

# Electromagnetic Waves & Visible Light

⚠ This is a preview of the published version of the quiz

Started: Jul 12 at 1:13am

## Quiz Instructions

Waves Lesson 4

Watch the embedded videos and answer the quiz questions.

[The 7 Major Regions of the Electromagnetic Spectrum - Video Lesson Transcript Studycom.mp4](#)

[The Nature of Light Origin Spectrum Color Frequency - Video Lesson Transcript Studycom \(1\).mp4](#)

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### Question 1

1 pts

Most of the UV rays are absorbed by gases in the earth's atmosphere.

- True
- False

### Question 2

1 pts

UV rays can damage the molecular bonds of your DNA which can lead to skin cancer.

- 
- True
- 
- False

**Question 3**

1 pts

X-rays pass easily through bone but not soft tissue such as skin and muscle.

- 
- True
- 
- False

**Question 4**

1 pts

Gamma rays have the highest frequencies and smallest wavelengths of all EM waves.

- 
- True
- 
- False

**Question 5**

1 pts

Gamma rays can be released by materials undergoing radio active decay.

- 
- True
- 
- False

**Question 6****1 pts**

In the marvel universe Bruce Banner became the incredible hulk by exposure to gamma rays.

True

False

**Question 7****1 pts**

Irradiation is a process that uses gamma rays to sterilize food and medical equipment.

True

False

**Question 8****1 pts**

Which of the following are electromagnetic waves?

Choose all that apply.

Ultraviolet Light

Sunlight

The color blue.

Radio Waves

Gamma Waves

Microwaves

X-rays

UV rays

Infrared Light

**Question 9**

**1 pts**

The visible light range is in the middle of the electromagnetic spectrum.

True

False

**Question 10**

**1 pts**

Electromagnetic waves originate from the vibration of uncharged particles.

True

False

**Question 11**

**1 pts**

Electromagnetic waves require a medium in which to travel.

True

False

**Question 12****1 pts**

Radio waves have the lowest frequencies of all electromagnetic waves.

- True
- False

**Question 13****1 pts**

Microwaves can rotate the water molecules in your food thereby increasing its thermal energy.

- True
- False

**Question 14****1 pts**

Microwaves directly transfer heat to your food.

- True
- False

**Question 15****1 pts**

Microwaves are used in wifi technology at low intensities.

- True

False

**Question 16**

**1 pts**

Mosquitoes can see the heat or infrared light emanating from your body.

True

False

**Question 17**

**1 pts**

Visible light is the range of light to which the human eye is least sensitive.

True

False

**Question 18**

**1 pts**

Visible light wavelength ranges from 760 to 380 nm.

True

False

**Question 19**

**1 pts**

Higher frequency infrared light could also be considered microwaves.

- True
- False

**Question 20**

1 pts

Scientists have generally classified electromagnetic waves based on how their radiation affects matter.

- True
- False

**Question 21**

1 pts

Infrared rays make molecules vibrate.

- True
- False

**Question 22**

1 pts

Wavelength is directly proportional to frequency.

- True
- False

**Question 23****1 pts**

Light waves with a frequency of 650 THz would look \_\_\_\_\_.

- green
- blue
- orange
- yellow
- red

**Question 24****1 pts**

Light waves with a frequency of 500 THz would look \_\_\_\_\_.

- red
- yellow
- orange
- blue
- green

**Question 25****1 pts**

A pure spectral color is one that is produced by a single frequency, or wavelength, of light.

- True



False

**Question 26**

**1 pts**

White light is a mixture of all light frequencies in the visible spectrum.

True

False

**Question 27**

**1 pts**

White light is a pure spectral color.

True

False

**Question 28**

**1 pts**

When looking at the same object you see the same color frequencies as any other human, even if your perception of those frequencies differ.

True

False

**Question 29**

**1 pts**

Our ability to see objects is due to the diffraction of light off those object.

- True
- False

**Question 30**

**1 pts**

Waves with a high frequency must have a small wavelength.

- True
- False

Not saved

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