

# Physics of Music - Notes

## Frequencies for equal-tempered scale, A<sub>4</sub> = 440 Hz

Other tuning choices, A<sub>4</sub> =

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Speed of Sound = 345 m/s = 1130 ft/s = 770 miles/hr

[More about Speed of Sound](#)

("Middle C" is C<sub>4</sub>)

Note	Frequency (Hz)	Wavelength (cm)
C <sub>0</sub>	16.35	2109.89
C <sup>#</sup> <sub>0</sub> /D <sup>b</sup> <sub>0</sub>	17.32	1991.47
D <sub>0</sub>	18.35	1879.69
D <sup>#</sup> <sub>0</sub> /E <sup>b</sup> <sub>0</sub>	19.45	1774.20
E <sub>0</sub>	20.60	1674.62
F <sub>0</sub>	21.83	1580.63
F <sup>#</sup> <sub>0</sub> /G <sup>b</sup> <sub>0</sub>	23.12	1491.91
G <sub>0</sub>	24.50	1408.18
G <sup>#</sup> <sub>0</sub> /A <sup>b</sup> <sub>0</sub>	25.96	1329.14
A <sub>0</sub>	27.50	1254.55
A <sup>#</sup> <sub>0</sub> /B <sup>b</sup> <sub>0</sub>	29.14	1184.13
B <sub>0</sub>	30.87	1117.67
C <sub>1</sub>	32.70	1054.94
C <sup>#</sup> <sub>1</sub> /D <sup>b</sup> <sub>1</sub>	34.65	995.73
D <sub>1</sub>	36.71	939.85
D <sup>#</sup> <sub>1</sub> /E <sup>b</sup> <sub>1</sub>	38.89	887.10
E <sub>1</sub>	41.20	837.31
F <sub>1</sub>	43.65	790.31
F <sup>#</sup> <sub>1</sub> /G <sup>b</sup> <sub>1</sub>	46.25	745.96
G <sub>1</sub>	49.00	704.09
G <sup>#</sup> <sub>1</sub> /A <sup>b</sup> <sub>1</sub>	51.91	664.57

A <sub>1</sub>	55.00	627.27
A <sup>#</sup> <sub>1</sub> /B <sup>b</sup> <sub>1</sub>	58.27	592.07
B <sub>1</sub>	61.74	558.84
C <sub>2</sub>	65.41	527.47
C <sup>#</sup> <sub>2</sub> /D <sup>b</sup> <sub>2</sub>	69.30	497.87
D <sub>2</sub>	73.42	469.92
D <sup>#</sup> <sub>2</sub> /E <sup>b</sup> <sub>2</sub>	77.78	443.55
E <sub>2</sub>	82.41	418.65
F <sub>2</sub>	87.31	395.16
F <sup>#</sup> <sub>2</sub> /G <sup>b</sup> <sub>2</sub>	92.50	372.98
G <sub>2</sub>	98.00	352.04
G <sup>#</sup> <sub>2</sub> /A <sup>b</sup> <sub>2</sub>	103.83	332.29
A <sub>2</sub>	110.00	313.64
A <sup>#</sup> <sub>2</sub> /B <sup>b</sup> <sub>2</sub>	116.54	296.03
B <sub>2</sub>	123.47	279.42
C <sub>3</sub>	130.81	263.74
C <sup>#</sup> <sub>3</sub> /D <sup>b</sup> <sub>3</sub>	138.59	248.93
D <sub>3</sub>	146.83	234.96
D <sup>#</sup> <sub>3</sub> /E <sup>b</sup> <sub>3</sub>	155.56	221.77
E <sub>3</sub>	164.81	209.33
F <sub>3</sub>	174.61	197.58
F <sup>#</sup> <sub>3</sub> /G <sup>b</sup> <sub>3</sub>	185.00	186.49
G <sub>3</sub>	196.00	176.02
G <sup>#</sup> <sub>3</sub> /A <sup>b</sup> <sub>3</sub>	207.65	166.14
A <sub>3</sub>	220.00	156.82
A <sup>#</sup> <sub>3</sub> /B <sup>b</sup> <sub>3</sub>	233.08	148.02
B <sub>3</sub>	246.94	139.71
C <sub>4</sub>	261.63	131.87
C <sup>#</sup> <sub>4</sub> /D <sup>b</sup> <sub>4</sub>	277.18	124.47
D <sub>4</sub>	293.66	117.48
D <sup>#</sup> <sub>4</sub> /E <sup>b</sup> <sub>4</sub>	311.13	110.89
E <sub>4</sub>	329.63	104.66
F <sub>4</sub>	349.23	98.79

F <sup>#</sup> <sub>4</sub> /G <sup>b</sup> <sub>4</sub>	369.99	93.24
G <sub>4</sub>	392.00	88.01
G <sup>#</sup> <sub>4</sub> /A <sup>b</sup> <sub>4</sub>	415.30	83.07
A <sub>4</sub>	440.00	78.41
A <sup>#</sup> <sub>4</sub> /B <sup>b</sup> <sub>4</sub>	466.16	74.01
B <sub>4</sub>	493.88	69.85
C <sub>5</sub>	523.25	65.93
C <sup>#</sup> <sub>5</sub> /D <sup>b</sup> <sub>5</sub>	554.37	62.23
D <sub>5</sub>	587.33	58.74
D <sup>#</sup> <sub>5</sub> /E <sup>b</sup> <sub>5</sub>	622.25	55.44
E <sub>5</sub>	659.25	52.33
F <sub>5</sub>	698.46	49.39
F <sup>#</sup> <sub>5</sub> /G <sup>b</sup> <sub>5</sub>	739.99	46.62
G <sub>5</sub>	783.99	44.01
G <sup>#</sup> <sub>5</sub> /A <sup>b</sup> <sub>5</sub>	830.61	41.54
A <sub>5</sub>	880.00	39.20
A <sup>#</sup> <sub>5</sub> /B <sup>b</sup> <sub>5</sub>	932.33	37.00
B <sub>5</sub>	987.77	34.93
C <sub>6</sub>	1046.50	32.97
C <sup>#</sup> <sub>6</sub> /D <sup>b</sup> <sub>6</sub>	1108.73	31.12
D <sub>6</sub>	1174.66	29.37
D <sup>#</sup> <sub>6</sub> /E <sup>b</sup> <sub>6</sub>	1244.51	27.72
E <sub>6</sub>	1318.51	26.17
F <sub>6</sub>	1396.91	24.70
F <sup>#</sup> <sub>6</sub> /G <sup>b</sup> <sub>6</sub>	1479.98	23.31
G <sub>6</sub>	1567.98	22.00
G <sup>#</sup> <sub>6</sub> /A <sup>b</sup> <sub>6</sub>	1661.22	20.77
A <sub>6</sub>	1760.00	19.60
A <sup>#</sup> <sub>6</sub> /B <sup>b</sup> <sub>6</sub>	1864.66	18.50
B <sub>6</sub>	1975.53	17.46
C <sub>7</sub>	2093.00	16.48
C <sup>#</sup> <sub>7</sub> /D <sup>b</sup> <sub>7</sub>	2217.46	15.56
D <sub>7</sub>	2349.32	14.69

D <sup>#</sup> <sub>7</sub> /E <sup>b</sup> <sub>7</sub>	2489.02	13.86
E <sub>7</sub>	2637.02	13.08
F <sub>7</sub>	2793.83	12.35
F <sup>#</sup> <sub>7</sub> /G <sup>b</sup> <sub>7</sub>	2959.96	11.66
G <sub>7</sub>	3135.96	11.00
G <sup>#</sup> <sub>7</sub> /A <sup>b</sup> <sub>7</sub>	3322.44	10.38
A <sub>7</sub>	3520.00	9.80
A <sup>#</sup> <sub>7</sub> /B <sup>b</sup> <sub>7</sub>	3729.31	9.25
B <sub>7</sub>	3951.07	8.73
C <sub>8</sub>	4186.01	8.24
C <sup>#</sup> <sub>8</sub> /D <sup>b</sup> <sub>8</sub>	4434.92	7.78
D <sub>8</sub>	4698.63	7.34
D <sup>#</sup> <sub>8</sub> /E <sup>b</sup> <sub>8</sub>	4978.03	6.93
E <sub>8</sub>	5274.04	6.54
F <sub>8</sub>	5587.65	6.17
F <sup>#</sup> <sub>8</sub> /G <sup>b</sup> <sub>8</sub>	5919.91	5.83
G <sub>8</sub>	6271.93	5.50
G <sup>#</sup> <sub>8</sub> /A <sup>b</sup> <sub>8</sub>	6644.88	5.19
A <sub>8</sub>	7040.00	4.90
A <sup>#</sup> <sub>8</sub> /B <sup>b</sup> <sub>8</sub>	7458.62	4.63
B <sub>8</sub>	7902.13	4.37

(To convert lengths in cm to inches, divide by 2.54)

[More information on the equal tempered scale](#)

[Equations used for this table](#)

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