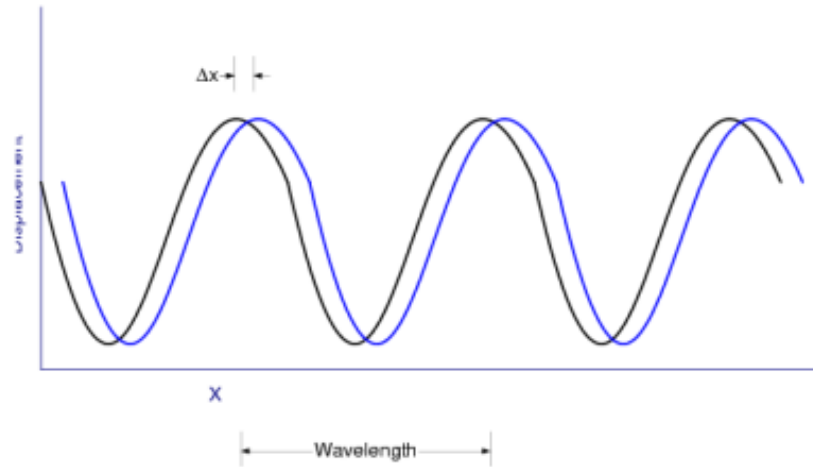


# Travelling wave

This wave moves to the positive direction of  $x$  with speed  $s$ :

$$s = \frac{\lambda}{T} = \lambda f$$



Oscillations	Wave
Period [s]: $T$	Wavelength[m]: $\lambda$

# Standing waves

Wave moving in '+' direction

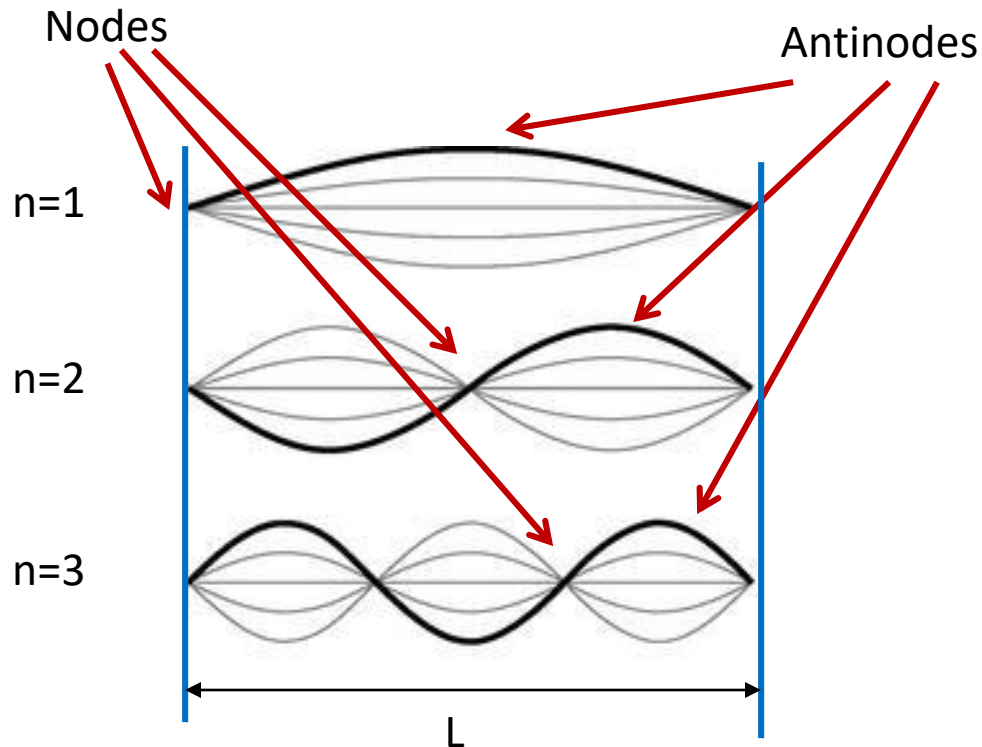
+

Wave moving in '-' direction

=

Standing Wave

$$\lambda = \frac{Ln}{2}, \quad n = 1, 2, 3, \dots$$



# Homework

## Problem 1.

Cellphone uses frequency 900 MHz. What is the wavelength of its radio signal?

## Problem 2

Use the dimensional analysis (method of units) to find the speed of a wave propagating along a stretched string. Note that it is not the speed of sound in the material of the string. The speed you need to find depends on the tension force  $F$ , mass of the string  $M$ , and its length  $L$ .