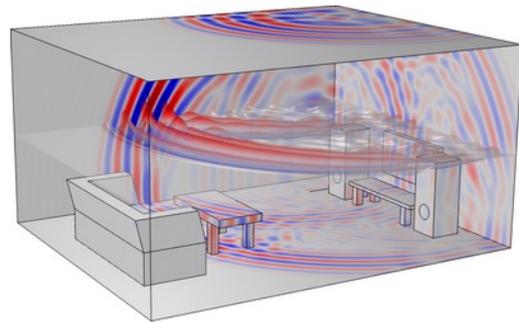


# ACOUSTICS

## AoS 2: ACOUSTICS

# What is Acoustics?

- Help to understand how sound interacts in a space
- Different materials have different levels of **absorption**
- The more **reflective** a room is, the **higher** the **RT<sub>60</sub>**



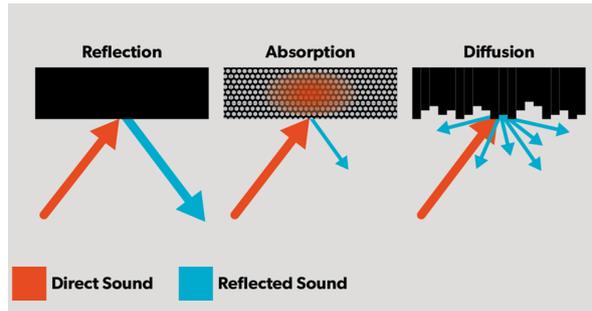
Absorption coefficient of 1 = complete absorption

Absorption coefficient of 0 = complete reflection

A large room doesn't always equal a longer reverb time

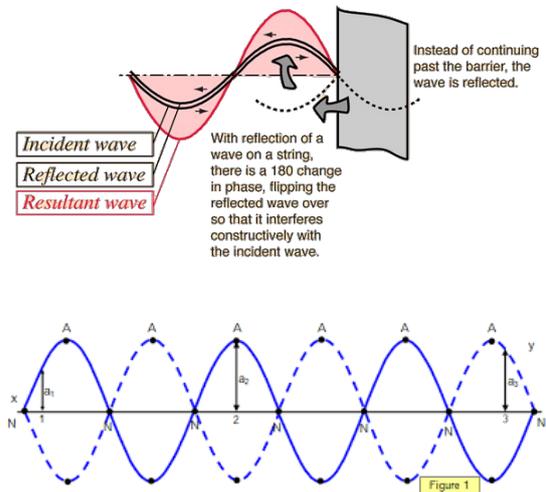
## Reflection, Absorption and Diffusion

- When a wave is **reflected**, the sound wave will **bounce off** the surface
- When a wave is **absorbed**, some of its energy is absorbed by the surface and the rest is reflected
- When a wave is **diffused**, it is **scattered** from angled surfaces over a wide area



# Standing Waves

- Some reflections can cause an increase in the **amplitude** for sounds at specific **frequencies**
- Some reflections can also cause **phase cancellation**
- **Acoustic treatment** in rooms can help to lessen the effect of standing waves



Constructive and destructive interference

## Isolation Booths

- Acoustically treated and insulated
- Used either to isolate a performer from **spill** or louder '**spill-prone**' instruments from other musicians

