

Question:

On a keyboard, you strike middle C, whose frequency is 256 Hz. What is the period of this tone? As the sound leaves the instrument at a speed of 340 m/s, what is the wavelength?

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We have:

$$f = 256 \text{ Hz}$$
$$v = 340 \text{ m/s}$$

Should be find:

$$T - ?$$
$$\lambda - ?$$
$$T = \frac{1}{f} = \frac{1}{256} = 3,9 \cdot 10^{-3} \text{ sec}$$
$$\lambda = \frac{v}{f} = \frac{340}{256} = 1,328 \text{ m}$$

conclusions:

$$T = 3,9 \cdot 10^{-3} \text{ sec}$$
$$\lambda = 1,328 \text{ m}$$