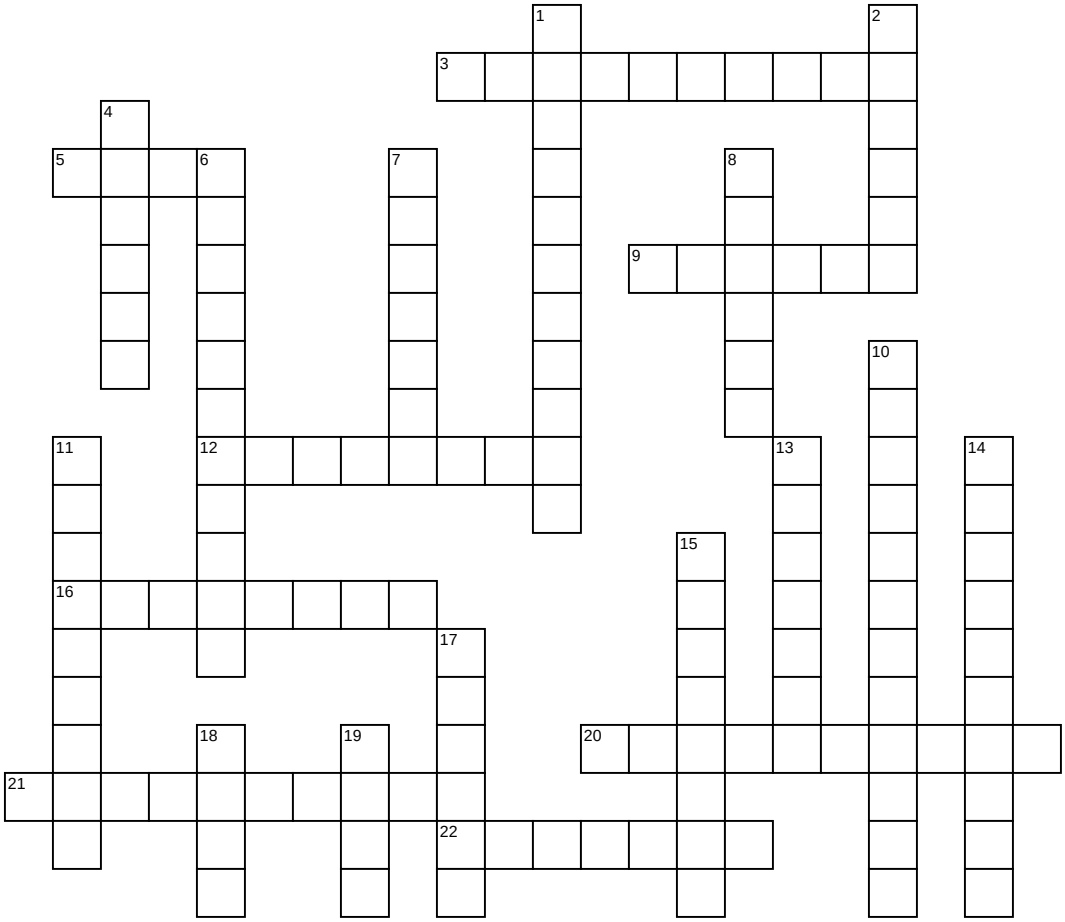

ACROSS

3 In the _____ scale, the melting point of water is 32 degrees and the boiling point is 212 degrees, placing the boiling and melting points of water exactly 180 degrees apart.
5 _____ is energy transferred from one body or system to another due to a difference in temperature.
9 The _____ is one of the seven SI base units. It corresponds to the absolute temperature scale where the coldest possible temperature is zero.
12 _____ zero describes a theoretical system that neither emits nor absorbs energy whose temperature is zero Kelvin.
16 _____ radiation is electromagnetic radiation of a wavelength longer than that of visible light, but shorter than that of radio waves.
20 The _____ of a material is the ratio of energy radiated by the material to energy radiated by a black body at the same temperature.
21 One of the major modes of heat transfer, _____, refers in the most general terms to the movement of currents within fluids.
22 A _____ is a unit of measurement for energy. In most fields, it has been replaced by the joule. However, a thousand-fold variation remains in common use within the field of nutrition.

DOWN

1 A _____ is a device that measures temperature or temperature gradient.
2 The _____-Boltzmann law states that the total energy radiated per unit surface area of a black body in unit time is directly proportional to the fourth power of the black body's thermodynamic temperature.
4 The _____ law of thermodynamics states that if two thermodynamic systems are in thermal equilibrium with a third, they are also in thermal equilibrium with each other.
6 _____ is defined as the average energy of microscopic motions of a single particle in the system per degree of freedom.
7 _____ energy is the energy portion of a system that increases with its temperature.
8 The _____-Petit law gives the classical expression for the specific heat capacity of a crystal due to its lattice vibrations.
10 Thermal _____, k, is the intensive property of a material that indicates its ability to conduct heat. It is used primarily in Fourier's Law for heat conduction.
11 Thermal _____ refers to electromagnetic waves emitted from the surface of an object which is due to the object's temperature.
13 Zero on the _____ scale was defined until 1954 as the melting point of ice and 100 degrees was defined as the boiling point of water under a pressure of one standard atmosphere. The definition is more formal today.
14 Heat _____ is the spontaneous transfer of thermal energy through matter.
15 _____ heat is the measure of the heat energy required to increase the temperature of a unit quantity of a substance by a certain temperature interval.
17 _____'s law describes the spectral radiance of electromagnetic radiation at all wavelengths from a black body at a given temperature as a function of frequency.
18 _____ transfer is the passage of thermal energy from a hot to a cold body.
19 _____'s displacement law states that there is an inverse relationship between the wavelength of the peak of the emission of a black body and its temperature.