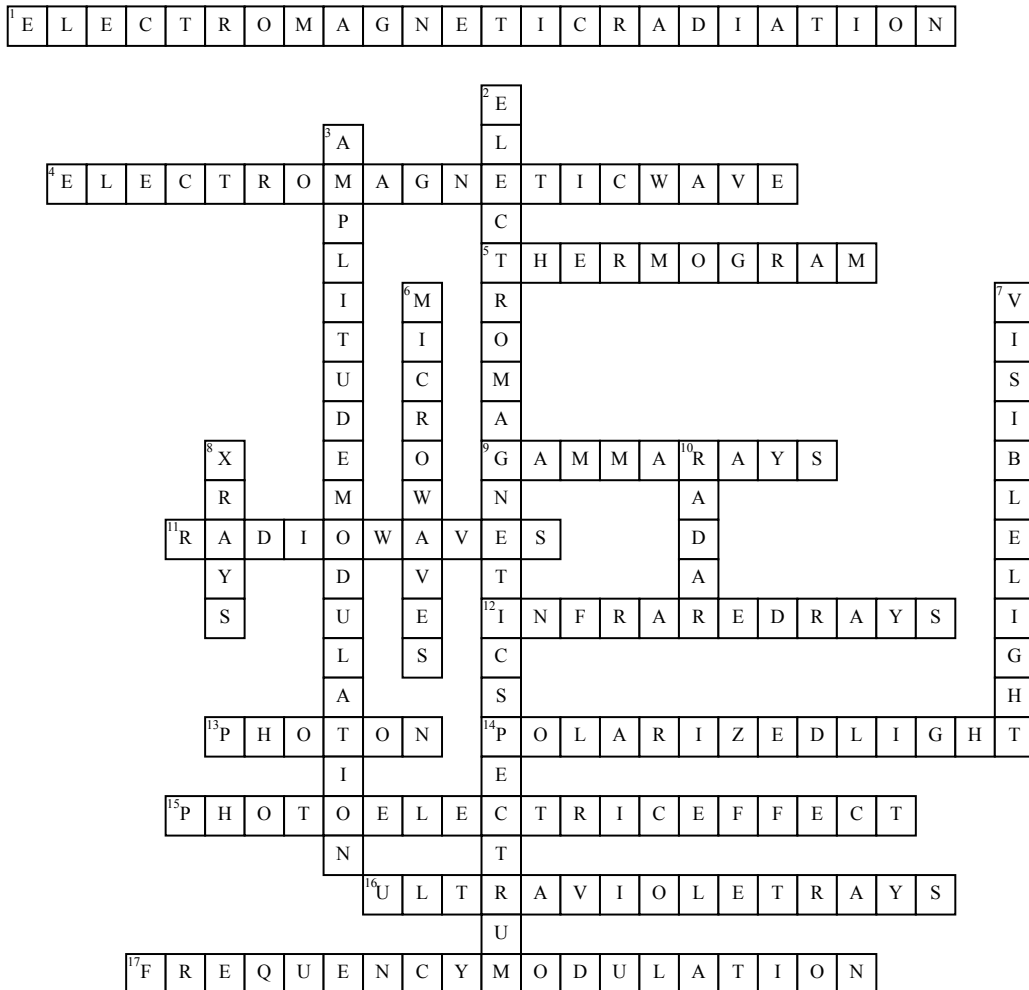


# Chapter 5: Electromagnetic Waves



**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 regions of different temperatures in different colors
- 9. electromagnetic waves with the shortest wavelengths and the highest frequencies
- 11. electromagnetic 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

**Word Bank**

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