Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_ Ast: \_\_\_\_\_

**Physical Science Honors:**

**Ionic Bonds Notes**

1. **REVIEW**
   1. According to the octet rule, how many valence electrons do atoms need in order to have a full outer shell?
   2. What is the trick to determining how many valence electrons an element will have?
2. **IONS**
3. What is an ion?
4. What are the two ways an atom can become an ion?
5. What kind of ion forms when atoms lose electrons?
6. What kind of ion forms when atoms gain electrons?
7. **IONIC CHARGES**
8. What determines the strength of the charge of an ion?
9. Why will chlorine form an ion with a charge of -1?
10. Try to write the correct ions for the following elements:
    1. \_\_\_\_\_ Sulfur
    2. \_\_\_\_\_ Potassium
11. Which groups of elements will form negative ions? Why?
12. Which groups of elements will form positive ions? Why?
13. What kinds of ions can group 14 elements form?
14. **IONIC BONDS**
15. What holds an ionic bond together?
16. Why do ions form neutral compounds?
17. What are polyatomic ions?
18. **NAMING IONIC COMPOUNDS**
19. What order do the ions go in when naming an ionic compound?
20. What is the significance of ending the compound in “…ide” vs. “…ate”?
21. Try to write the correct name for these ionic compounds:
22. Al2S3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
23. Na2CO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
24. Name the following ionic compounds:
25. NaCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
26. CaCl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
27. LiNO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
28. MgCl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
29. NH4F \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
30. Write the correct formula for the following ionic compounds:
31. potassium bicarbonate \_\_\_\_\_\_\_\_\_\_
32. sodium sulfate \_\_\_\_\_\_\_\_\_\_
33. calcium fluoride \_\_\_\_\_\_\_\_\_\_
34. lithium sulfide \_\_\_\_\_\_\_\_\_\_
35. aluminum oxide \_\_\_\_\_\_\_\_\_\_
36. **PROPERTIES OF IONIC COMPOUNDS**
37. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - atoms form organized, alternating 3-D patterns
38. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - tend to be solid at room temperature
39. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - tend to form good conductors (in solution)