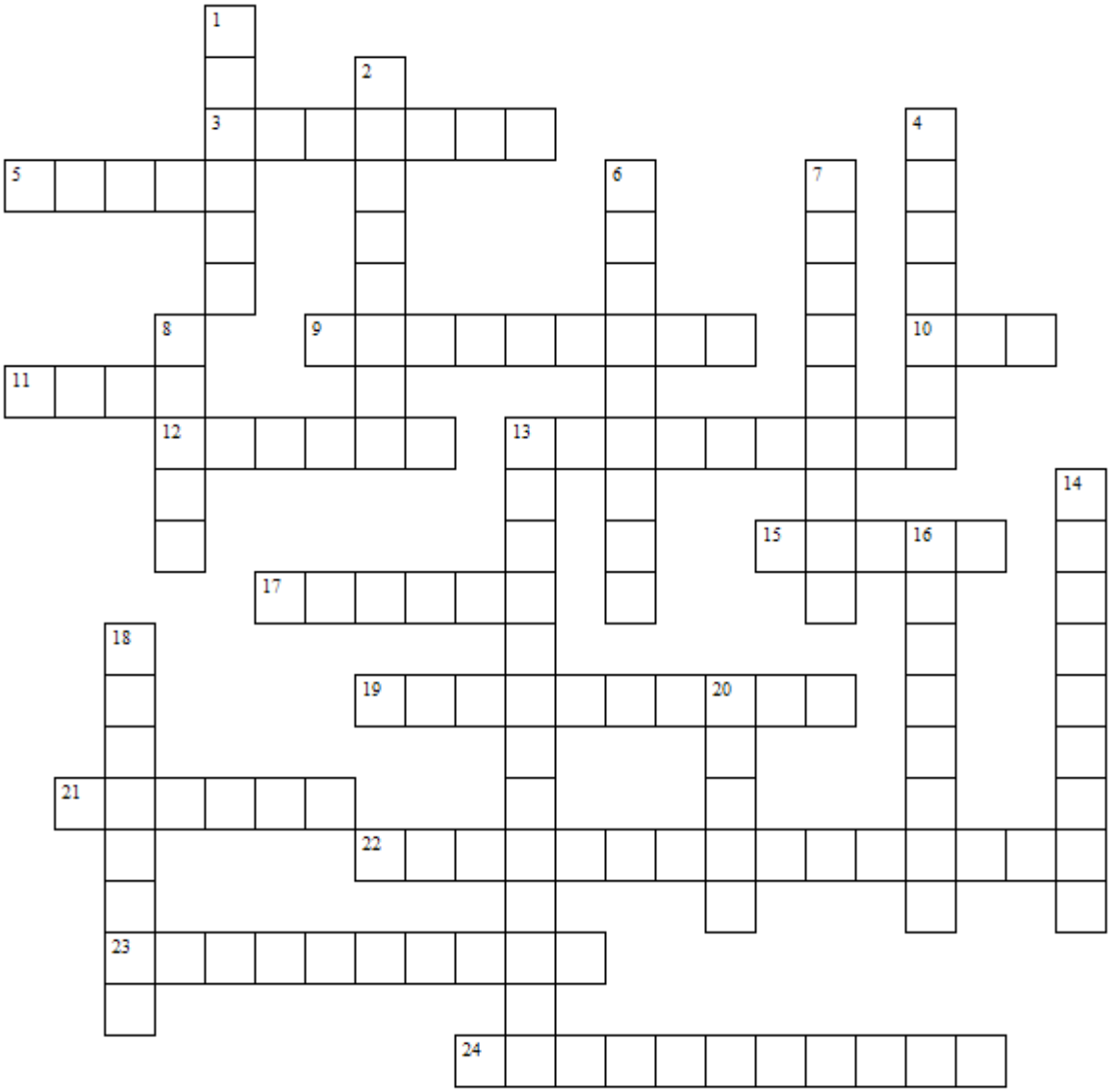
Electrons In Atoms (Ch. 5.1 and 5.2)



ACROSS

3 Three dimensional region in space describing the probable location of an electron
5 Speed of this which travels at rate of 3.0 x 10E8 m/s
9 French physicist who proposed that all moving particles of matter have a wavelength
10 The maximum number of electrons that can be found in any single orbital
11 Danish physicist who first proposed the quantum mechanical model of the atom
12 The state of an unexcited atom
13 Metal which is so reactive it must be store under kerosene or oil to prevent it from exploding
15 The type of lowest frequency EM rays which are used commercially
17 Color of visible light which has a high frequency and high energy associated with it
19 Represented by the greek symbol lambda
21 Constant which has a value of 6.63 x 10E-34 J-sec
22 Type of radiation which is a form of energy that exhibits wavelike behavior as it travels through space
23 German physicist who stated that it is impossible to know both the location and the speed of an electron at the same time
24 Derived a series of equations that describe the probablility of finding an electron in space around a nucleus

DOWN

1 Particle of EM radiation with no mass and carries a quantum of energy
2 Physicist who proposed in 1905 that EM radiation has both wavelike and particle properties
4 Minimum amount of energy that can be gained or lost by an electron
6 Wave height from origin to crest or origin to trough
7 The quantum numbers(s) that indicate the relative energy levels within an atom
8 Noble gas used in incandescent light bulbs
13 Effect which occurs when electrons are ejected from a metal surface when exposed to high frequency light
14 The number of waves that pass a given point per second
16 The next band of the EM spectrum just beyond the red frequency of visible light
18 One example of white light and contains a continuous range of frequencies
20 The type of EM rays which are, by far, the most energetic and most dangerous to the human body