

Step 3 :



Repeat the step 1 with white coloured strip. You will observe that the other white coloured strip starts vibrating with largest possible amplitude and other two strips vibrate with smaller amplitude.

What is going on?

Every object possesses its own frequency of vibration. This frequency is called its natural frequency. Objects of the same material and dimension will have same natural frequency.

When you pluck only one of the strips say white, it starts vibrating with its natural frequency. These vibrations force another white strip (which is of the same dimension) to vibrate. The second white strip also starts vibrating with same frequency as that of the first with little less but with largest amplitude compared to other two strips. Now both white strips together vibrate with same frequency. This phenomenon itself is called as resonance.

Resonance occurs when the transfer of energy is maximum. Maximum energy is transferred when frequency of the two objects is same.



RESONANCE

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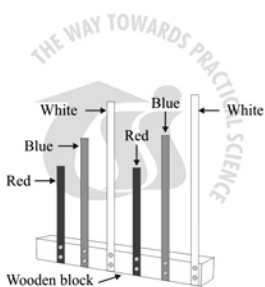
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RESONANCE

One Vibrating body will make another body of same dimension (Natural frequency) to vibrate

Assembly :

The apparatus consists of a set of three pairs of thin spring steel strips of different lengths. These strips are fixed to a wooden block by using screws. Metal strip of a pair are similar in colour and dimensions.



To do and notice :

Step 1 :



Hold the assembly firmly in one hand. Pluck the red coloured strip. You will observe that the other red coloured strip starts vibrating with largest possible amplitude and other two strips vibrate with smaller amplitude.

Step 2 :



Repeat the step 1 with blue coloured strip. You will observe that the other blue coloured strip starts vibrating with largest possible amplitude and other two strips vibrate with smaller amplitude.