Answer on Question #38220 – Physics – Other

If the frequency of the tuning fork is 400 Hz and the speed of sound in air is 350 m/s. Find how far sound travels while tuning fork makes 6 vibrations.

Solution:

Distance traveled by the wave:

$$S = V \cdot t = V \cdot \left(6 \cdot T_{period}\right) = \frac{6V}{\nu} = \frac{6 \cdot 350\frac{m}{s}}{400 \text{ Hz}} = 5.25 \text{ m}$$

Answer: Distance traveled by the wave is equal to 5.25 m.