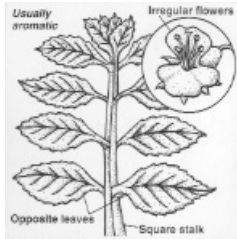


## Patterns in Plants: A Botany Lesson

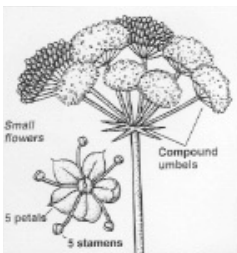
### Part A: 8 Core Plant Families (easy to identify and widespread)

Example: *Hibiscus*. Family: Mallow. Latin Name: Malvaecae. Pattern: 5 separate petals, fused stamens around pistil.

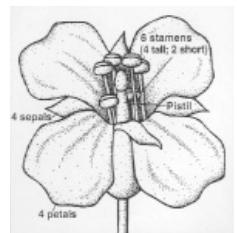
Examples: okra, hollyhock. Number of Species: 1500. Quality: mucilaginous. Cautions: greens and flowers most edible.



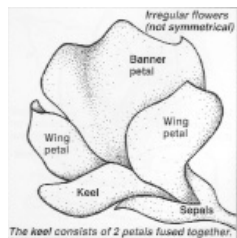
1. Family: MINT (starts 8:12 mins, p.157) Latin Name: Lamiaceae  
 Pattern: opposite leaves, square stalks, irregular flowers  
 Examples: mint, peppermint, spearmint, bergamot, basil, rosemary, lavender, thyme, marjoram, savory, sage  
 # of Species: 3,500 Quality/Taste: sweet, spicy, minty, aromatic  
 Cautions: generally harmless (safe)



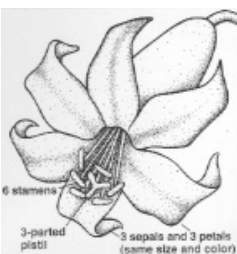
2. Family: PARSLEY (8:46, p.179) Latin Name: Apiaceae  
 Pattern: compound umbels, mostly white & yellow flowers  
 Examples: fennel, celery, anise, chervil, coriander, cumin, caraway, dill, parsley, carrots, parsnips  
 # of Species: 3,000 Quality/Taste: spicy aromatic oils  
 Cautions: water hemlock, poison hemlock; know individual plants



3. Family: MUSTARD (10:36, p.109) Latin Name: Brassicaceae  
 Pattern: symmetrical, 6stamens (4tall 2short), 4petals; short life cycles  
 Examples: radish, mustard, horseradish, cabbage, cauliflower, kohlrabi, broccoli, kale  
 # of Species: 3,200 Quality/Taste: mild to potent, stimulates digestion  
 Cautions: all edible

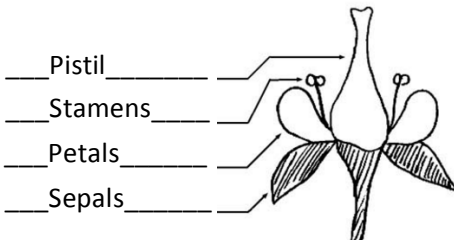


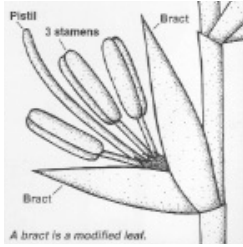
4. Family: PEA (11:46, p.79) Latin Name: Fabaceae  
 Pattern: irregular: banner, wings & keel; pea like pods  
 Examples: alfalfa, clover, sweet pea, peanuts, pinto beans, lima, soy, cow peas, lentils, garbanzos, black eyes peas (subfamily: mimosa & senna)  
 # of Species: 18,000 (3<sup>rd</sup> largest family) Quality/Taste: nitrogen fixers  
 Cautions: locoweed, lupine (mildly poisonous)



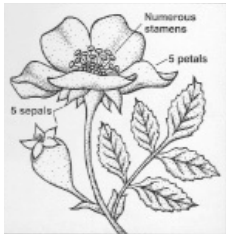
5. Family: LILY (14:28, p.192) Latin Name: Liliaceae  
 Pattern: 3 sepals & 3 petals (identical) = 6 tepals  
 Examples: Glacier Lily, Tiger lily, yellowbell, beargrass, tulip  
 # of Species: 3,700 Quality/Taste: \_\_\_\_\_  
 Cautions: Death Camas

Simple Flower Structure:  
(14:58 mins into video)

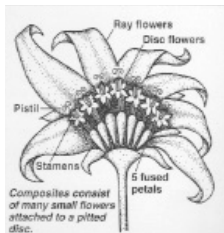




6. Family: GRASS (16:15, p.207) Latin Name: Poaceae  
 Pattern: knee like nodes in hollow flower stem, wind pollinated  
 Examples: bamboo, rice, timothy grass, wheat, oats, corn, rice, barley, millet, rye, sugar cane  
 # of Species: 10,000 Quality/Taste: some have sugar  
 Cautions: virtually all edible, but not with Ergot fungus

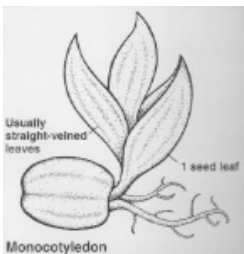


7. Family: ROSE (5:15 & 17:26, p.91) Latin Name: Rosaceae  
 Pattern: 5 petals, lots of stamens, oval serrated leaves (Plum subfamily: seam down 1 side, hard pit) (Apple subfamily: 5 pointed star on bottom)  
 Examples: blackberry, peach, apple, rosehips, strawberry, raspberry, plum, apricots, cherries, nectarines, pear, berries  
 # of Species: 3,000 Quality/Taste: astringent (tannins)  
 Cautions: cyanide compounds in leaves & seeds of some species

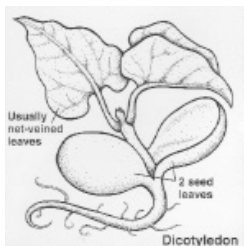


8. Family: ASTER (17:57, p.163) Latin Name: Asteraceae  
 Pattern: composite flowers, disc fl inside, ray fl outside, 5 tiny petals  
 Examples: red clover, sunflower, dandelion, thistle, chamomile, sagebrush, lettuce, yarrow, artichoke  
 # of Species: 19,000 (2<sup>nd</sup> largest family) Quality/Taste: bitter, aromatic  
 Cautions: dandelion like flowers edible, some bitter

**Part B: What kind of flowering plant? (p 15)**



**MONOCOT**  
 Families: Lily & Grass (26:23) # of Species: 60,000  
 Pattern: one-seed-leaf, parallel veins, flower parts in 3, simple branching, usually horizontal rootstalks  
 Examples: amaryllis, wandering Jew (spiderwort), chives, banana, aloe, corn, wheat



**DICOT**  
 Families: Rose, Aster, Mustard, Parsley, Pea, Mint # of Species: 200,000  
 Pattern: 2-seed-leaves, net vein leaves, flower parts in 4 or 5, complicated branching, usually taproot  
 Examples: avocado, geranium, tomatoes, hibiscus, grape, bougainvillea, guava, beans

**Part C: Identify new flowers (36:46 mins into video)**

Pattern: dicot, 4 sepals, 4 petals, 8 stamens, 4 lobed stigmas to pistil  
 Family: PRIMROSE (p.70) Species: Fireweed

**Extra Credit:** What are the names of the five card games demonstrated in the video?

Name the family (20:25), Memory (22:28), Slap Flower (24:47), Crazy Flowers (32:06), Wildflower Rummy & Shanley's Harvest (34:02)

This worksheet may be photocopied for classroom use.

Illustrations adapted from *Shanley's Quest: A Botany Adventure for Kids ages 9 to 99* and *Botany in a Day: The Patterns Method of Plant Identification* by Thomas J. Elpel with permission from HOPS Press, LLC – [www.HOPSPress.com](http://www.HOPSPress.com)