

**Answer on Question #72319-Physics-Other**

An organ pipe closed at one end gives a note of 256 when the temperature of air is at 40°C. What will be the frequency of the note when the temperature falls to 15°C

**Solution**

We know that

$$\frac{f_2}{f_1} = \sqrt{\frac{T_2}{T_1}}$$

Thus, the frequency of the note when the temperature falls to 15°C is

$$f_2 = f_1 \sqrt{\frac{T_2}{T_1}}$$

$$f_2 = 256 \sqrt{\frac{273 + 15}{273 + 40}} = 246 \text{ Hz.}$$

Answer: 246 Hz.