



Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

1

Photons with an energy of **7.9 electronvolts** strike a zinc plate, causing the emission of photoelectrons with a maximum kinetic energy of **4.0 electronvolts**. The **work function** of the zinc plate is

- A 11.9 eV
- B 7.9 eV
- C 3.9 eV
- D 4.0 eV

2

Which equation correctly relates the **speed  $v$** , **wavelength  $\lambda$** , and **period  $T$**  of a **periodic wave**?

- A  $v = \frac{T}{\lambda}$
- B  $v = T\lambda$
- C  $v = \frac{\lambda}{T}$
- D  $v = \frac{\lambda^2}{T}$

3

As a monochromatic beam of light passes **obliquely from flint glass into water**, how do the **characteristics of the beam of light change**?

- A Its wavelength decreases and its frequency

4

The **threshold frequency** in a photoelectric experiment is **most closely related** to the

- A brightness of the incident light

5

**PREVIEW**

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7

What is the **absolute index of refraction** of the material?

- A 1.20
- B 2.50
- C 7.50
- D 0.833

- A 3.32 eV
- B  $3.20 \times 10^{-6}$  eV
- C  $3.00 \times 10^{18}$  J
- D  $3.32 \times 10^{-19}$  J

9

Compared to the **wavelength** of red light, the **wavelength** of yellow light is

- A shorter
- B longer
- C the same



10

A helium-neon laser emits energy in the **visible red region** in the form of

- A alpha particles
- B gamma rays
- C electrons
- D photons





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