Name _____

Plant Identification

I. Taxonomy

1. **Define the term taxonomy.**

   Taxonomy – science of naming + classifying organisms

2. **Circle the letter of each sentence that is true about early efforts at naming organisms.**

   a. Names were usually in English.
   b. Names often described detailed physical characteristics of a species.
   c. Names could be very long. (Polynomials → 12 or more Latin words)
   d. It was difficult to standardize the names.

3. **Who developed the modern classification system of organisms?**

   Carolus Linnaeus

4. **Define the term binomial nomenclature.**

   Binomial Nomenclature – two-word naming system of organisms (developed by Linnaeus)

5. **Circle the letter of each sentence that is true about binomial nomenclature.**

   a. The system is no longer used today.
   b. Each species is assigned a two-part scientific name.
   c. The scientific name is always written in italics.
   d. The ~~second~~ first part of the scientific name is capitalized.

Common Names
- Vary among languages
- Different species share common names

6. **Identify the genus and species names of a red maple, *Acer rubrum*.**

   Genus = Acer Species = rubrum

Silver Maple

7. **List the remaining seven taxonomic levels** *(from general to specific)*.

Kingdom	- contains phyla	(Animalia) / (Plantae)
Phylum	- contains classes	(Chordata) / (Angiosperms)
Class	- contains orders	(Mammalia) / (Eudicots Rosids)
Order	- contains families	(Carnivora) / (Sapindales)
Family	- contains genera	(Felidae) / (Sapindaceae)
Genus	- contains species	(Felis) / (Acer)
Species	- individual species	(Felis concolor) / (Acer saccharinum)

Name _____

II. Leaves & Shoots

1. Identify the differences between the following leaves and draw each type of leaf.

Midrib - central vein of a leaf

Simple Leaf : leaf blade not divided to the midrib even though lobed

Compound Leaf : consists of many leaflets joined to a single stem

Bi-pinnate Leaf : leaf having leaflets on each side of a common axis

Palmate Leaf : leaf having three or more veins, leaflets, or lobes radiating from one point

2. Draw a picture of an orbicular leaf and a serrated leaf.

Orbicular Leaf

Serrated Leaf

3. What is the difference between alternate, opposite, and whorled petiole arrangements?

Can be leaves too!

Alternate - branches staggered (Sycamore, Oak, Mulberry)

Opposite - branches directly across (Maple, Ash, Dogwood)

Whorled - branches radiating (Milkweed, Cucumber R...)

4. Define the following shoot identification terms.

Bundle Scar - tiny scar within a leaf scar (left by xylem + phloem)

Lateral Bud - bud that grows a leaf and may develop into a branch

Terminal Bud - primary growth point of a stem (known as dominant bud)

Name _____

III. Flower Parts

1. Match the following flower parts with the correct definitions.

Calyx - sepals as a whole group

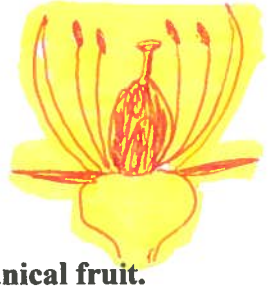
Corolla - petals as a whole group

1.	G.	Anther	A. Structure in which female gametophytes form
2.	H.	Carpel	B. Circle of flower parts that enclose a bud before it opens
3.	E.	Filament	C. Brightly colored; Attracts insects to flowers
4.	I.	Ovary	D. Male part of the flower; Made up of anther & filament
5.	A.	Ovule	E. Long, thin structure that supports the anther
6.	C.	Petal	F. Part with no differentiation between petals and sepals
7.	B.	Sepal	G. Structure in which male gametophytes form
8.	D.	Stamen	H. Female part of the flower; Made up of stigma and style
9.	K.	Stigma	I. Flower structure that contains one or more ovules
10.	J.	Style	J. Narrow stalk of the carpel in a flower
11.	F.	Tepal	K. Sticky portion at top of style; Where pollen grains land

2. Draw a picture of an inferior flower ovary and superior flower ovary.

Inferior Ovary

Superior Ovary



3. Give an example of each type of botanical fruit.

Simple Fruits

Fleshy	Dry, Indehiscent	Dry, Dehiscent
Berry : Tomato	Achene : Sunflower	Capsule : Cotton
Drupe : Cherry	Grain : Corn	Follicle : Milkweed
Pome : Apple	Nut : Pecan	Legume : Pea
	Samara : Maple	Silicle : Shepherd's Purse
	Schizocarp : Geranium	Silique : Mustard

Complex Fruits

Aggregate : Blackberry Multiple : Mulberry