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Chapter 5: Electromagnetic Waves

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|  |  |  | 4  E | L | E | C | T | R | O | M | A | G | N | E | T | I | C | W | A | V | E |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | P |  |  |  | C |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  | 8  X |  |  | E |  | O |  | 9  G | A | M | M | A | 10  R | A | Y | S |  |  |  |  | B |  |  |
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|  |  |  |  |  |  | 11  R | A | D | I | O | W | A | V | E | S |  |  |  | D |  |  |  |  |  |  |  | E |  |  |
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|  |  |  |  |  |  |  | S |  |  | U |  | E |  | 12  I | N | F | R | A | R | E | D | R | A | Y | S |  | I |  |  |
|  |  |  |  |  |  |  |  |  |  | L |  | S |  | C |  |  |  |  |  |  |  |  |  |  |  |  | G |  |  |
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|  |  |  |  |  |  |  | 13  P | H | O | T | O | N |  | 14  P | O | L | A | R | I | Z | E | D | L | I | G | H | T |  |  |
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|  |  |  |  |  |  | 15  P | H | O | T | O | E | L | E | C | T | R | I | C | E | F | F | E | C | T |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  | 16  U | L | T | R | A | V | I | O | L | E | T | R | A | Y | S |  |  |  |  |
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|  |  |  |  |  | 17  F | R | E | Q | U | E | N | C | Y | M | O | D | U | L | A | T | I | O | N |  |  |  |  |  |  |

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| **Across**  **1.** the energy that electromagnetic waves transfer through matter or space  **4.** a transverse wave that involves the transfer of electric and magnetic energy  **5.** an image that shows reigons of different temperatures in different colors  **9.** electromagnetic waves with the shortest wavelengths and the highest frequancies  **11.** elelectromagnetic waves with the longest wave lengths and lowest frequencies  **12.** electromagnetic waves with wavelengths shorter than those of microwaves  **13.** a packet of light energy  **14.** the light that passes through  **15.** light can cause an electron to move so much it is knocked out of the metal  **16.** electromagnetic waves with wavelengths just shorter than those of visible light  **17.** a method of broadcasting signals by changing the frequency of a wave | **Down**  **2.** the complete range of electromagnetic waves placed in order of increasing frequency  **3.** a method of broadcasting signals by changing the amplitude of a wave  **6.** shorter wavelengths and higher frequencies  **7.** electromagnetic waves that you can see  **8.** electromagnetic waves with wavelengths just shorter than ultraviolet rays  **10.** uses reflected microwaves to detect objects and measure their distance and speed |

   Electromagnetic wave        Electromagnetic radiation       Polarized light        Photoelectric effect       Photon       Electromagnetic spectrum       Radio waves       Microwaves       Radar       Infrared Rays       thermogram       Visible light       Ultraviolet rays       X-rays       Gamma rays       Amplitude modulation       Frequency modulation