

# Measuring frequency of tuning fork via Melde's experiment

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## Results

The length of the string taken was  $L = 4.0\text{m}$ , with linear-density  $\mu = 3.2 \times 10^{-3} \text{ kg m}^{-1}$ . Tension was varied by varying the load in the container.

The values measured were as follows

Tension (T)	Number of half-cycles ( $N$ )	$\lambda = 2L/N$	Speed ( $v$ )	Frequency ( $f$ )
16.33	14	0.57	71.45	125.01
18.93	13	0.61	76.91	124.98
26.44	11	0.73	90.90	124.98
50.00	8	1.00	125.0	125.00
65.30	7	1.14	142.85	124.99
88.75	6	1.33	166.54	124.90

Table 1: Observed number of half- $\lambda$  for a given  $T$  and corresponding estimates of Frequency

where the speed was measured as

$$v = \sqrt{\frac{T}{\mu}}$$

and the frequency as

$$f = \frac{v}{\lambda}$$