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 ______________  
24.  
25. ______________ copper ______________  
26. ______________ silver ______________  
27. ______________ gold (or brass) ______________  
28. ______________ pink (or magenta) ______________  
29. ______________ clear (or white) ______________  
30. ______________  
31. ____ A ____
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, KSO₄

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: CH₄, H₂O

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.