

CHAPTER 3 - CLASSIFICATION (OF LIVING THINGS)

- **classification:** grouping things according to similar characteristics
categorizing to have order and organization
makes life easier
- of organisms - readily communicate with other scientists
clearly study relationships between organisms
- **ex:** • alphabetically - dictionary, phone book, encyclopedia

supermarket - canned goods, kids' cereals, frozen. . .

- **taxonomy** study of classification of organisms
- **taxonomist** one who studies classification

(taxidermy art of stuffing and mounting animals)
(taxidermist one who stuffs and mounts animals)

• Theories of Classification:

Aristotle vs Linnaeus -

- **Linnaeus -**
 - 300 yrs ago, 1700's
 - classification system based on:
 - **form** - structure, appearance, arrangement of body parts
bone structure of whale, dog, human, bat - they're all mammals
 - food needs** - birds' beaks determine if they'll eat seeds, nuts, meat
 - behavior** - bird courtships - a peacock struts, cranes dance
 - **chemical make up** - blood of horseshoe crab and spider are similar so they're both arachnids

Binomial Nomenclature - a 2-term naming system for classifying organisms
- every org is given a 2-word Latin name which is its **scientific name**

Genus Noun	species (both italicized in print) adjective
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<i>Felis</i> (feline) a domesticated cat, Felix the Cat	<i>domesticus</i> (domesticated)
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<i>Homo</i> (man) wise or thinking human	<i>sapiens</i> (wise)
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<i>Canis</i> (canine) a familiar house pet, the dog	<i>familiaris</i> (familiar)
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<i>Canis</i> (canine) a wild dog, wolf	<i>lupus</i> (wild)
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p111 <i>Apis</i> (bee) a foraging honeybee	<i>mellifera</i> (honey-bearing)
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Sci Naming WS

reasons for BN **not long**, compared to old Greek names, p 111 old bee name
p 146 BG - carnation, p 89 Holt - Jeep

universal, no confusion, no nicknames, no language barrier

ex: soda, pop, tonic - all American, confusing!
gopher=turtle in FL, rodent elsewhere - same country, HUH!
corn (USA), maize (England) - nicknames confuse!
mt lion, puma, cougar = same large cat in N and S America
orange (USA), naranja (Spain) - language barrier

Latin Alphabet - unchanging, only written

CK

X **Man's classification**

show Classification of Humans transparencies

King	Kingdom	Animal	modern man, caveman, ape, dog, fish, bee
Philip	Phylum	Chordate	modern man, caveman, ape, dog, fish
Comes	Class	Mammal	modern man, caveman, ape, dog
Over	Order	Primate	modern man, caveman, ape
For	Family	Hominidae	modern man, caveman, (our ancestors are extinct: Neanderthal, Ranapithicus, CroMagnan 20,000-50,000 years ago)
Good	Genus	Homo	modern man (extinct: Homo erectus, Java man)
Soup	Species	sapiens	modern man

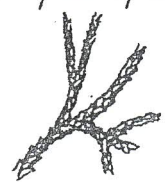
IDENTIFYING TREES ACCORDING TO THEIR LEAVES

A taxonomic key gives you two statements, usually with opposite traits. Choose the trait that is true for the tree that you're trying to key and continue following directions until you end up with the name of the tree. Each time you identify a trait **record the number and letter**. When you are done keying also **record the name of the tree**. The first one is done for you.

- 1a Tree has needles go to 2
- b Tree has leaves go to 5
- 2a Needles are in bundles go to 3
- b Needles are scale-like white cedar
- 3a There are 5 needles white pine
- b There are 2 needles go to 4
- 4a Needles are thick and spread away from each other jack pine
- b Needles are long and thin red pine
- 5a Leaves are simple go to 8
- b Leaves are compound go to 6
- 6a Leaflets radiate from one point go to 7
- b Leaflets don't radiate from on point . white ash
- 7a There are 5 leaflets buckeye
- b There are 7 leaflets horse chestnut
- 8a Leaf has notches go to 9
- b Leaf does not have notches go to 10
- 9a Notches are pointed silver maple
- b Notches are rounded sugar maple
- 10a Leaf is tapered at both ends dogwood
- b Leaf is heart-shaped catalpa



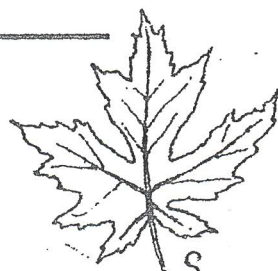
P white pine
1a, 2a, 3a



Q _____



R _____



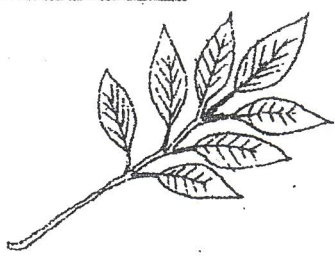
S _____



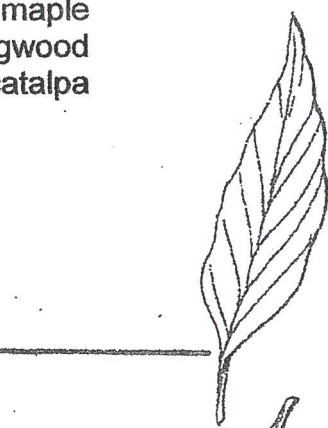
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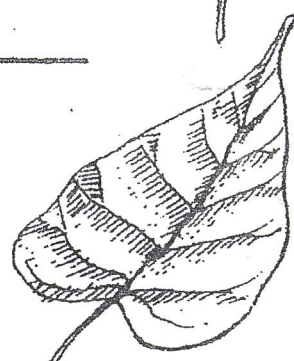
T _____



U _____



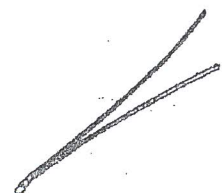
X _____



V _____



Z _____



Y _____

Name: _____ Date: _____ Sci _____

Scientific Naming

_____ (BN): a two word naming system for
classifying organisms

Every organism is given a 2-word name in _____: this is their _____

Genus (_____) - Species (_____)

Example: African elephant: *Elephas maximus*

Kind of like your name only backwards: Last name, first name

The words are written in _____ and the genus is always _____
and species is always _____.

Why use (BN) or scientific names?

Examples: _____ & _____
_____ & _____

Directions: Match the common name with the scientific name. Place the correct letter of the matching scientific name in the space provided next to the common name.

Common Name	Scientific Name
1. _____ Feline domesticated	A) <i>Magnolia grandiflora</i>
2. _____ Canine familiar	B) <i>Felis domesticus</i>
3. _____ Indian elephant	C) <i>Mantis religiosa</i>
4. _____ Collared lizard	D) <i>Crotaphytus collaris</i>
5. _____ Praying mantis	E) <i>Canis familiaris</i>
6. _____ Map turtle	F) <i>Elephas maximus</i>
7. _____ Purple finch	G) <i>Trifolium alba</i>
8. _____ House mouse	H) <i>Graptemys geographia</i>
9. _____ Southern magnolia	I) <i>Carpodacus purpureus</i>
10. _____ White clover	J) <i>Mus musculus</i>