

8.3

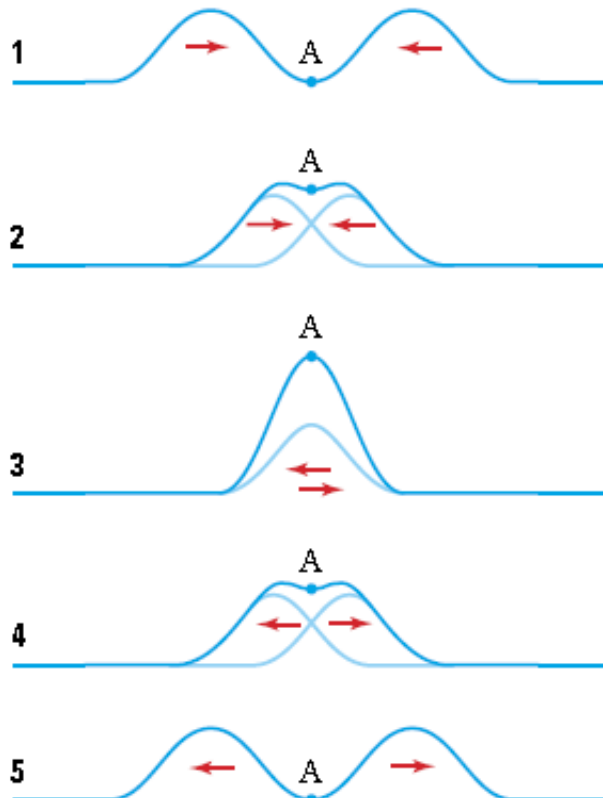
# Interference of Waves

## KEY TERMS

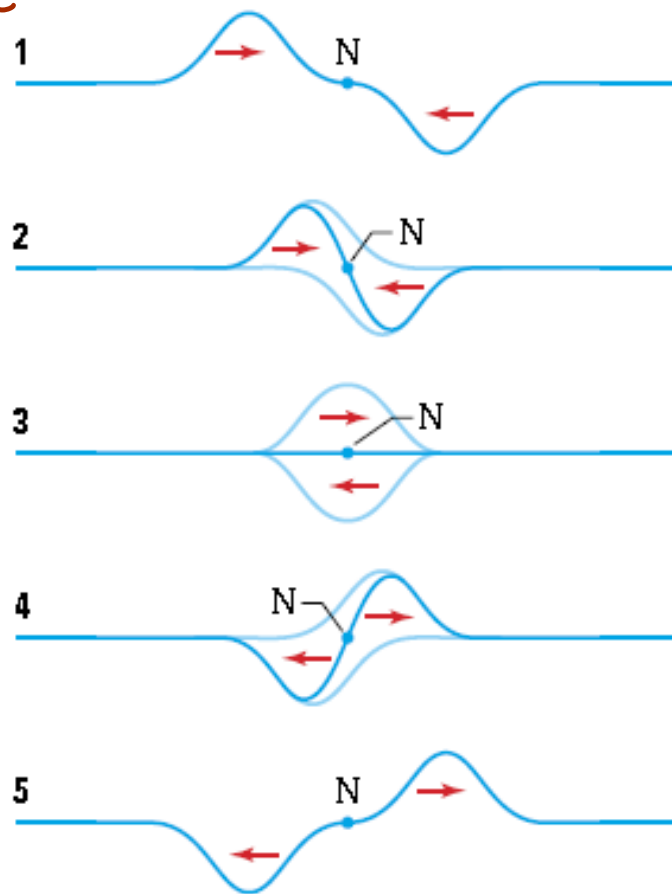
- resultant wave
- component wave
- constructive interference
- destructive interference
- node
- antinode
- standing wave
- fundamental frequency
- fundamental mode
- overtone



## Constructive

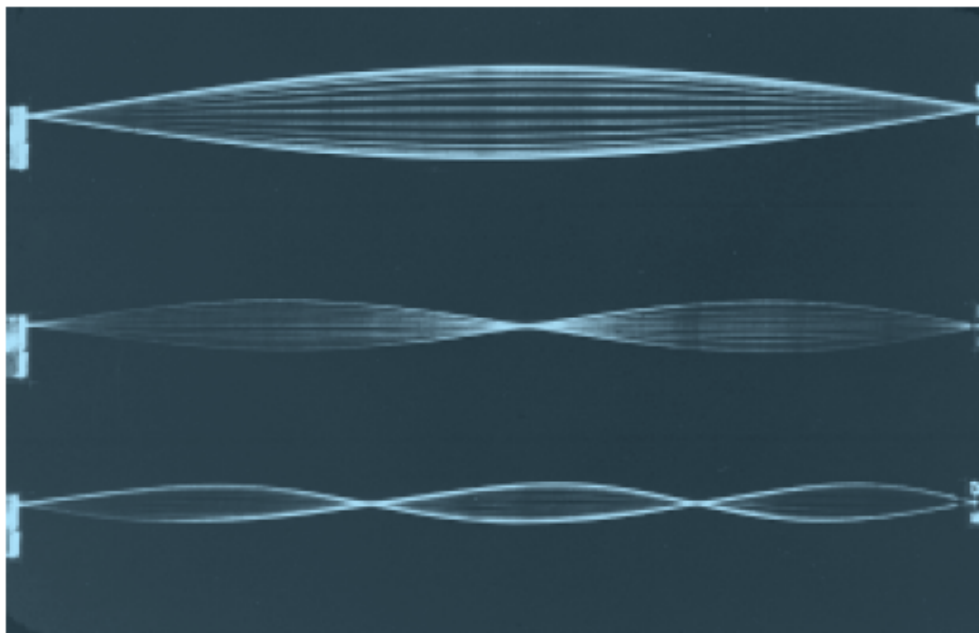


## Destructive



## Standing Waves

- for every medium of a fixed length, there are many **natural frequencies** of vibration that produce **resonance**
- the lowest natural frequency, (longest wavelength) is called the **fundamental frequency**
- fundamental frequency has the fewest number of nodes and antinodes, usually  $1/2$  wavelength
- each multiple thereafter is called an **overtone** and achieved by adding one more node to the standing wave pattern



*Investigation 8-B, p. 359*