

Answer on Question 49811, Physics, Other A person demonstrates the doppler effect by ringing a tuning fork that has a frequency of 262 z and running toward you with a velocity of 6.2m/s. What is the frequency that you hear? The speed of sound in the room is 343m/s.

Solution

Formula for Doppler effect is

$$f = \frac{c + v_s}{c} f_0$$

where $f_0 = 262$ Hz is frequency of source, $v_s = 6.2$ m/s is velocity of source and $c = 343$ m/s is speed of sound. So, you hear

$$f = \frac{343 + 6.2}{343} \cdot 262 \approx 266.7 \text{ Hz}$$

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