

## Trees, Shrubs, & Herbaceous Plants

### I. Ferns & Fern Allies (Pteridophytes)

#### 1. List four characteristics of ferns and fern allies.

1. Release spores
2. Important during carbon age
3. Produce sperm + eggs
4. Eggs become sporophytes

#### 2. List three examples of ferns & fern allies.

1. Ferns
2. Club Mosses
3. Horsetails

### II. Gymnosperms

#### 1. Identify four characteristics of the Division Ginkgophyta.

1. Fan-shaped leaves
2. Dioecious
3. Dichotomous venation
4. Pollution-resistant

#### 2. Identify four characteristics of the Division Coniferophyta.

1. All are woody
2. Leaves are needle-like
3. Ovules mostly as cones
4. Pollen produced in male cones

#### 3. List three characteristics & examples of members of the Yew Family (Taxaceae).

1. Seeds **pungent**
2. Seed covered by fleshy cup
3. Ovules at stalk tip

Examples: American Yew, English Yew, Japanese Yew

#### 4. List three characteristics & examples of members of the Pine Family (Pinaceae).

1. Identification based on needles
2. Spiral-arranged **cone scales**
3. Mainly **evergreen**

Examples: Pine, Fir (**True**), Hemlock  
Spruce, Redwood, Douglas Fir  
Larch (**lose needles**), Cedar, Pseudolarix

### III. Subclass Hamamelididae (Angiosperms)

#### 1. Identify six characteristics of the Subclass Hamamelididae.

1. Smallest subclass
2. Dicots
3. Wind-pollinated
4. **Woody plants**
5. Catkins (**some**)
6. Lumber producing

#### 2. List three characteristics & examples of members of the Elm Family (Ulmaceae).

1. No catkins
2. Small flowers
3. Same # stamens + sep.

Examples: American Elm, Slippery Elm, Hackberry

Leaves:  
 - alternate  
 - simple  
 - serrated  
 - unequal

Leaves:  
-alternate  
-simple (lobed)

3. List three characteristics & examples of members of the Mulberry Family (*Moraceae*).

1. Mostly tropical 2. Multiple fruits 3. No catkins

Examples: Mulberry, Orange-orange, Fig

4. List three characteristics & examples of members of the Nettle Family (*Urticaceae*).

1. Herbaceous 2. Stems have hairs 3. Wind-pollinated

Examples: Stinging nettle, Clearweed, Pilea (house plant)

Leaves:  
-alternate  
-pinnately compound  
-aromatic

5. List three characteristics & examples of members of the Walnut Family (*Juglandaceae*).

1. Produce edible nuts 2. Chambered pith 3. Staminate catkins

Examples: Black walnut, Butternut, Hickory  
Bitternut, Shagbark, Pignut

6. List three characteristics & examples of members of the Birch/Hazel Family (*Betulaceae*).

1. Northern forests 2. Deciduous 3. Staminate catkins

Examples: Birch, Alders, Hazels  
Hornbeam, Hop Hornbeam, Muscledwood

7. List three characteristics & examples of members of the Beech Family (*Fagaceae*).

1. Fruit = nuts 2. 1-3 pistillate flowers 3. Staminate catkins

Examples: American Beech, White Oak, Red Oak  
Black Oak, Pin Oak, Bur Oak  
American Chestnut, Chinkapins, \_\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**IV. Subclass Caryophyllidae (Angiosperms)**

1. Identify six characteristics of the Subclass *Caryophyllidae*.

1. Weedy 2. Highly diverse 3. Agricultural pests  
4. Minor economic importance 5. Some succulent 6. Some halophytic

2. List three characteristics & examples of members of the Goosefoot Family (*Chenopodiaceae*)

1. Some secrete salt 2. Soft leaves 3. Wind-pollinated

Examples: Beet (edible), Spinach (edible), Quinoa (edible)  
Grease wood, Atriplex, Goosefoot  
(halophyte), (halophyte)

3. List three characteristics & examples of members of the Cactus Family (*Cactaceae*).

1. Succulent 2. Western Hemisphere 3. Attractive flowers (insect-pollinated)  
 Examples: Pickle-pear Cactus, Saguaro, Peyote

VI. Subclass Dileniidae (Angiosperms)

1. Identify three characteristics of the Subclass *Dileniidae*.

1. Important to humans 2. Technical Characteristics 3. Stamen mature (inside → outside)

2. List three characteristics & examples of members of the Mallow Family (*Malvaceae*).

1. Herbs 2. Showy Flowers 3. Fused stamens  
 Examples: Cotton, Velvetleaf, Okra  
Mallow, Hollyhock, Hibiscus

3. List three characteristics & examples of members of the Linden Family (*Tiliaceae*).

1. Trees + Shrubs 2. Tropical 3. Strap-shaped bracts  
 Examples: American Basswood, Baobab, Balsa

4. List three characteristics & examples of members of the Cucumber Family (*Cucurbitaceae*).

1. Vining plants 2. Large leaves 3. White/yellow fruit  
 Examples: Pumpkin, Watermelon, Cucumber

5. List three characteristics & examples of members of the Willow Family (*Salicaceae*).

1. Woody 2. Wind-pollinated 3. Pendulous catkins  
 Examples: Willow (Salix), Poplars, Cottonwood  
Weeping/Black Willow, By Tooth Aspen, Quaking Aspen

6. List three characteristics & examples of members of the Mustard Family (*Cruciferae*).

1. Herbaceous 2. Fruit = silique 3. Yellow or white flower  
 Examples: Radish, Mustard Greens, Wild Cabbage  
Broccoli, Cauliflower, Shepherd's Purse

7. List three characteristics & examples of members of the Heath Family (*Ericaceae*).

1. Mostly woody 2. Cool, acidic regions 3. Leaves = leathery / evergreen  
 Examples: Rhododendron, Blueberries, Cranberries  
Mountain Laurel, Heather, Heath

Leaves:  
 - alternate  
 - dentate  
 - unequal base

**VII. Subclass Rosidae (Angiosperms)**

**1. Identify six characteristics of the Subclass Rosidae.**

1. 1/3 of all plants
2. Nectar-Seeking Disk
3. Unfused petals
4. Seed food Storage
5. Advanced Plant
6. Stem maturity (outside → inside)

**2. List three characteristics & examples of members of the Rose Family (Rosaceae).**

1. Woody or Herbaceous
2. Nectar-Seeking Disk
3. Leaves = Compound/Alternate

Examples: Rose, Raspberry, Blackberry  
Strawberry, Cherry, Plum  
Apricot, Nectarine, Pear  
Apple, Hawthorn, Bridal Wreath

**3. List three characteristics & examples of members of the Pea Family (Leguminosae).**

1. Fruit = Legume
2. Roots = nitrogen fixing
3. Leaves = Pinnately Compound

Examples: Mimosa plant, Honey Locust, Redbud  
Kentucky Coffeetree, Black Locust, Pear  
Lentils, Soybeans, Alfalfa

**4. List three characteristics & examples of members of the Dogwood Family (Cornaceae).**

1. Woody trees/shrubs
2. Some herbs
3. Small flowers

Examples: Flowering Dogwood, Pale Dogwood, Red Osier

Leaves:  
 - opposite  
 - simple  
 - unlabeled

**5. List three characteristics & examples of members of the Maple Family (Aceraceae).**

1. Woody
2. Fruit = Samara
3. Insect-pollinated

Examples: Boxelders, Maples, Japanese  
Red, Silver, Sugar

Leaves:  
 - opposite  
 - lobed  
 - simple

**6. List three characteristics & examples of members of the Parsley/Carrot Family (Umbelliferae)**

1. Herbaceous
2. Hollow Stems
3. Temperate Region

Examples: Carrot, Queen Anne's Lace, Celery  
Dill, Parsnip, Poison Hemlock

Leaves:  
 - dissected  
 - aromatic