Waves and Sound

1. Waves Introduction
    a. Terms describing waves
    b. Types of waves
    c. Energy of Waves
2. Properties of Waves
    a. Period and frequency
    b. Universal Wave Equation
3. Superposition and Interference
    a. Wave reflection
    b. Principle of superposition (constructive and destructive interference)
    c. Standing Waves
    d. Interference in 2-dimensions
    e. Resonance
4. Characteristics of Sound Waves
    a. Need for a medium
    b. Pitch
    c. Speed of Sound/Effect of medium
    d. Intensity
    e. Hearing
    f. Applications
5. Resonance, Standing Waves and Musical Sound
    a. Standing waves in instruments
    b. Beats and Beat Frequency
    c. Other cases of interference with sound

6. Sound and a Moving Source
    a. The Doppler effect
    b. The sound barrier and sonic booms