

# Chemistry Level I : Test I Mid-term

1. Draw and label the parts of an atom.



2. Using your Periodic Table answer the following:

- a. What is the lightest element? \_\_\_\_\_
- b. What is the heaviest naturally occurring element? \_\_\_\_\_
- c. What is the symbol for lithium? \_\_\_\_\_
- d. How many electrons does lithium have? \_\_\_\_\_
- e. What is the atomic weight for lithium? \_\_\_\_\_
- f. How many neutrons does lithium have? \_\_\_\_\_

3. In your own words explain how bonds are formed between atoms.

---

---

---

---

---

---

---

---

---

---

4. Name two ways electrons can be shared between atoms.

\_\_\_\_\_

5. What is the name for an "equally-shared" electron bond?

\_\_\_\_\_

6. What is the name for an "unequally-shared" electron bond?

\_\_\_\_\_

7. Methane,  $\text{CH}_4$ , has what kinds of bonds?

\_\_\_\_\_

8. Sodium chloride,  $\text{NaCl}$ , has what kind of bond?

\_\_\_\_\_

9. How many bonds can hydrogen form?

\_\_\_\_\_

10. How many bonds can carbon form?

\_\_\_\_\_

11. How many bonds can nitrogen form?

\_\_\_\_\_

12. How many bonds can oxygen form?

\_\_\_\_\_

13. In your own words describe a *combination reaction* and give an example.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

14. What kind of reaction does water undergo if you apply high heat or an electric current?

\_\_\_\_\_

15. In your own words describe an *exchange reaction* and give an example.

---

---

---

16. List four ways to tell if a chemical reaction has occurred.

---

---

---

---

17. Circle the correct word to complete the sentences:

An acid has a pH above below equal to 7.

A base has a pH above below equal to 7.

Pure water has a pH above below equal to 7.

18. List three ways to measure pH.

---

---

---

19. In your own words describe a *neutralization reaction* and give an example.

---

---

---

20. How can you determine whether an unknown liquid is an acid or a base?  
What technique could you use to find the concentration of the unknown acid  
or base?

---

---

---