

# Potions and Poisons B Key

Science Olympiad North Regional Tournament at the  
University of Florida



1. \_\_\_\_ C \_\_\_\_

2. \_\_\_\_ B \_\_\_\_

3. \_\_\_\_ A \_\_\_\_

4. \_\_\_\_ D \_\_\_\_

5. \_\_\_\_ C \_\_\_\_

6. \_\_\_\_ A \_\_\_\_

7. \_\_\_\_ C \_\_\_\_

8. \_\_\_\_ A \_\_\_\_

9. \_\_\_\_ B \_\_\_\_

10. \_\_\_\_ D \_\_\_\_

11. \_\_\_\_ C \_\_\_\_

12. \_\_\_\_ B \_\_\_\_

13. \_\_\_\_ A \_\_\_\_

14. \_\_\_\_ B \_\_\_\_

15. \_\_\_\_ B \_\_\_\_

16. \_\_\_\_ D \_\_\_\_

17. \_\_\_\_ B \_\_\_\_

18. \_\_\_\_ C \_\_\_\_

19. \_\_\_\_ B \_\_\_\_

20. \_\_\_\_ D \_\_\_\_

21. \_\_\_\_\_ Magnesium sulfate \_\_\_\_\_

22. \_\_\_\_\_ anemia \_\_\_\_\_

23. \_\_\_\_\_ *Urtica ferox* \_\_\_\_\_

28. \_\_\_\_\_ copper \_\_\_\_\_

29. \_\_\_\_\_ silver \_\_\_\_\_

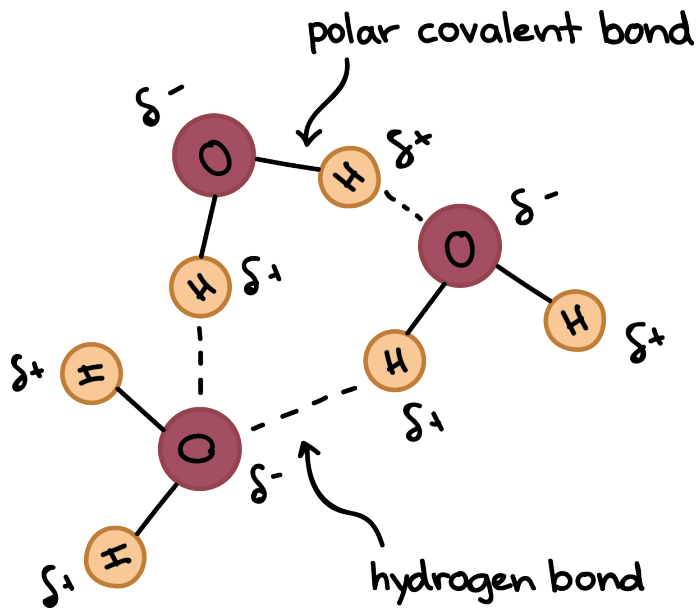
30. \_\_\_\_\_ gold (or brass) \_\_\_\_\_

33. \_\_\_\_\_ pink (or magenta) \_\_\_\_\_

34. \_\_\_\_\_ clear (or white) \_\_\_\_\_

35. \_\_\_\_ A \_\_\_\_

24.



25. Ionic bonds – a bond between charged ions, usually a metallic cation and nonmetallic anion; a bond between atoms with a substantial difference in electronegativity (usually 1.5 or higher)  
 Ex: NaCl, KSO<sub>4</sub>  
 Covalent bonds – a bond between usually two nonmetallic atoms, resulting in sharing the electrons; a bond between atoms with a low difference in electronegativity (usually 1.2 or lower)  
 Ex: CH<sub>4</sub>, H<sub>2</sub>O
26. No, because iron and calcium react with each other. The calcium interferes with the intestinal absorption of iron, so people taking both supplements will only benefit from the calcium, not the iron. The mechanism that the calcium blocks the iron is unclear.  
 \*it is only harmless if people are aware they are not absorbing the iron. People who are not aware yet are depending on the intake of iron from the supplement can potentially suffer tremendously from a lack of iron
27. Lead in the drinking water because it leads to lead poisoning (heavy metal poisoning). Lead poisoning results in physical disabilities such as constipation, seizures, headaches, and inability to have children, in addition to mental disabilities such as memory problems, intellectual disabilities (mental retardation), and behavioral problems. Lead mainly attacks the bones, kidneys, and the cardiovascular, immune, and reproductive systems.
31. Silver to gold; the copper and the zinc are mixed together to form a brass alloy. Alloys are mixtures, meaning the formation of an alloy is a physical change, not a chemical one.
32. Copper to silver; the zinc metals reacts with the zinc solution, resulting in a redox reaction that plates the penny with zinc ions.