

**PHYSICS
SUPERPOSITION
FORM 5**

Diffraction is the ability of waves to bend around corners. There is no change in frequency or wavelength when diffraction occurs, that is, the speed remains the same. The opening in the barrier is called an aperture. Diffraction is the greatest when the size of the aperture is equal to the wavelength.

Ex. Sound waves from one room of a house can be heard throughout the house since the sound waves exiting the room spread out in all directions.

Superposition

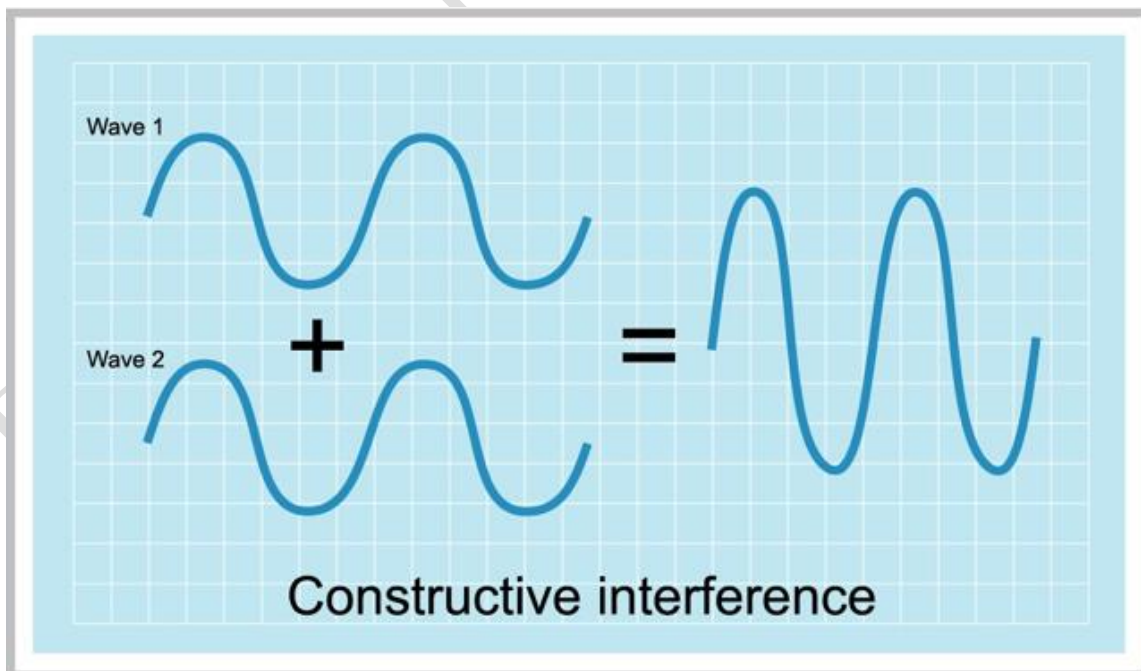
The interaction between two waves that are superimposed on each other is called interference.

There are two types of interference:

1. Constructive Interference
2. Destructive Interference

Constructive Interference

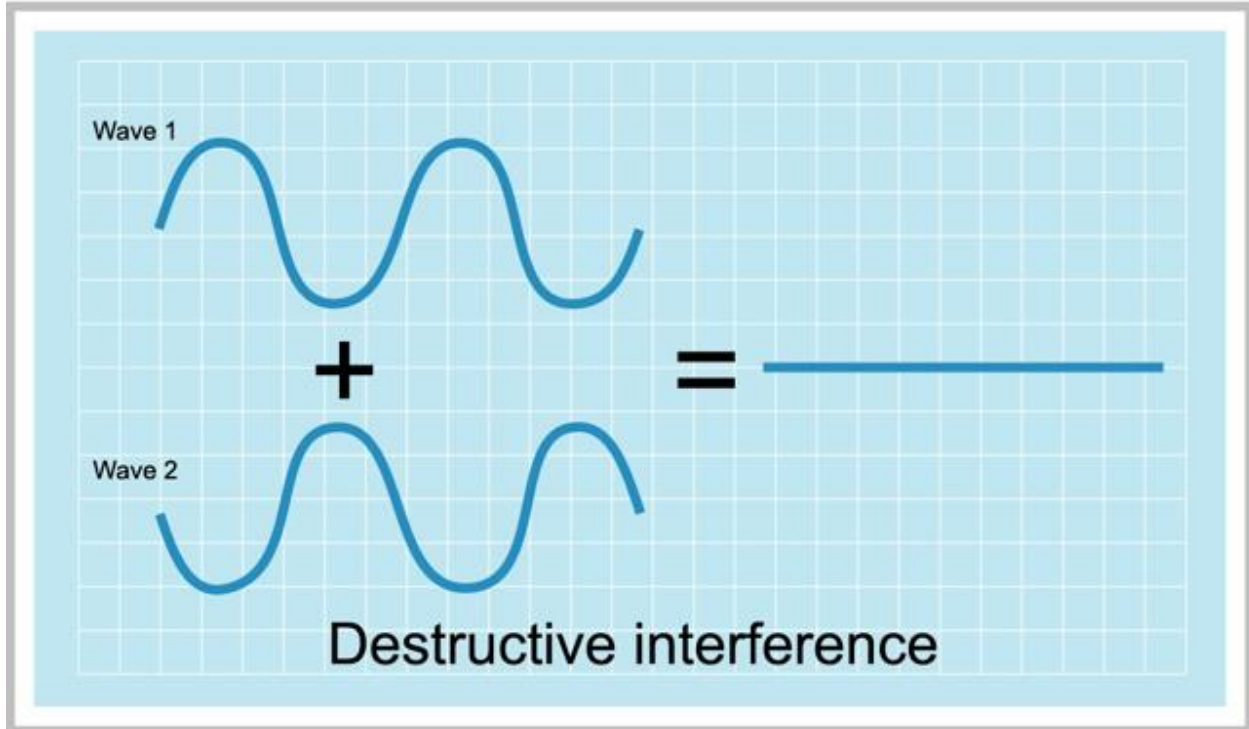
This is said to occur when the two waves are in phase. This means that the crest of one wave are in line with the crest of the other wave while the trough of one wave is in line with the trough of the other wave.



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Destructive Interference

The two waves interacting with each other are out of phase, that is the crest of one wave is line with the trough of the other wave. The result is the waves cancel each other with no wave being produced.



R. Mondol