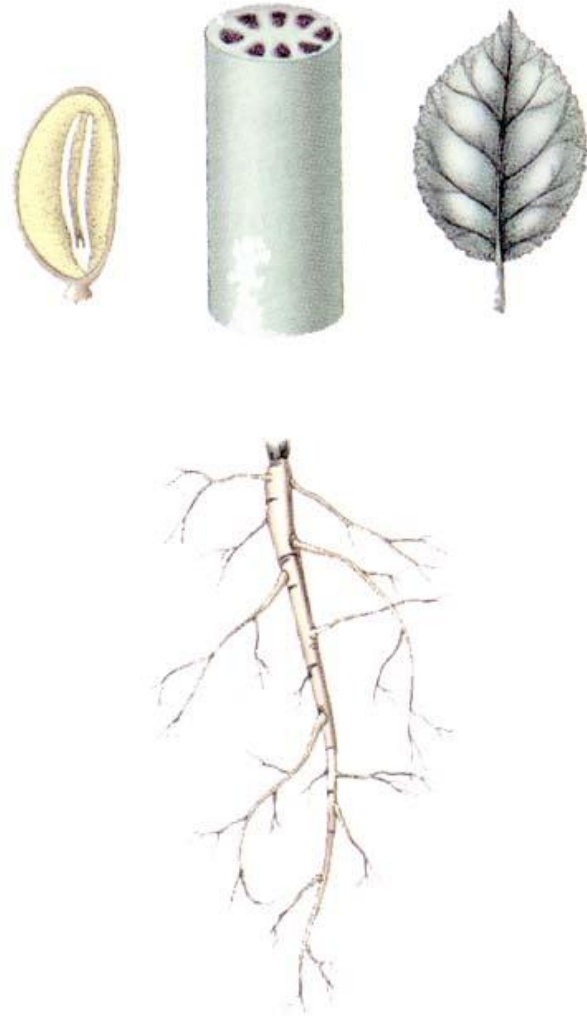
- **Examples: trees, sunflower, beans, pumpkins and clover.**



Monocot



Dicot

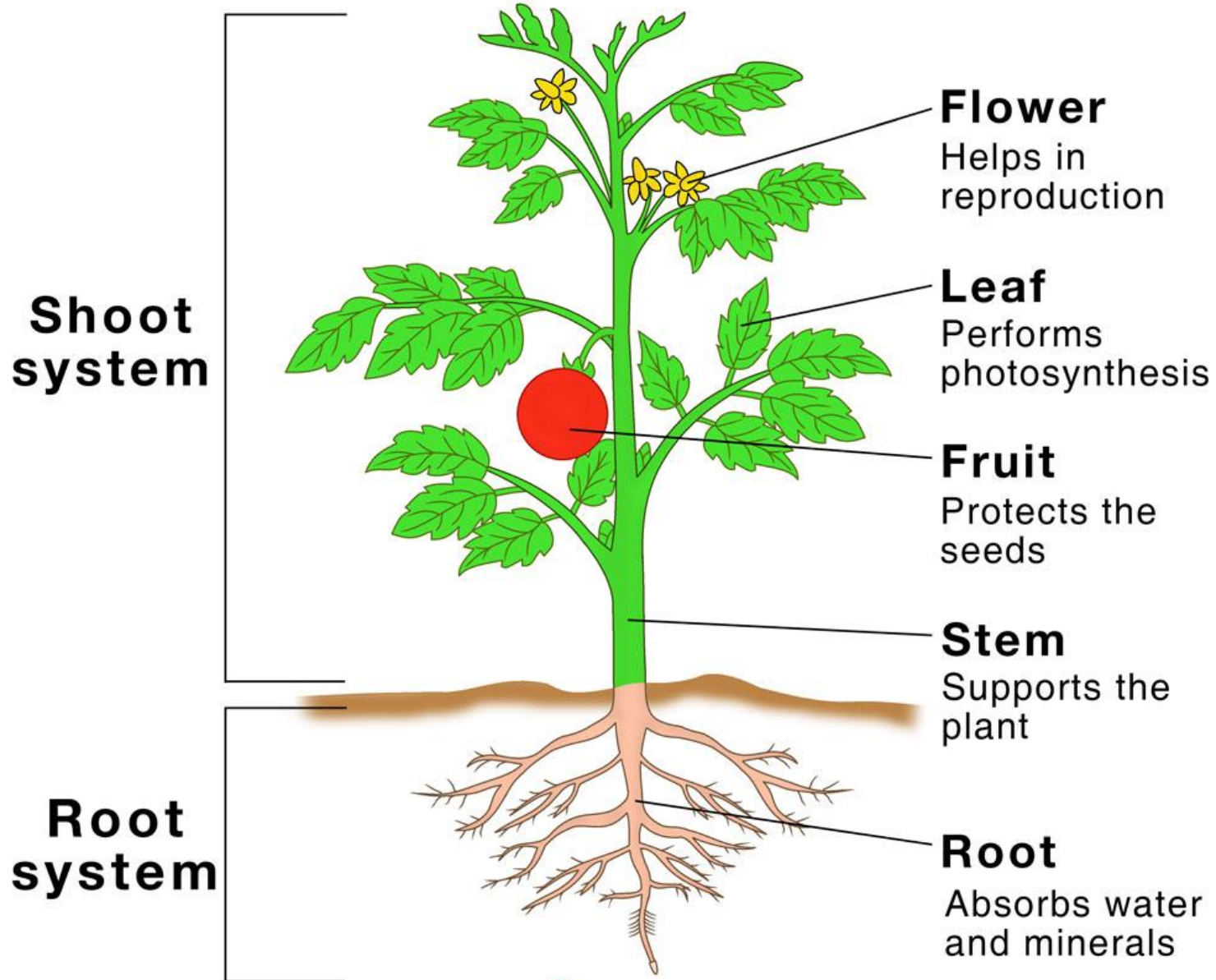


Plant morphology or **phytomorphology**- study of the physical form and external structure of plants.

Major methods Of study in plant morphology –

1. Comparative - morphologist examines structures in many different plants of the same or different species, then draws comparisons and formulates ideas about similarities. This aspect of plant morphology overlaps with the study of plant evolution and paleobotany.
2. Observe vegetative and reproductive structures. Useful in biodiversity study and plant systematics.
3. Study the habit, pattern of branching etc. – helps in analysing the distribution, habitat etc.
4. Pattern of development – process and growth pattern etc. – help in studying ecology, environmental changes and physiology.

Parts of a Plant



**Shoot
system**

Flower

Helps in
reproduction

Leaf

Performs
photosynthesis

Fruit

Protects the
seeds

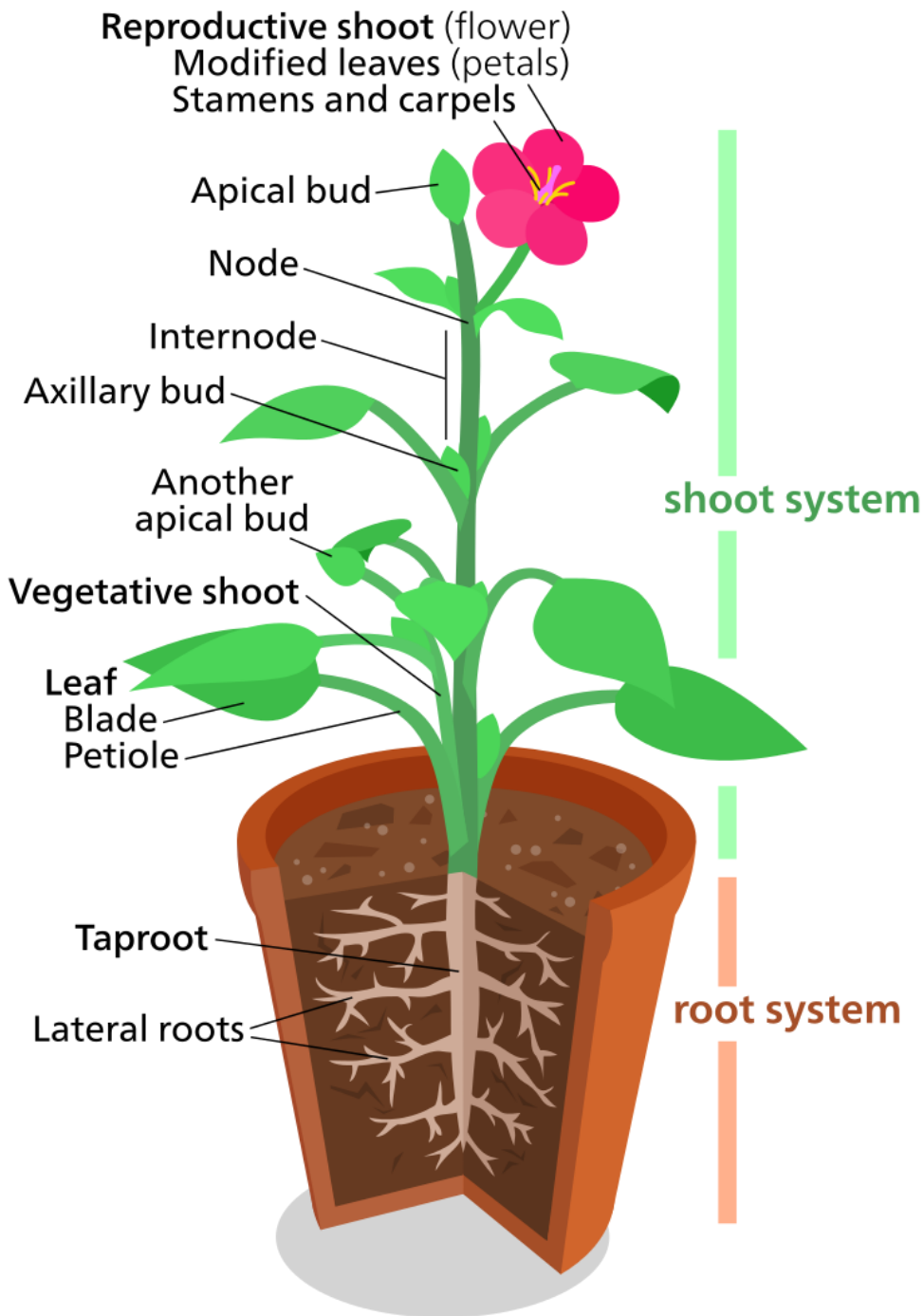
Stem

Supports the
plant

**Root
system**

Root

Absorbs water
and minerals



UNDERGROUND SYSTEM –
ROOT SYSTEM

AERIAL SYSTEM – GREEN
PARTS OF THE PLANT