

## Exam Review Guide: Periodic Table

1. Who was Mendeleev? What did he do? Why is he the “father of the Periodic Table”?
2. How was Mendeleev’s original Periodic Table organized? Why did he start new rows? Why were gaps left in the table and why were the gaps important?
3. How does the position of an element on the Periodic Table help to predict its properties?
4. Who was Henry Mosely? What did he do to the Periodic Table? Why was it better than Mendeleev’s? What happened to most elements after he rearranged the table?
5. How is the modern Periodic Table organized?
6. What is the periodic law?
7. Define the difference between the groups and the periods on the table? How many of each are there? What happens as you move across a period and down a group?
8. Why are electrons important to the properties of elements? List 3 reasons and describe them in depth.
9. What types of electrons are the most important in determining properties of elements?
10. How many orbitals are found within the Periodic Table? What are they and how many electrons does each form? Which of them are important to determining the ionization number an element will form?
11. Why is 8 the magic number when determining the ionization number? What does it mean for an atom to be stable? What group in the periodic table is already stable?
12. What are the two types of ions? Describe each one.
13. How does the position on the Periodic Table determine the charge an atom will form? List what groups charges can be predicted by position and list what the charge will be.
14. What 3 categories are the elements classified into? Describe the properties of each and where they are located on the Periodic Table.
15. Describe each of the families on the Periodic Table and list all their properties. (include Alkali Metals, Alkaline Earth Metals, Transition Metals, Halogens, Noble Gases and Semiconductors.)
16. Why is Hydrogen unique on the Periodic Table? Why doesn’t it fit in with any group?

## Vocabulary: Periodic Table

Periodic Table

Periods

s-orbital

f-orbital

Anion

Semiconductor

Alkaline earth metals

Noble Gases

Mendeleev

Groups

p-orbital

Stable atom

Metal

Insulator

Transition metals

Periodic Law

Ionization

d-orbital

Cation

Nonmetal

Alkali metals

Halogens