English consonants: p, t, k, b, d, g, m, n, ŋ, f, v, θ, ð, s, z, ʃ, ʒ, l, w, r, j, h, ʧ, ʤ

English vowels

Phonetics
1. A study on speech
2. How speech is described
    Articulatory phonetics (*from mouth*) ← the most primitive - How to produce speech
    Acoustic phonetics (*through air*) - How to transmit speech
    Auditory phonetics (*to ear*) - How to hear speech

The vocal tract: nose, ear, pharynx, larynx

Vocal tract (upper): lips, teeth, alveolar, hard palate, velum, uvula, pharynx
Vocal tract (lower): lip, tongue, epiglottis

5 speech organs = constrictors = articulators
  Oro-nasal process: velum (soft palate)
  Articulatory process: liips, tongue tip, tongue body
  Phonation process: larynx (voice box)

Voiced: can feel vibration
Voiceless: can't feel vibration

When velum lowered, we can make nasal sound m, n, ŋ

Five constrictor: lips, tongue tip, tongue body, larynx, velum

Constriction location (CL): where exactly?
Constriction degree (CD): how much exactly?

Constrictor의 관점에서 같을 수 있지만, CL의 관점에서는 세분화됨
Lips: bilabial, labio-dental
Tongue body: palatal, velum
Tongue tip: dental, alveolar, palate-alveolar, retroflex

CD의 관점에서 모든 모음의 막히는 정도는 자음보다 작다.
모든 자음은 stops, fricative, approximants 세가지에 속함.
모든 모음은 constrictor로 tongue body를 쓴다.

Praat
Duration: select (click and drag on waveform or spectrogram)
        read a value (sec.) on the top
        zoom in (if not visible)
Intensity: show intensity
        click on green
        read a value (dB) on the right