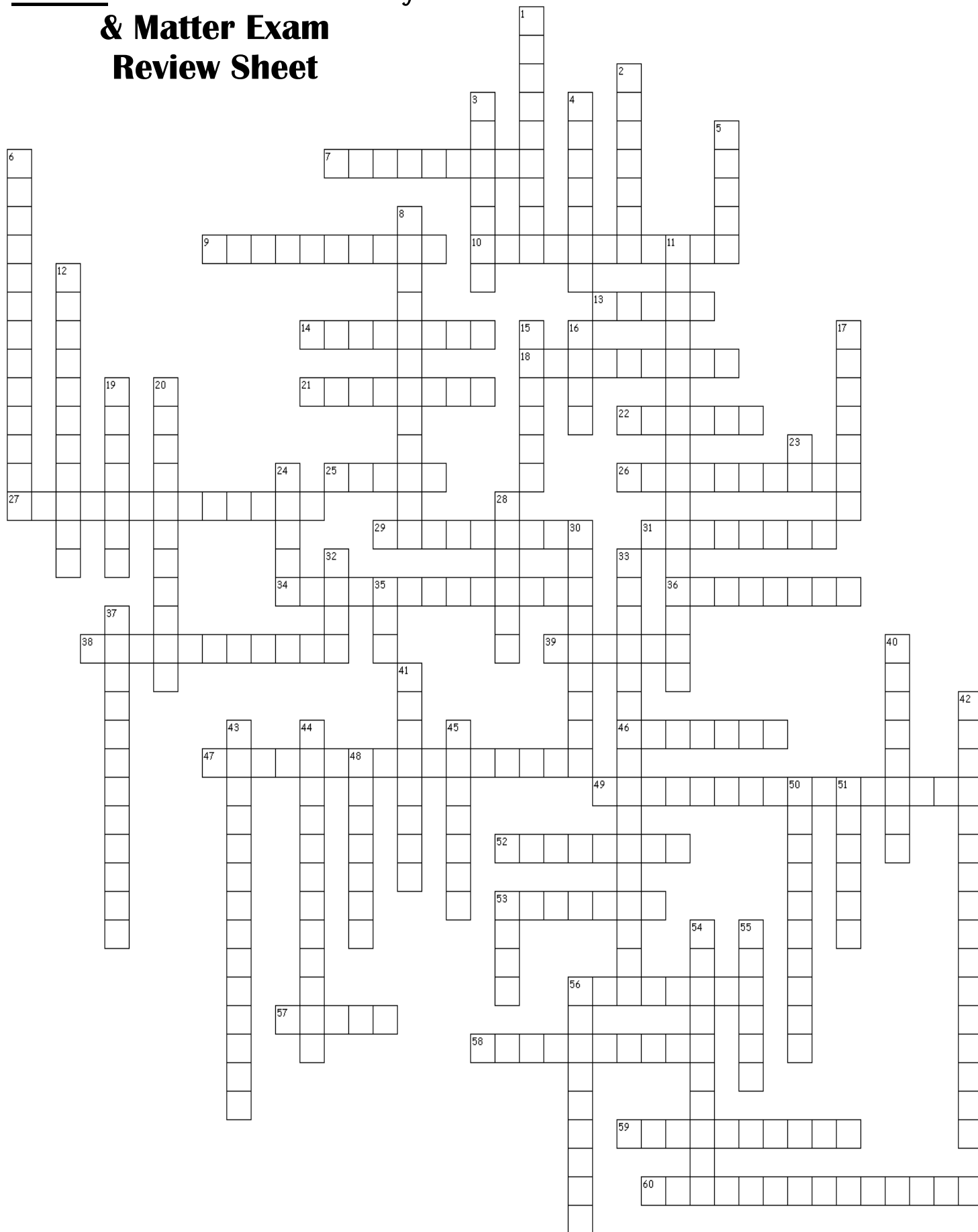


# Unit 1: Intro to Chemistry & Matter Exam Review Sheet



Name: \_\_\_\_\_ Date: \_\_\_\_\_ Mod: \_\_\_\_\_ Exam Date: \_\_\_\_\_

**A. Complete the crossword puzzle using the following clues:**

**Across**

7. substances that react in a chemical reaction
9. the branch of chemistry that studies the identification of the components and composition of materials
10. the branch of chemistry that uses mathematics and computers to understand the principles behind observed chemical behavior and to design and predict the properties of new compounds
13. a representation of an object or an event that can be studied
14. the closeness of measurements to the correct or accepted value of the quantity measured
18. a property that depends on the amount of matter that is present
21. the state change from a liquid to a solid
22. a high-temperature physical state of matter in which atoms lose their electrons
25. state of matter in which the substance has definite volume and definite shape
26. the state change from a gas directly to a solid
27. a summary of an observed natural event
29. the branch of chemistry that studies all substances not containing carbon
31. a homogeneous mixture of two or more substances uniformly spread throughout a single phase
34. a physical change of a substance from one state to another
36. a mixture of immiscible liquids in which the liquids are spread throughout one another
38. a type of mixture having uniform composition throughout
39. in this type of proportion, as one variable increases the other increases by the same amount or vice versa
46. in this type of proportion, as one variable increases the other decreases by the same amount or vice versa
47. a characteristic that can be observed or measured without changing the identity of the substance
49. two atoms of the same element with a nonpolar covalent bond; they include hydrogen, nitrogen, fluorine, oxygen, chlorine, bromine, and iodine
52. an element that is a poor conductor of heat and electricity, is dull, and is brittle
53. type of research carried out to solve a problem
56. the branch of chemistry that studies the properties and changes of matter and their relation to energy
57. a vertical column on the periodic table
58. a mixture that looks uniform when stirred or shaken but separates into different layers when it is no longer agitated
59. a testable prediction made using all of the data available
60. a change in a substance that does not involve a change in the identity of the substance

**Down**

1. a property that does not depend on the amount of matter present
2. a pure substance made of only one kind of atom
3. how massive an object is compared to its size
4. a blend of two or more pure substances, each of which retains its own identity and properties
5. an element that is a good conductor of heat and electricity, is malleable, ductile, and shiny
6. a type of mixture not having uniform composition throughout
8. the state change from a liquid to a gas at or above the boiling point
11. the ability of a substance to undergo a change that transforms it into a different substance
12. the state change from a liquid to a gas below the boiling point
15. a horizontal row of elements in the periodic table
16. the smallest unit of an element that maintains the properties of that element
17. the state change from a solid to a liquid
19. the branch of chemistry that studies most carbon-containing compounds
20. the state change from a solid directly to a gas
23. the scientific measurement system accepted worldwide
24. type of research carried out for the sake of increasing knowledge
28. anything that has mass and takes up space
30. the study of the composition, structure, and properties of matter and the changes it undergoes
32. a measure of the amount of matter in an object
33. a tested, possible explanation of a natural event
35. the state of matter in which a substance has neither definite volume nor definite shape
37. the state change from a gas to a liquid
40. substances that are formed by a chemical reaction
41. a substance that is made from the atoms of two or more elements that are chemically bonded
42. a logical approach to solving problems
43. a change in which one or more substances are converted into different substances; also called a chemical reaction
44. the branch of chemistry that studies the substances and processes occurring in living things
45. a mixture of very tiny particles of pure substances that are dispersed in another substance but do not settle out
48. the forerunner of Chemistry practiced in the middle ages and Renaissance
50. elements along the stair-step line of the periodic table that have some metal and some nonmetal characteristics; they are semiconductors
51. the state of matter in which the substance has a definite volume but an indefinite shape
53. expresses the extent of a 2D surface or shape in the plane
54. the application of pure scientific knowledge for practical purpose
55. the amount of space occupied by an object
56. the closeness of a set of measurements to each other

**B. On loose-leaf, convert each of the following – use the factor label method – show your work!**

1. 31.0 mL to hL
2. 0.215 kg to  $\mu\text{g}$
3. 6.3 m to centimeters
4. 0.0325 Mm to meters

**C. Change the following into or out of scientific notation.**

1.  $2.0 \times 10^4 \text{ m}$
2.  $5.70 \times 10^{-2} \text{ g}$
3. 7800 mL
4. 0.000910 mg

**D. Complete the following table.**

Base Measurement	Unit	Abbreviation
1.		
2.		
3.		
4.		
5.		
6.		
7.		

**E. Fill in the groups names from the Periodic Table.**

- Group 1: \_\_\_\_\_
- Group 2: \_\_\_\_\_
- Groups 3 – 12: \_\_\_\_\_
- Period 6 Below (Contains Elements 57 – 71): \_\_\_\_\_
- Period 7 Below (Contains Elements 89 – 103): \_\_\_\_\_
- Group 16: \_\_\_\_\_
- Group 17: \_\_\_\_\_
- Group 18: \_\_\_\_\_

**F. On loose-leaf, calculate each of the following – remember sigfigs and units – show your work!  
You will need to know these formulas for the exam!**

1. A container has a length of 19.12 cm and a width of 5.13 cm. If its height is 9.2900 cm, what volume does this container hold?
2. What is the area of an arena measuring 87.1 m by 125.0 m?
3. Find the density of a metal cylinder with a volume of  $4.48 \text{ cm}^3$  and a mass of 47.32 g.
4. Determine the percent error for the density in question #3 above if the actual density of the metal cylinder is  $11.0 \text{ g/cm}^3$ .
5. What is the percent difference if the lab results are  $38.3 \text{ cm}^3$  and  $50.7 \text{ cm}^3$  for the volume of a plastic cube?

**\*\*Make sure you also study the list of element names and symbols for the exam!\*\***