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| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Waves and Electromagnetic Spectrum

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|  |  |  |  |  |  |  |  | 2  E | L | E | C | T | R | O | M | A | G | N | E | T | I | C |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | P |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 3  X |  |  |  |  |  |  | L |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | R |  |  | 4  U |  |  |  | I |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 5  W | A | V | E | L | E | N | G | T | H |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 6  T |  |  |  | Y |  |  | T |  |  |  | U |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | R |  |  |  | W |  |  | R |  | 7  W |  | D |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | A |  |  | 8  G | A | M | M | A | W | A | V | E | S |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | N |  |  |  | V |  |  | V |  | V |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | S |  |  |  | E |  | 9  L | I | N | E | O | F | O | 10  R | I | G | I | N |  |  |  |  |  |  |  |  |
|  |  |  |  | V |  |  |  | S |  |  | O |  |  |  |  |  | A |  |  |  |  |  |  | 11  C |  |  |  |  |  |
|  |  |  |  | E |  |  |  |  |  |  | L |  | 12  F |  |  |  | D |  |  |  |  |  |  | R |  |  |  |  |  |
|  |  |  |  | R |  |  |  |  | 13  E | N | E | G | R | Y |  | 14  M | I | C | R | O | W | A | V | E | S |  |  |  |  |
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|  |  |  |  | E |  |  |  |  |  |  | L |  | Q |  |  |  | W |  |  | 15  V |  |  |  | T |  |  |  |  |  |
|  |  |  |  | W |  |  | 16  L | O | N | G | I | T | U | D | 17  I | N | A | L | W | A | V | E |  |  |  |  |  |  |  |
|  |  |  |  | A |  |  |  |  |  |  | G |  | E |  | N |  | V |  |  | C |  |  |  |  |  |  |  |  |  |
|  |  |  |  | V |  | 18  T | R | O | U | G | H |  | N |  | F |  | E |  |  | U |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  | 19  V | I | S | I | B | L | E | L | I | G | H | T |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Across**  **2.** pertaining to, or produced by electromagnetism.  **5.** In physics, the wavelength of a sinusoidal wave is the spatial period of the wave—the distance over which the wave's shape repeats,  **8.** A gamma wave is a pattern of neural oscillation in humans with a frequency between 25 and 100 Hz,[1] though 40 Hz is typical.[2]  **9.** the point or place where something begins or is created  **13.** This article is about the scalar physical quantity  **14.** a type of electromagnetic radiation, as are radio waves, ultraviolet radiation, X-rays and gamma-rays  **16.** Longitudinal waves, also known as "l waves", are waves in which the displacement of the medium is in the same direction as, or the opposite direction to, the direction of travel of the wave.  **18.**  the lowest turning point of a wave cycle  **19.** Visible light waves are the only electromagnetic waves we can see | **Down**  **1.** a measurement that indicates the movement or vibration of something (such as a sound wave or a radio wave)  **3.**  is a form of electromagnetic radiation  **4.** Ultraviolet (UV) light is an electromagnetic radiation with a wavelength from 10 nm (30 PHz) to 380 nm (750 THz), shorter than that of visible light but longer than X-rays.  **6.** A transverse wave is a moving wave that consists of oscillations occurring perpendicular to the direction of energy transfer.  **7.**  For waves on the surface of the ocean or lakes  **10.** Radio waves are a type of electromagnetic radiation with wavelengths in the electromagnetic spectrum longer than infrared light.  **11.** A crest is a point on the wave where the displacement of the medium is at a maximum.  **12.** Frequency is the number of occurrences of a repeating event per unit time  **15.**  Space void of matter.  **17.** Infrared (IR) is invisible radiant energy, |