Stop (Plosive) Consonants

A stop consonant is a speech sound articulated by completely stopping the flow of air behind the articulators, and then releasing it with a slight explosion. For all stop consonants, THE SOFT PALATE IS RAISED so that all the air escapes through the mouth. There are four pairs of stop consonants.

1. Articulation of /p/ versus /b/

For these sounds, the two lips are firmly closed and the air-flow is trapped behind them for a short time. When the lips are suddenly opened, the air-flow rushes out with a slight explosion or popping noise. Look at the examples in your textbook.

Phonetic Features

Criteria	/p/	/b/
Manner of articulation	Stop	Stop
Place of articulation and articulators	Bilabial (Both lips are firmly closed).	Bilabial (Both lips are firmly closed).
State of the soft palate	The soft palate is raised.	The soft palate is raised.
Activity of the vocal cords	They are not vibrating (voiceless).	They are vibrating (voiced).
Strength	Strong	Weak
Length	Long	Short
Effect on the preceding vowel and/or nasals	It shortens the preceding vowel.	It lengthens the preceding vowel.
Aspiration & Devoicing	It is aspirated and devoices the following sound.	It is unaspirated and doesn't devoice the following sound.

2. /t/ versus /d/

They are articulated by firmly pressing the tongue-tip against the middle of the alveolar ridge, and the air-flow is trapped behind this obstruction. The sides of the tongue are against the sides of the palate so that no air-flow escapes over the sides of the tongue. When the tongue-tip is suddenly lowered from the alveolar ridge, the air-flow rushes out with a slight explosion or popping noise. Look at the examples in your textbook.

Phonetic Features

Criteria	/t/	/d/
Manner of articulation	Stop	Stop
Place of articulation and articulators	Alveolar (The tongue-tip is firmly pressed against the middle of the alveolar ridge).	Alveolar (The tongue-tip is firmly pressed against the middle of the alveolar ridge).
State of the soft palate	The soft palate is raised.	The soft palate is raised.
Activity of the vocal cords	They are not vibrating (voiceless).	They are vibrating (voiced).
Strength	Strong	Weak
Length	Long	Short
Effect on the preceding vowel and/or nasals	It shortens the preceding vowel.	It lengthens the preceding vowel.
Aspiration & Devoicing	It is aspirated and devoices the following sound.	It is unaspirated and doesn't devoice the following sound.

3. /k/ versus /g/

They are articulated by firmly pressing the back of the tongue against the soft palate. The air-flow is trapped behind the obstruction for a short time. When the back of the tongue is suddenly lowered from the soft palate, the air flow rushes out with a slight explosion or popping noise. Look at the examples in your textbook.

Phonetic Features

Criteria	/k/	/g/
Manner of articulation	Stop	Stop
Place of articulation and articulators	Velar (The back of the tongue is firmly pressed against the soft palate).	Velar (The back of the tongue is firmly pressed against the soft palate).
State of the soft palate	The soft palate is raised.	The soft palate is raised.
Activity of the vocal cords	They are not vibrating (voiceless).	They are vibrating (voiced).
Strength	Strong	Weak
Length	Long	Short
Effect on the preceding vowel and/or nasals	It shortens the preceding vowel.	It lengthens the preceding vowel.
Aspiration & Devoicing	It is aspirated and devoices the following sound.	It is unaspirated and doesn't devoice the following sound.

4. /ʧ/ versus /ʤ/

For these sounds, the tongue-tip is tightly pressed against the back of the alveolar ridge, and the breath is trapped for a short time. When the tongue-tip is lowered from the alveolar ridge, the whole tongue becomes in the position for /ʃ/ and /ʒ/. As a result, a slight friction could be heard; yet, the friction energy for /ʧ/ and /ʤ/ is less than that for /ʃ/ and /ʒ/. Look at the example in your textbook.

Phonetic Features

Criteria	/ʧ/	/ʤ/
Manner of articulation	Stop	Stop
Place of articulation and articulators	Post-alveolar (The tongue-tip is tightly pressed against the back of the alveolar ridge).	Post-alveolar (The tongue-tip is tightly pressed against the back of the alveolar ridge).
State of the soft palate	The soft palate is raised.	The soft palate is raised.
Activity of the vocal cords	They are not vibrating (voiceless).	They are vibrating (voiced).
Strength	Strong	Weak
Length	Long	Short
Effect on the preceding vowel and/or nasals	It shortens the preceding vowel.	It lengthens the preceding vowel.
Aspiration & Devoicing	It is unaspirated and DOES NOT devoice the following sound.	It is unaspirated and DOES NOT devoice the following sound.

Note:

Aspiration is the period of breath that follows a voiceless stop consonant occurring in word-initial and word-final positions. Aspirated stop consonants include /p, t, k, ʧ/. The aspirated consonants are phonetically transcribed by using [^{h}] on the upper right, for example pool [p^{h}u:l]. Aspirated consonants affect the following sound (a following

consonant or vowel) and makes lose its voicing feature either partially or completely. That is, a consonant or a vowel occurring after a voiceless aspirated stop consonant is

either partially or fully devoiced. A devoiced sound is phonetically transcribed by placing this symbol [̥] below, for example, play [pl̥eɪ].