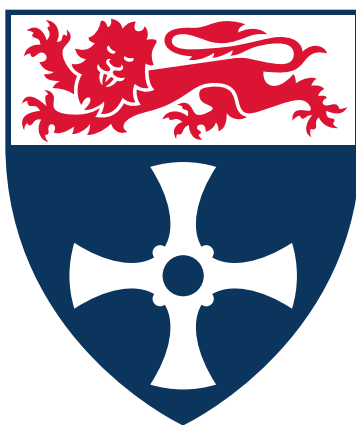


1 hr 30 min

Suitable for:  
**KS3+**

# Newcastle University

School of Maths, Stats, and Physics



## DIY Slapaphone

This activity works well alongside:

[Membrane Flute, Balloon Oscilloscope](#)

Build a musical instrument in groups from PVC piping, and learn to play it. This is a very flexible duration.

## Prerequisites

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Before starting this activity, participants should be familiar with:

- Waves. Standing waves will be recapped.

Date→									
<b>Equipment</b>	<b>Per Set</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>
32mm PVC piping	<i>see below</i>								
Large stand	1								
Sticky labels	1								
Marker pens	1								

Each group (3-4 groups total), will need a set of PVC piping of 32mm diameter, cut to the following lengths:

Note	Frequency (Hz)	Length (mm)
C <sub>4</sub>	261.63	672
C <sub>4</sub> <sup>#</sup> , D <sub>4</sub> <sup>b</sup>	277.18	635
D <sub>4</sub>	293.66	600
D <sub>4</sub> <sup>#</sup> , E <sub>4</sub> <sup>b</sup>	311.13	567
E <sub>4</sub>	329.63	536
F <sub>4</sub>	349.23	507
F <sub>4</sub> <sup>#</sup> , G <sub>4</sub> <sup>b</sup>	369.99	480
G <sub>4</sub>	392.00	454
G <sub>4</sub> <sup>#</sup> , A <sub>4</sub> <sup>b</sup>	415.30	429
A <sub>4</sub>	440.00	406
A <sub>4</sub> <sup>#</sup> , B <sub>4</sub> <sup>b</sup>	466.16	384
B <sub>4</sub>	493.88	363
C <sub>5</sub>	523.25	344
C <sub>5</sub> <sup>#</sup> , D <sub>5</sub> <sup>b</sup>	554.37	325
D <sub>5</sub>	587.33	308
D <sub>5</sub> <sup>#</sup> , E <sub>5</sub> <sup>b</sup>	622.25	292
E <sub>5</sub>	659.25	276
F <sub>5</sub>	698.46	262
F <sub>5</sub> <sup>#</sup> , G <sub>5</sub> <sup>b</sup>	739.99	248
G <sub>5</sub>	783.99	235
G <sub>5</sub> <sup>#</sup> , A <sub>5</sub> <sup>b</sup>	830.61	222
A <sub>5</sub>	880.00	211
A <sub>5</sub> <sup>#</sup> , B <sub>5</sub> <sup>b</sup>	932.33	200
B <sub>5</sub>	987.77	190
C <sub>6</sub>	1046.50	180