



Name _____ Class _____ Date _____

1 A monochromatic beam of light has a frequency of 6.5×10^{14} hertz. What color is the light?

- A yellow
- B orange
- C violet
- D blue



3 If all parts of a light beam have a constant phase relationship, with the same wavelength and frequency, the light beam is

- A monochromatic and coherent
- B monochromatic and incoherent



2 What occurs as a ray of light passes from air into water?

- A The ray must decrease in speed.
- B The ray must increase in speed.
- C The ray must decrease in frequency.
- D The ray must increase in frequency.

4 A beam of green light may have a frequency of

- A 5.0×10^{-7} Hz
- B 1.5×10^2 Hz
- C 3.0×10^8 Hz
- D 6.0×10^{14} Hz



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PREVIEW

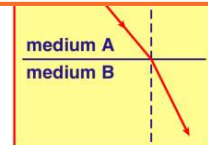
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7
longer
C the same



medium B, its speed

- A decreases
- B increases
- C remains the same



9 Experiments performed with light indicate that light exhibits

- A particle properties, only
- B wave properties, only
- C both particle and wave properties
- D neither particle nor wave properties

10 What is the energy of a quantum of light having a frequency of 6.0×10^{14} hertz?

- A 1.6×10^{-19} J
- B 4.0×10^{-19} J
- C 3.0×10^8 J
- D 5.0×10^{-7} J



ANSWER KEY

A monochromatic beam of light has a frequency of 6.5×10^{14} hertz. What color is the light?

- A yellow
- B orange
- C violet
- D blue



(d)

What occurs as a ray of light passes from air into water?

- A The ray must decrease in speed.
- B The ray must increase in speed.
- C The ray must decrease in frequency.
- D The ray must increase in frequency.

(a)

If all parts of a light beam have a constant phase relationship, with the same wavelength and frequency, the light beam is

- A monochromatic and coherent
- B monochromatic and incoherent
- C polychromatic and coherent



(a)

A beam of green light may have a frequency of

- A 5.0×10^{-7} Hz
- B 1.5×10^2 Hz
- C 3.0×10^8 Hz
- D 6.0×10^{14} Hz



(d)

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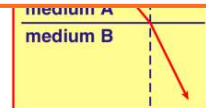


PREVIEW

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- A decreases
- B increases
- C remains the same



Experiments performed with light indicate that light exhibits

- A particle properties, only
- B wave properties, only
- C both particle and wave properties
- D neither particle nor wave properties

(c)

What is the energy of a quantum of light having a frequency of 6.0×10^{14} hertz?

- A 1.6×10^{-19} J
- B 4.0×10^{-19} J
- C 3.0×10^8 J
- D 5.0×10^{-7} J

(b)