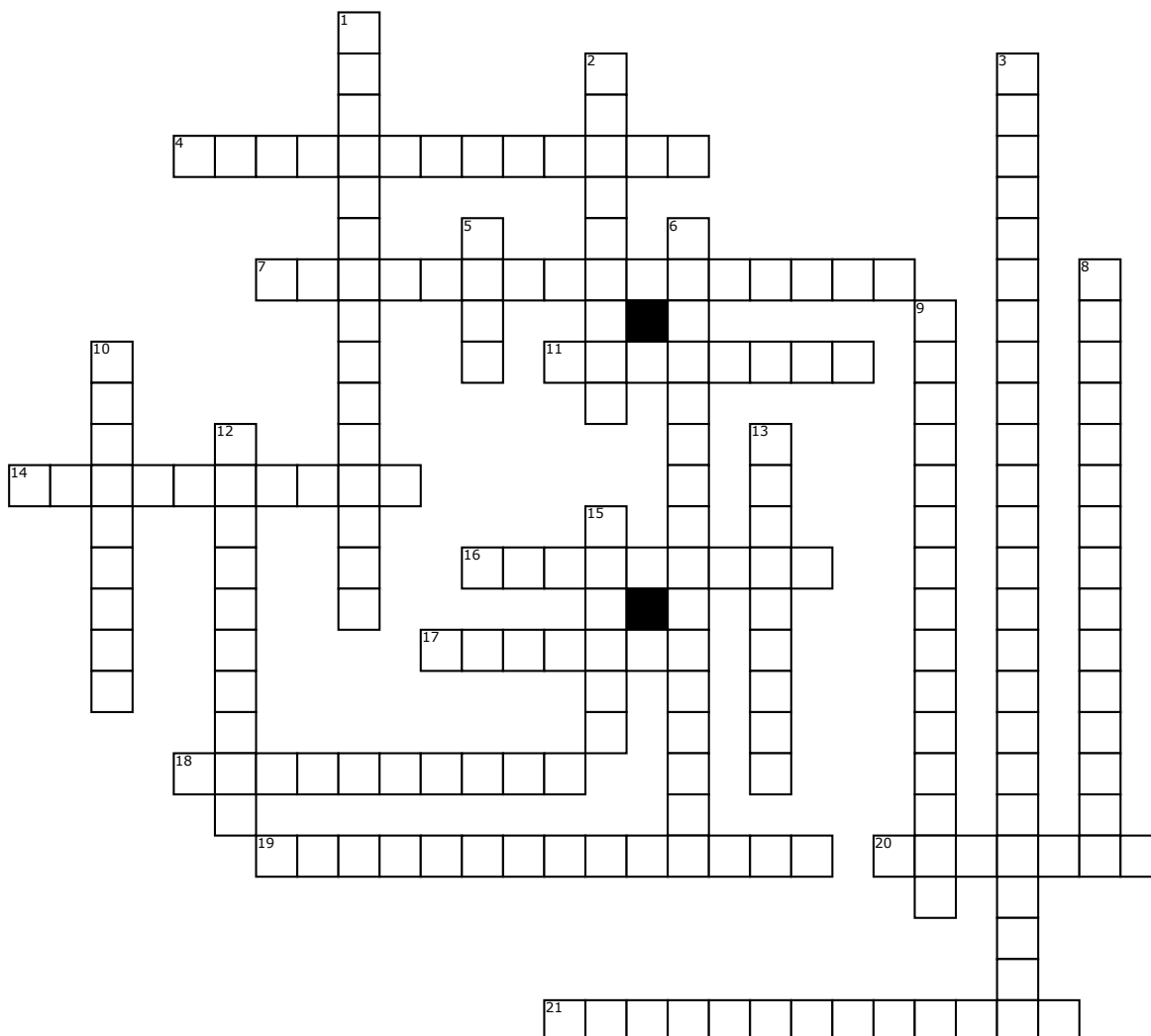


Chemistry Ch 4



Across

4. Who was the highly decorated English nuclear physicist best remembered as the discoverer of the neutron?

7. Who was the English physicist and laboratory director who won the Nobel Prize in Physics for his studies in nuclear chemistry?

11. What quantum defines the spatial orientation of the orbitals within a sublevel?

14. Who developed a modern particle model of the atom based on experimental evidence?

16. What quantum number identifies the principal energy level?

17. What are one of two or more atoms of the same element with the same number of protons but with different numbers of neutrons called?

18. Who was the Thracian philosopher who was the first to propose that matter was made of particles?

19. Who was the French physicist who proposed that all matter acts like waves?

20. What are positive ions called?

21. Who was the German physicist best known for his work on the structure of atoms and molecules and whose rule states that as electrons fill a sublevel, all orbitals receive one electron with the same spin before they begin to pair up?

Down

1. Who invented the electric battery?

2. What quantum number defines the symmetrical shapes that are arranged around the nucleus and that electrons may be found in?

3. What law states that every compound us formed of elements combined in specific ratios by mass that are unique for that compound?

5. What is the smallest particle capable of chemical interactions?

6. Who was the German nuclear physicist who developed the principle of indeterminacy?

8. Who was a German physicist best known for his discovery of x-rays?

9. Who pioneered magnetic resonance imaging?

10. Who was the English physicist who was knighted for his groundbreaking work in discovering the structure of the atom?

12. Who was the German nuclear physicist who was involved in the attempt to build an atomic bomb for Nazi Germany during WWII?

13. Who was the Danish physicist that contributed to the development of the quantum model of the atom early in the twentieth century?

15. What are negative ions called?