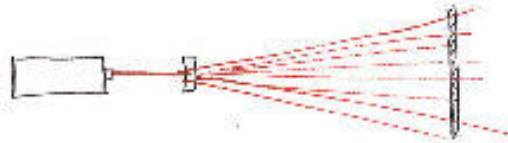


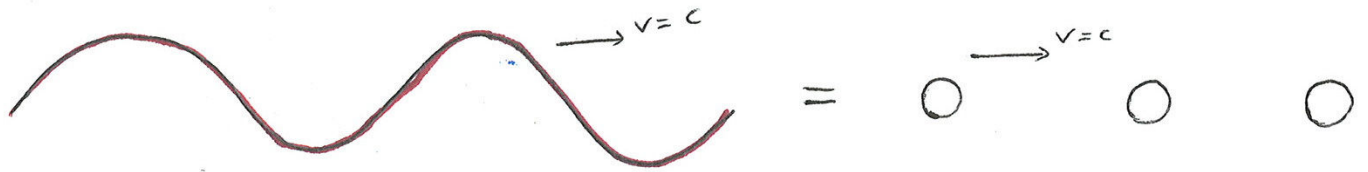
According to classical electricity and magnetism, what will happen if we illuminate a metal wire with light from a laser pointer?

- A) Nothing
- B) A uniform current will flow in the wire
- C) Some electrons in the wire will oscillate up and down
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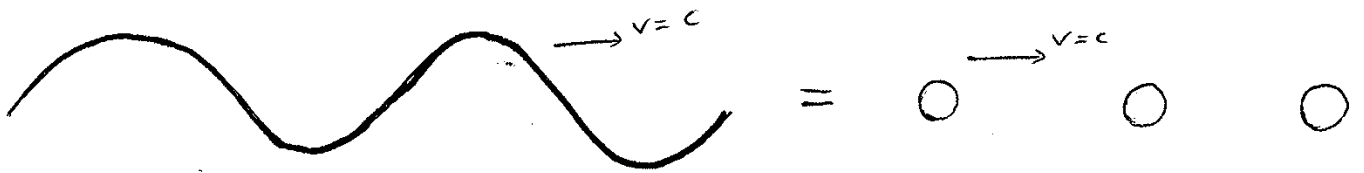
The picture on the right above represents the photons making up a beam of red light. Which of the pictures below represents the photons making up a beam of red light with double the intensity?



- A)
- B)
- C)
- D)

size represents energy





The picture on the right above represents the photons making up a beam of red light. Which of the pictures below represents the photons making up a beam of red light with double the intensity?

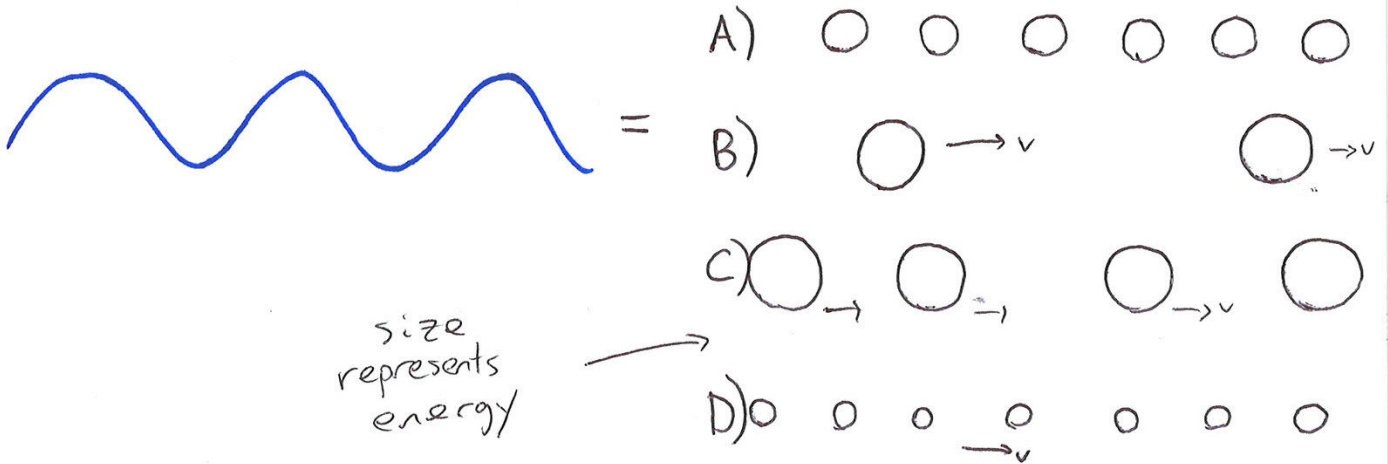
A hand-drawn diagram showing a wave on the left and four options (A, B, C, D) for photon representations. The wave has an arrow pointing right labeled $v=c$. An equals sign follows, and then four options:

- A) Three large circles, each with an arrow pointing right.
- B) Five small circles, each with an arrow pointing right. Below this option is the text: "same freq \Rightarrow same energy / photon" and "double intensity \Rightarrow double photons / sec".
- C) Five large circles, each with an arrow pointing right.
- D) Two large circles, each with an arrow pointing right.

size represents energy

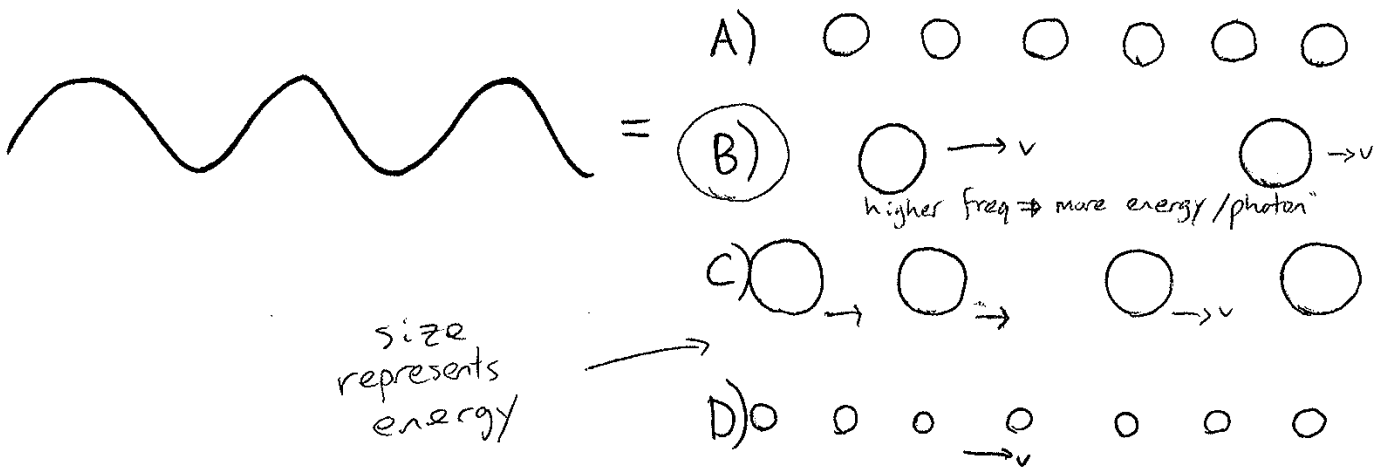


The picture on the right above represents the photons making up a beam of red light. Which of the pictures below represents the photons making up a beam of blue light with the same intensity?





The picture on the right above represents the photons making up a beam of red light. Which of the pictures below represents the photons making up a beam of blue light with the same intensity?



Same intensity \therefore same energy/sec \Rightarrow less photons/sec since each has more energy