

Student Name \_\_\_\_\_

Weed Science, PLS 4601c Section 7644  
and Grad. – Prin. Of Weed Science AGR 6932 Section 9212

University of Florida - Davie

<http://grove.ufl.edu/~turf/weedscience/>

Philip Busey, turf@ufl.edu

954-579-3932 (cell)

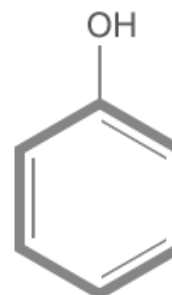
June 18, 2009

**Hour Test 1 (circle the right answers)**

**Chemistry**

1. Using the table of periodic elements below, what is the molecular weight of phenol, C<sub>6</sub>H<sub>5</sub>OH ?

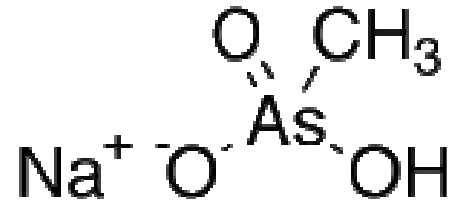
- a) 48
- b) 50
- c) 78
- d) **94 <<<<<<<<<**
- e) None of the above



Period	1																	18	
1	1 <b>H</b> 1.008	2											13	14	15	16	17	2 <b>He</b> 4.003	
2	3 <b>Li</b> 6.941	4 <b>Be</b> 9.012	Group										5 <b>B</b> 10.81	6 <b>C</b> 12.01	7 <b>N</b> 14.01	8 <b>O</b> 16.00	9 <b>F</b> 19.00	10 <b>Ne</b> 20.18	
3	11 <b>Na</b> 22.99	12 <b>Mg</b> 24.31	3	4	5	6	7	8	9	10	11	12	13 <b>Al</b> 26.98	14 <b>Si</b> 28.09	15 <b>P</b> 30.97	16 <b>S</b> 32.07	17 <b>Cl</b> 35.45	18 <b>Ar</b> 39.95	
4	19 <b>K</b> 39.10	20 <b>Ca</b> 40.08	21 <b>Sc</b> 44.96	22 <b>Ti</b> 47.88	23 <b>V</b> 50.94	24 <b>Cr</b> 52.00	25 <b>Mn</b> 54.94	26 <b>Fe</b> 55.85	27 <b>Co</b> 58.93	28 <b>Ni</b> 58.69	29 <b>Cu</b> 63.55	30 <b>Zn</b> 65.39	31 <b>Ga</b> 69.72	32 <b>Ge</b> 72.59	33 <b>As</b> 74.92	34 <b>Se</b> 78.96	35 <b>Br</b> 79.90	36 <b>Kr</b> 83.80	
5	37 <b>Rb</b> 85.47	38 <b>Sr</b> 87.62	39 <b>Y</b> 88.91	40 <b>Zr</b> 91.22	41 <b>Nb</b> 92.91	42 <b>Mo</b> 95.94	43 <b>Tc</b> (98)	44 <b>Ru</b> 101.1	45 <b>Rh</b> 102.9	46 <b>Pd</b> 106.4	47 <b>Ag</b> 107.9	48 <b>Cd</b> 112.4	49 <b>In</b> 114.8	50 <b>Sn</b> 118.7	51 <b>Sb</b> 121.8	52 <b>Te</b> 127.6	53 <b>I</b> 126.9	54 <b>Xe</b> 131.3	
6	55 <b>Cs</b> 132.9	56 <b>Ba</b> 137.3	57 <b>La</b> 138.9	72 <b>Hf</b> 178.5	73 <b>Ta</b> 180.9	74 <b>W</b> 183.9	75 <b>Re</b> 186.2	76 <b>Os</b> 190.2	77 <b>Ir</b> 192.2	78 <b>Pt</b> 195.1	79 <b>Au</b> 197.0	80 <b>Hg</b> 200.5	81 <b>Tl</b> 204.4	82 <b>Pb</b> 207.2	83 <b>Bi</b> 209.0	84 <b>Po</b> (210)	85 <b>At</b> (210)	86 <b>Rn</b> (222)	
7	87 <b>Fr</b> (223)	88 <b>Ra</b> (226)	89 <b>Ac</b> ~(227)	104 <b>Rf</b> (257)	105 <b>Db</b> (260)	106 <b>Sg</b> (263)	107 <b>Bh</b> (262)	108 <b>Hs</b> (265)	109 <b>Mt</b> (266)	110 <b>Ds</b> (271)	111 <b>Uuu</b> (272)	112 <b>Uub</b> (277)	114 <b>Uuq</b> (296)		116 <b>Uuh</b> (298)		118 <b>Uuo</b> (?)		
Lanthanide Series			58 <b>Ce</b> 140.1	59 <b>Pr</b> 140.9	60 <b>Nd</b> 144.2	61 <b>Pm</b> (147)	62 <b>Sm</b> 150.4	63 <b>Eu</b> 152.0	64 <b>Gd</b> 157.3	65 <b>Tb</b> 158.9	66 <b>Dy</b> 162.5	67 <b>Ho</b> 164.9	68 <b>Er</b> 167.3	69 <b>Tm</b> 168.9	71 <b>Lu</b> 175.0				
Actinide Series			90 <b>Th</b> 232.0	91 <b>Pa</b> (231)	92 <b>U</b> (238)	93 <b>Np</b> (237)	94 <b>Pu</b> (242)	95 <b>Am</b> (243)	96 <b>Cm</b> (247)	97 <b>Bk</b> (247)	98 <b>Cf</b> (249)	99 <b>Es</b> (254)	100 <b>Fm</b> (253)	101 <b>Md</b> (256)	102 <b>No</b> (254)	103 <b>Lr</b> (257)			

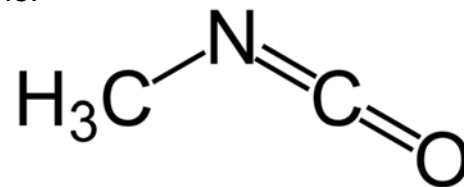
2. How many units of molecular weight of the herbicide MSMA (monosodium methanearsenate) come from the arsenic? It has the molecular formula  $\text{CH}_4\text{AsNaO}_3$

- a) 1  
 b) 25  
 c) **75 <<<<<<<<**  
 d) 100  
 e) None of the above



3. Methyl isocyanate, a highly toxic organic compound used in the manufacture of some pesticides, caused the Bhopal disaster in 1984. It has the molecular formula  $\text{C}_2\text{H}_3\text{NO}$ . The methyl group is the:

- a)  $\text{C}_2$   
 b)  $\text{N}=\text{C}$   
 c)  $\text{H}_3$   
 d)  **$\text{CH}_3$  <<<<<<<<**  
 e) None of the above



4. Aromatic hydrocarbons are derived from a 6-carbon molecule which has a strong ring:

- a) anthracene  
 b) **benzene <<<<<<<<**  
 c) glucose  
 d) hexane  
 e) naphthalene

5. The molecular weight is about 162 for the herbicide MSMA (monosodium methanearsenate) which has the molecular formula  $\text{CH}_4\text{AsNaO}_3$ . What percent arsenic (As) is MSMA?

- a) 100%  
 b) **about 46% <<<<<<<<**  
 c) about 75%  
 d) about 162%  
 e) None of the above

6. Which are noble elements?
- a) H – Li – Na - K
  - b) Be – Mg – Ca - Sr
  - c) F – Cl – Br - I
  - d) He – Ne – Ar - Kr <<<<<<<<**
  - e) None of the above

### **Plant Anatomy and Physiology**

7. An organelle that does translation of messenger RNA to polypeptide (precursor to protein):
- a) logarithm
  - b) mitochondrion
  - c) nucleus
  - d) ribosome <<<<<<<<**
  - e) None of the above
8. What organelle is involved with respiration in plants?
- a) chloroplast
  - b) mitochondrion <<<<<<<<**
  - c) nucleus
  - d) ribosome
  - e) None of the above
9. An organelle the does photosynthesis:
- a) logarithm
  - b) mitochondrion
  - c) nucleus
  - d) ribosome
  - e) None of the above <<<<<<<<**
10. The movement of water from the landscape to the atmosphere is called:
- a) evapotranspiration <<<<<<<<**
  - b) exhaltation
  - c) incubation
  - d) intubation
  - e) respiration

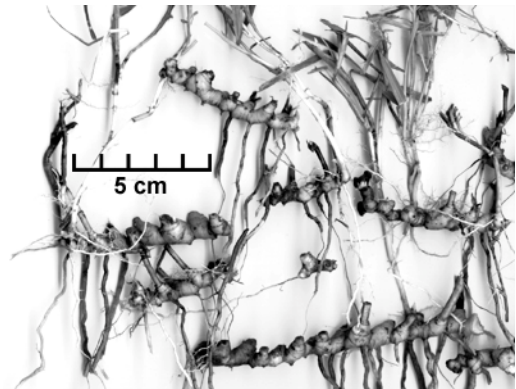
**Ecology and Biology of Weeds**

11. What are some common characteristics of weeds:
- a) large number of seeds
  - b) underground rhizomes
  - c) opportunistic
  - d) All of the above <<<<<<<<**
  - e) None of the above
12. Shift in plant species composition of a community over time is:
- a) acquisition
  - b) evolution
  - c) founder effect
  - d) migration
  - e) succession <<<<<<<<**
13. When a weed or weed population, or anything, grows rapidly without limitation and without competition, it grows:
- a) by compounding
  - b) exponentially
  - c) in an upwards curve
  - d) All of the above <<<<<<<<**
  - e) None of the above
14. In the article on “Impact of cultural factors on weed populations in St. Augustinegrass turf,” the highest dollarweed canopy coverage was observed in St. Augustinegrass turf:
- a) under the highest (most frequent) irrigation <<<<<<<<**
  - b) under the highest mowing height
  - c) under the lowest (most delayed) irrigation
  - d) under the lowest mowing height
  - e) None of the above

15. The dominant weed (largest canopy %) in our quadrat survey in the courtyard was a bunch type weed:
- a) creeping charlie
  - b) dollarweed
  - c) henbit
  - d) smutgrass <<<<<<<<**
  - e) None of the above

### Weed Morphology and Identification Traits

16. A dry type of fruit that breaks up, sometimes into segments:
- a) achene
  - b) berry
  - c) capsule <<<<<<<<**
  - d) pome
  - e) samara
17. The gingerlike things at the right are horizontal stems that grow underground and are called:
- a) culms
  - b) fruits
  - c) rhizomes <<<<<<<<**
  - d) stolons
  - e) tubers



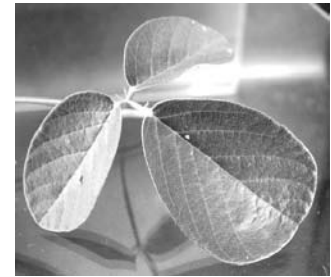
18. A fully subdivided leaf with separate leaflets is:
- a) compound <<<<<<<<**
  - b) decussate
  - c) pinnatifid
  - d) simple
  - e) None of the above

19. The fruit of the grass plant is a caryopsis because it is usually:
- dry, many ovules, and fruit wall is fused to the mature ovule
  - dry, one ovule, and fruit wall is fused to the mature ovule** <<<<<<<<
  - fleshy, many ovules, and fruit wall is fused to the mature ovule
  - fleshy, one ovule, and fruit wall is fused to the mature ovule
  - None of the above

### Weed Families and Species

20. The weed to the right has the scientific name:

- creeping beggarweed
- Desmodium incanum** <<<<<<<<
- southern sida
- Spanish needle
- white clover



21. Weeds in the Asteraceae family are:

- broadleaf weeds
- have flowers in heads
- have fruits that often blow in the wind on a little parachute-like pappus
- All of the above** <<<<<<<<
- None of the above

22. The weed to the right is in the family:

- Asteraceae
- Cyperaceae** <<<<<<<<
- Fabaceae
- Poaceae
- Rubiaceae



23. What genus of weed is this?

- Amaranthus** <<<<<<<<
- Bidens
- Desmodium
- Richardia
- Sida



24. Which grass grows as a bunch?

- a) bermudagrass
- b) goosegrass <<<<<<<<**
- c) nutgrass
- d) spurge
- e) torpedograss

25. What family is this weed in?

- a) Asteraceae
- b) Cyperaceae
- c) Fabaceae
- d) Poaceae <<<<<<<<**
- e) Rubiaceae



26. Which weed does not easily fit within a category grass, sedge, or broadleaf weed?

- a) Broomsedge (*Andropogon virginicus*)
- b) Bull paspalum (*Paspalum setaceum*)
- c) Common dayflower (*Commelina communis*) <<<<<<<<**
- d) Creeping beggarweed (*Desmodium incanum*)
- e) Spanish needle (*Bidens alba*)

27. What family is this weed in?

- a) Asteraceae
- b) Cyperaceae
- c) Orchidaceae
- d) Poaceae
- e) Rubiaceae <<<<<<<<**



28. It is easiest to identify a weed if the following is (are) available?

- a) **flowers and fruits <<<<<<<<**
- b) leaves and roots
- c) pollen
- d) rhizomes and stolons
- e) None of the above

29. What family is the weed to the right?

- a) **Asteraceae <<<<<<<<**
- b) Cyperaceae
- c) Orchidaceae
- d) Poaceae
- e) Rubiaceae



30. This family does not have broadleaf weeds:

- a) Asteraceae
- b) Euphorbiaceae
- c) Fabaceae
- d) **Poaceae <<<<<<<<**
- e) Rubiaceae

31. The weed to the right has the common name:

- a) creeping beggarweed
- b) Desmodium incanum
- c) **southern sida <<<<<<<<**
- d) Spanish needle
- e) white clover



32. List five disadvantages of weeds:

- poisonous
- allergy causing
- parasitic on other plants
- cause flooding when grow over canals
- crowd out native habitats
- hosts unwanted insects and other pests
- expensive and hard to manage
- in some cases, cannot be controlled
- cause increased use of herbicides
- adaptable, germinate in different environments
- seed long-lived, produced over a long time
- rapid growth, high seed production
- reduce crop quality
- take over
- produce many seeds
- contaminate crops
- opportunistic
- puncture bicycle tires
- unattractive esthetically
- lowers property values
- compete with other plants for water and nutrients
- block the view causing accidents

33. Explain the two different usages of the word "seed" :

- unit of dispersal
- mature ovule

34. Someone called you on the telephone asking what kind of weed they had. What questions would you have to ask to determine if possible what they had:

It is most often impossible to reliably identify a weed over the telephone, however I would ask about:

picture available? email it to me?

height

tree, shrub, or herb

stems erect or prostrate

odor? Itchy?

does it have flowers or fruits?

if so, flower color and petals or fused corolla, flower shape

flowers terminal or axillary

flowers zygomorphic or actinomorphic?

stipules present? Interpetiolar?

type of inflorescence; head?

milky latex present or absent

what county, state, country, and continent the unknown weed occurs

when did you see it?

growth habit, spreading or bunch

type of leaves, long vs. short, simple vs. compound, palmate or pinnate or trifoliate?, serrate or entire? shiny or dull?

shape of leaves, e.g., wider than long

location of leaves, alternate or opposite or whorled

type of seed

venation parallel or reticulate

type of fruit (berry, capsule, achene)

spines present or absent, tendrils?

where growing, type of site, wet or dry, landscape or roadside

hair present or absent on leaves and stems

underground parts, if any, rhizomes, tubers, corms, strong taproot stolons?

flower parts in 3s or in 4s and 5s

looks like anything else you've ever seen?