

## Exam #1 Practice Problems

- 1) Identify which Exam topic each question refers to – they may not be in perfect order.
- 2) Show all work or a written explanation. All means ALL! Pretend you are showing it on your quiz!
- 3) Highlight each question number on your binder paper, and highlight each numerical answer.

Q #	Topic #	Practice Problems
1		Who were the 10 scientists that were covered in class that contributed to the development of different atomic models? What did they each contribute/discover?
2		Sketch and name the seven atomic models that were covered in class.
3		What is the name of an atom with 23 protons and 52 neutrons?
4		What is the name of an atom with 3 protons and 4 neutrons?
5		How many protons, electrons and neutrons does $^{109}\text{Ag}$ have?
6		How many protons, electrons, and neutrons does $^{40}\text{K}$ have?
7		Proton, electron, and neutron. Which weighs the least? Which two weigh essentially the same?
8		What main colors make up the visible light spectrum? Think rainbow! Which is the highest/lowest energy?
9		Write the electron configuration for potassium
10		Write the electron configuration for Bromine
11		Put 329000 into scientific notation.
12		Put 0.00000896 into scientific notation.
13		Convert 2.7 kg into grams.
14		Convert 854000 kg into grams and put your answer in scientific notation.
15		Which metric prefix is used to designate 100?
16		Which metric prefix is used to designate 1000?
17		Convert 381 m/s into mi/day
18		Convert 12.8 mi/hr into yds/min
19		How many kg are in 9.1 pounds? (1kg = 2.2046 lbs)
20		How many mm are in 4.8 km? Put your answer in scientific notation.
21		How many mm are in 0.024 km? Put your answer in scientific notation.
22		How many inches are in 56 cm? (1in = 2.54cm)
23		How many inches are in 0.03 cm? (1in = 2.54 cm)
24		What is the definition of an orbital?
25		How many orbitals are in a set of s orbitals? In a set of p orbitals? A set of d orbitals? A set of f orbitals?
26		Sketch an s orbital and a p orbital. Sketch a full set of p orbitals.
27		How many electrons can be in a set of s orbitals? In a set of p orbitals? A set of d orbitals? A set of f orbitals?
28		Use an orbital diagram to practice filling it in for the following elements: Be, N, F, Ca, Cu, As
29		Write the ion symbols for the ions that the following elements like to make - K, Cl, O, Mg, P
30		How many protons, neutrons and electrons do the NEUTRAL elements above have? How many protons, neutrons and electrons do the IONS created above have?
31		What is the electron configuration of He, S, K, Cu, Se, H, V, Br,
32		Identify the atoms that have the following configurations: $1s^22s^22p^63s^23p^64s^23d^7$ ; $1s^22s^22p^63s^23p^64s^23d^{10}4p^1$
33		What is a mole?
34		What is the molar mass of $\text{Ca}(\text{OH})_2$ , $\text{K}_2\text{SO}_4$ , $(\text{NH}_4)_2\text{S}$ , and Ag?
35		Convert 15g of $\text{Ca}(\text{OH})_2$ into moles.
36		Convert 130g of $\text{K}_2\text{SO}_4$ into moles.
37		Convert 12.5 moles of $(\text{NH}_4)_2\text{S}$ into grams.
38		Convert 0.045 moles of Ag into grams.
39		Convert 25moles of $\text{H}_2\text{SO}_4$ into molecules.
40		Convert 0.63 moles of Zn into atoms.
41		Convert 18g of Li into atoms.
42		Convert 0.054g of $\text{C}_6\text{H}_{12}\text{O}_6$ into molecules.
43		Draw a diagram of absorption, and a diagram of emission.
44		Explain what we can sometimes see during emission.
45		Write a paragraph explaining what you saw in the flame test lab that allowed you to identify various metals. Think about the Bunsen burners and the spectrometers.
46+		Ask Mrs. Farmer for extra problems if you need them!!!

**PLEASE make the most of these study problems. Doing them, thinking about them, correcting them, and remembering them will help you get ready for the benchmarks! Do not do them on autopilot...THINK about them. Where do you think I come up with them??? It's almost like I know what's on the exam, huh??? ☺**