

Names: _____ Date: _____

Room: _____

54	Noise
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1. Measurement of the speed of sound

f				
λ				
v				

$$\bar{v} \pm \Delta \bar{v} = \underline{\hspace{2cm}} \pm \underline{\hspace{2cm}}$$

2. Theoretical values for the speed of sound:

Air temperature $T = \underline{\hspace{2cm}} \pm \underline{\hspace{2cm}}$

Molecular mass of air $M = \underline{\hspace{2cm}} \pm \underline{\hspace{2cm}}$

Speed of sound $v_t = \underline{\hspace{2cm}} \pm \underline{\hspace{2cm}}$ $v_Q = \underline{\hspace{2cm}} \pm \underline{\hspace{2cm}}$

3. Comparison of the sound level with and without the A-filter

Sound level with A-Filter: 80 dB

Frequency	40 Hz	60 Hz	100 Hz	200 Hz	300 Hz	400 Hz	600 Hz
dB							
	1 kHz	2 kHz	3 kHz	4 kHz	6 kHz	10 kHz	15 kHz

Mark these measurements in the figure on the back and highlight differences.

4. Validation of the distance law

Distance r								
Sound level L (r)								
$10^{-L(r)/20}$								

Check graphically the region for which region $10^{-L(r)/20}$ is linearly related to r.

5. Addition of sound level

Sound level L for one nozzle: _____ dB (base level)

Combination	Calculated level	Measured level	Subjective comparison
2 nozzles			
3 nozzles			

For 3.: Standardized sensitivity of the human hearing

