

Strings and Winds

Vibrations in Strings

Whole



Halves



Thirds



Fourths



And so on...

The string vibrates back and forth (from the black to the red position and back again) at all the wavelengths that it can.

It vibrates as a whole string, and in halves, and in thirds, and fourths, and so on, all at the same time.

But not:



or



There are many wavelengths that it can't vibrate, though, because they would need one of the ends of the string to be able to move around.

Vibrations in Wind Instruments



The way standing waves work on strings and in pipes (or wind instruments) is different,

but many of the rules are similar.

Compare these waves to the ones on a vibrating string.

What differences do you notice?

What do you think is the reason for the differences?

What seems to be the same?