

Today: tone holes, register and octave keys,
begin architectural acoustics

Next time: Reverberation and Sabine's formula

Learning goals

Design simple flutes/clarinets

- Estimate frequencies/pitches of tone holes
- Estimate frequencies/pitches of register and octave keys

Design a concert hall with good acoustics (next two lectures)

- Identify important the important qualities for good room acoustics

Review: **Categorization of Instruments**

Cylindrical pipe open at both ends - flute-type (flute, organ pipe, recorder) – all harmonics present, simple recipe for frequencies

Cylindrical pipe closed at one end – clarinet – odd harmonics present, simple recipe

Conical pipe - oboe, saxophone – all harmonics present, no recipe

A large tone hole simply shortens the length of the pipe

