



SCIENCE
CHAPTER 7- ENERGY
LESSON 2- SOUND
SOUND LAB



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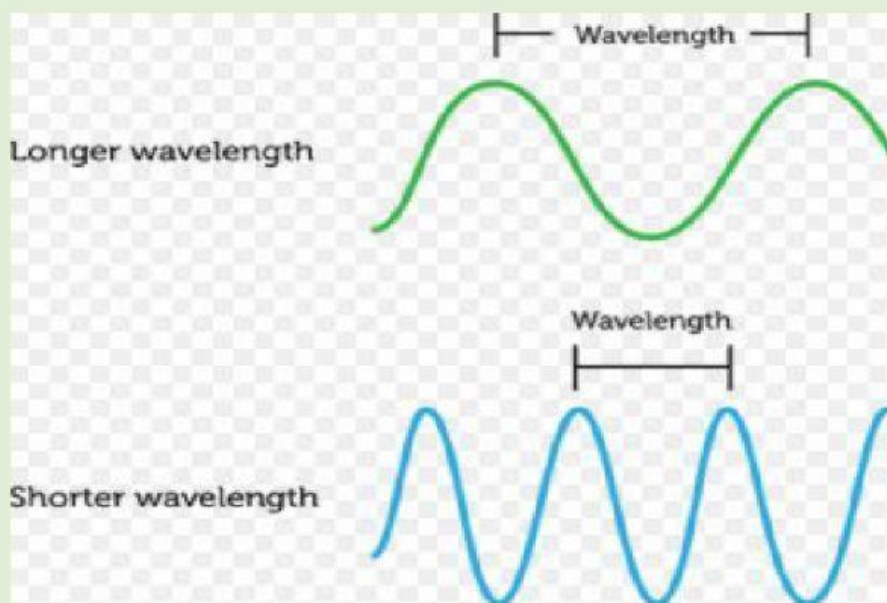
LAB BASED QUESTIONS



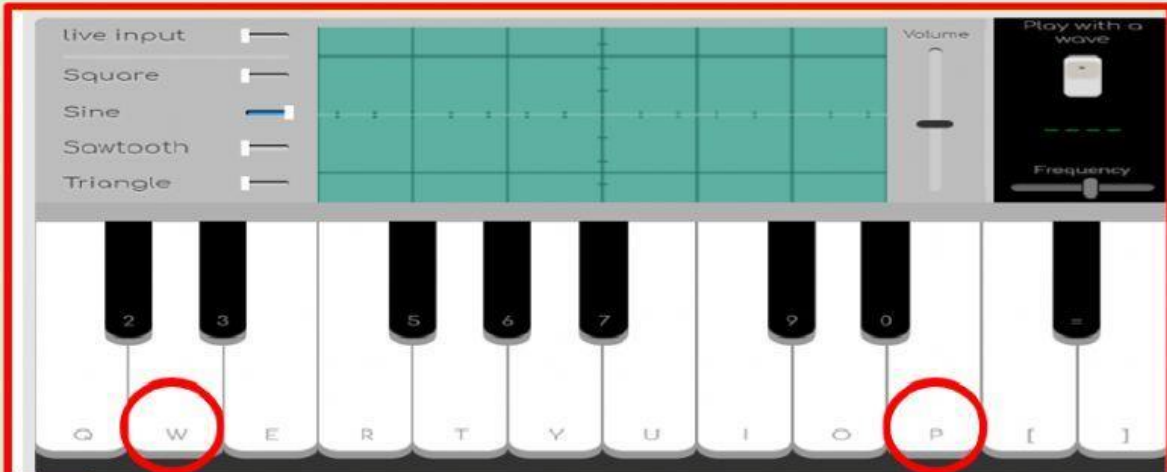
CLICK ON
YELLOW ICON
TO OPEN
VIRTUAL LAB

WAVELENGTH

It is the number of vibrations in one second



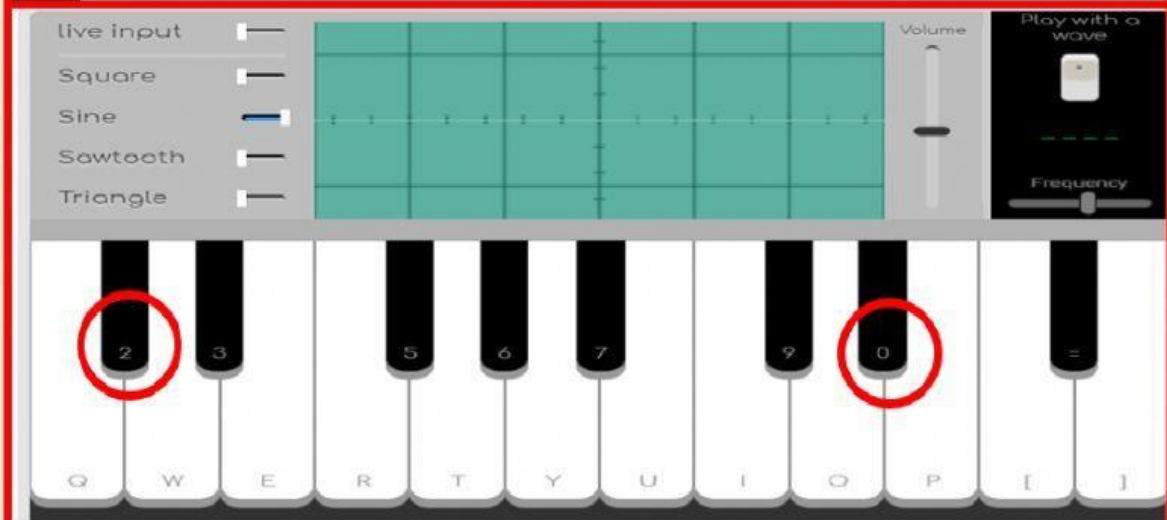
CLICK ON YELLOW ICON TO OPEN SOUND LAB



Which one has longer wavelength?

W

P



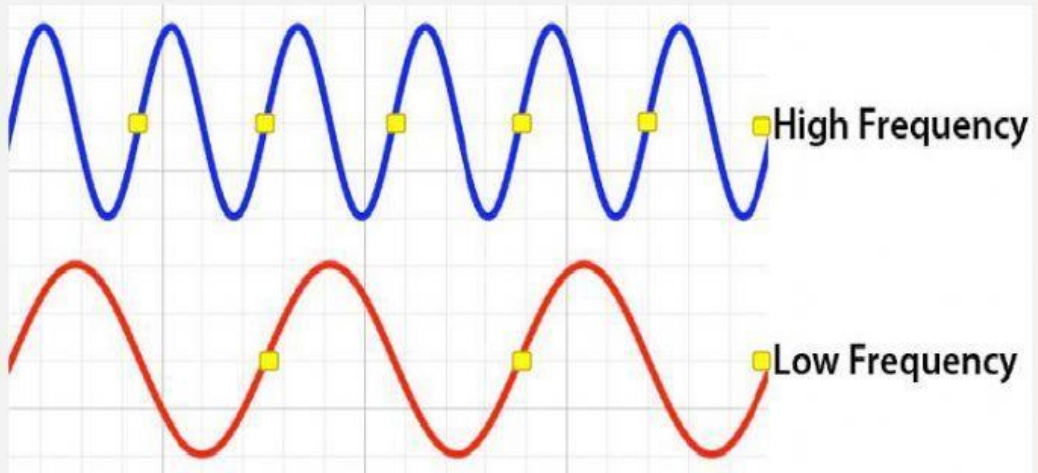
Which one has shorter wavelength?

0

2

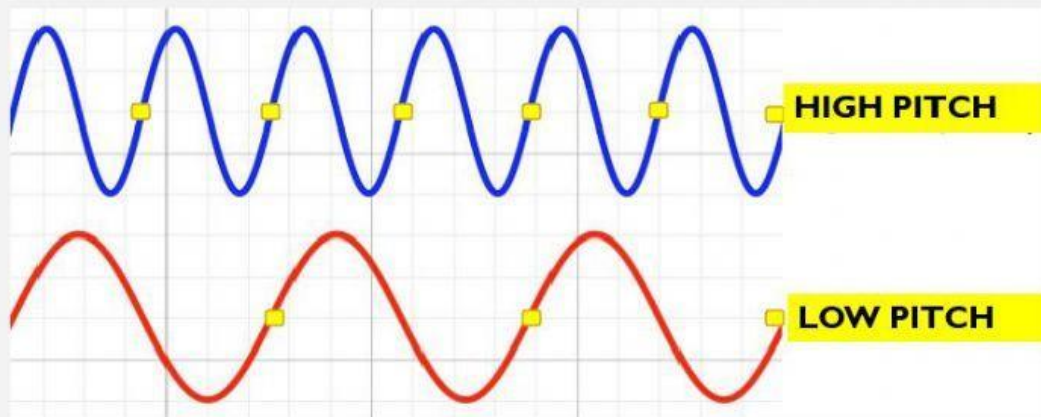
FREQUENCY

Number of waves in 1 second



PITCH depends on frequency

It is degree of highness or lowness of sound



CLICK ON YELLOW ICON TO OPEN SOUND LAB |

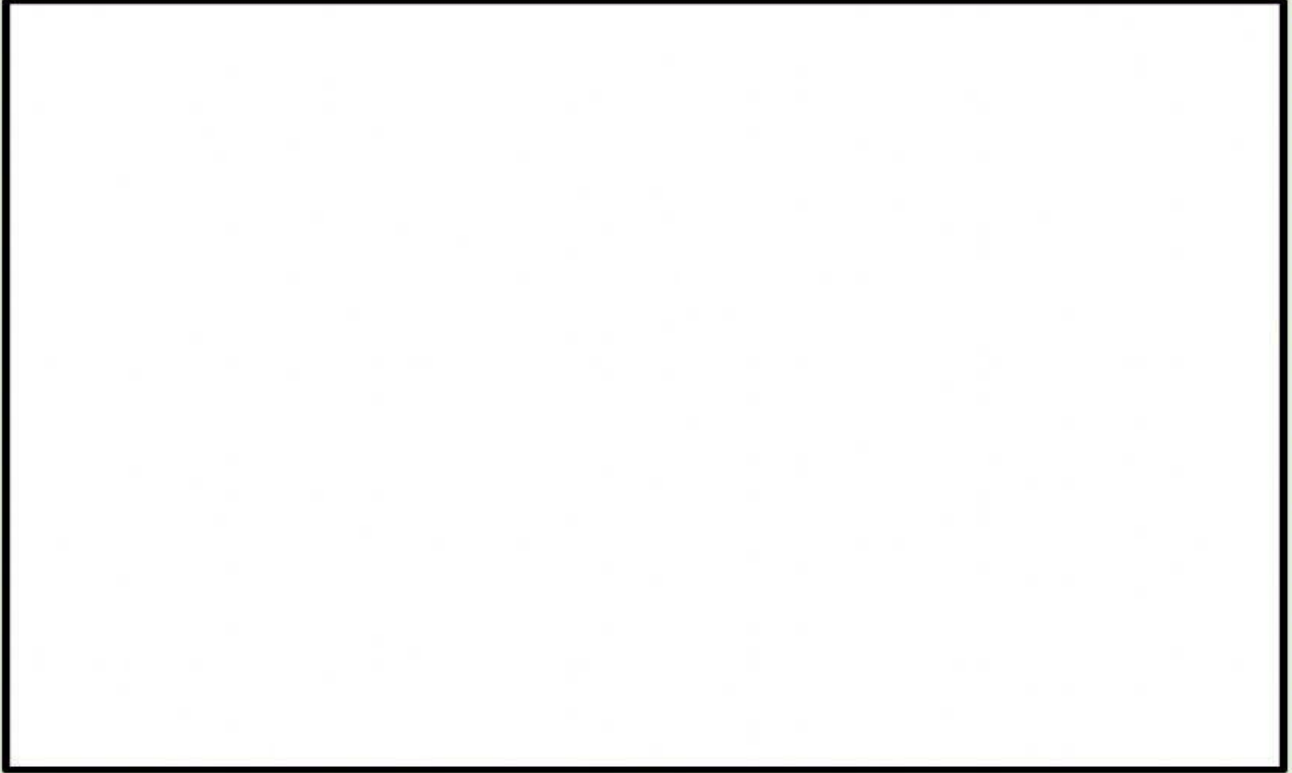


The screenshot shows the Sound Lab interface. On the left, there are five wave selection buttons: 'live input', 'Square', 'Sine', 'Sawtooth', and 'Triangle'. The 'Sine' button is selected. In the center is a green grid for visualizing the wave. To the right of the grid is a 'Volume' slider and a 'Play with a wave' button. Below these is a 'Frequency' slider, which is circled in yellow. A red hand icon points to the 'Play with a wave' button with the text 'CLICK HERE'. A yellow arrow points from the text 'CHANGE FREQUENCY TO SEE HIGH AND LOW FREQUENCY' to the 'Frequency' slider. At the bottom is a keyboard with keys labeled 2, 3, 5, 6, 7, 9, 0, and =, corresponding to letters Q, W, E, R, T, Y, U, I, O, P, [, and].

Which one has higher frequency?

Two screenshots of the Sound Lab interface are shown. The top screenshot displays a sine wave with a frequency of 687 Hz. The bottom screenshot displays a sine wave with a frequency of 898 Hz. Both screenshots show the 'Sine' wave selected and the 'Frequency' slider adjusted to the respective values.

**WATCH THE VIDEO AND DETERMINE IF THE
SOUND IS HIGH OR LOW PITCH**



1.

Tea kettle:

2.

Timpani:

3.

String bass:

4.

Piccolo:

5.

Lion roar:

6. Triangle:

7. Bear growl:

8. Whistle:

9. Witch cackle:

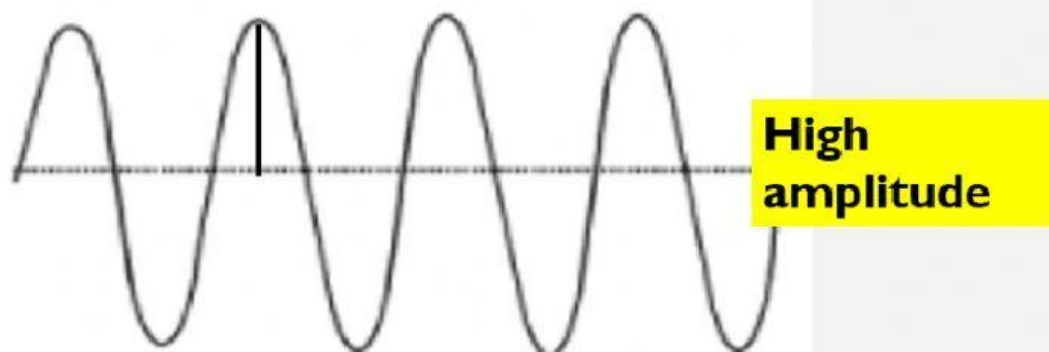
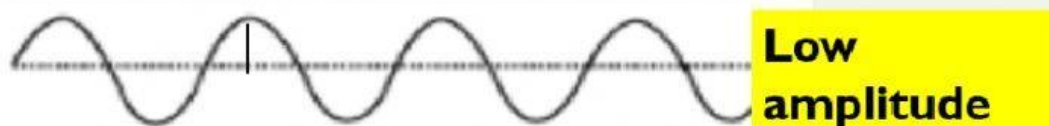
10. Tuba:

11. Chick:

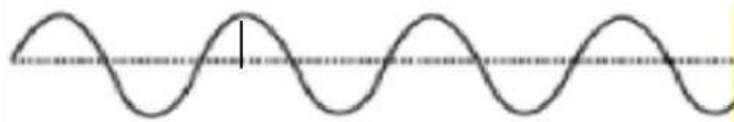
12. Pirate:

AMPLITUDE

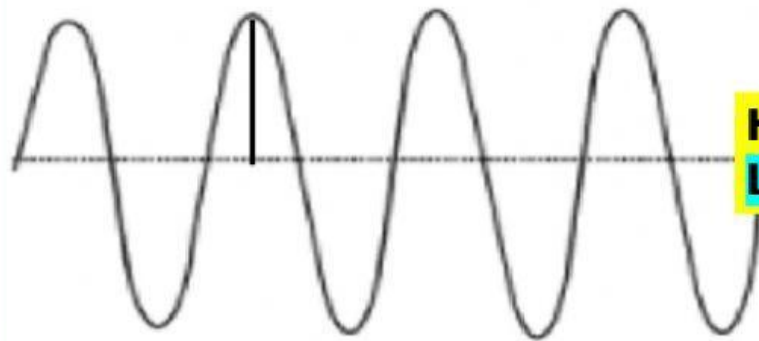
Amount of energy in the sound wave



LOUDNESS DEPENDS ON AMPLITUDE



Low amplitude-
QUIET SOUND



High amplitude-
LOUD SOUND

CLICK ON YELLOW ICON TO OPEN SOUND LAB |



live input

Square

Sine

Sawtooth

Triangle

CLICK HERE

CHANGE VOLUME TO SEE HIGH AND LOW AMPLITUDE

Volume

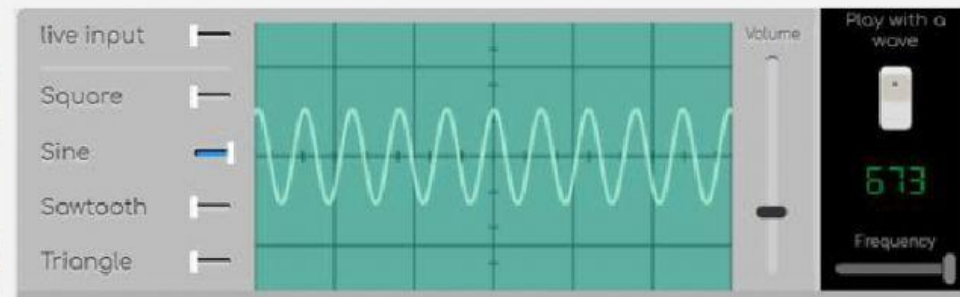
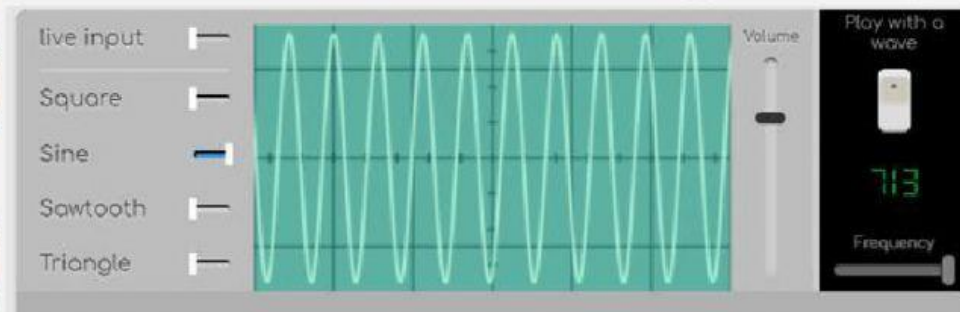
Play with a wave

Frequency

2 3 5 6 7 9 0 =

Q W E R T Y U I O P []

Which one has higher amplitude?



Which one has low amplitude?

