The 39 CMU Pronouncing Dictionary phonemes

set in the International Phonetic Alphabet chart

CMU Dictionary: <http://www.speech.cs.cmu.edu/cgi-bin/cmudict>

IPA chart with sounds: <https://www.internationalphoneticalphabet.org/ipa-sounds/ipa-chart-with-sounds/> <http://www.phonetics.ucla.edu/course/chapter1/chapter1.html>

English to IPA: <https://www.internationalphoneticalphabet.org/english-to-ipa-translator/>

21 Pulmonic Consonants

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | bilabial | | labio-  dental | | dental | | alveolar | | post-  alveolar | | palatal | | velar | | glottal | |
| plosive | P | B |  |  |  |  | T | D |  |  |  |  | K | G |  |  |
| nasal |  | M |  |  |  |  |  | N |  |  |  |  |  | NG |  |  |
| fricative |  |  | F | V | TH | DH | S | Z | SH | ZH |  |  |  |  | HH |  |
| approximant |  |  |  |  |  |  |  | R |  |  |  | Y |  |  |  |  |
| lateral approximant |  |  |  |  |  |  |  | L |  |  |  |  |  |  |  |  |

Where symbols appear in pairs, the one to the right represents a voiced consonant.

2 Affricates

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| voiceless palato-alveolar |  |  |  | CH |  |  |  |  |
| voiced post-alveolar |  |  |  |  | JH |  |  |  |

1 Other Consonant

| voiced labial-velar approximant | W |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |

9 Vowels

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | front | | | near-front | | | central | | | near-back | | | back | | |
| close | IY |  |  |  |  |  |  |  |  |  |  |  |  |  | UW |
| near-close |  |  |  | IH |  |  |  |  |  |  |  | UH |  |  |  |
| mid |  |  |  |  |  |  |  |  | AH |  |  |  |  |  |  |
| open-mid |  |  |  |  | EH |  |  |  |  |  |  |  |  |  | AO |
| near-open |  |  |  |  |  | AE |  |  |  |  |  |  |  |  |  |
| open |  |  |  |  |  |  | AA |  |  |  |  |  |  |  |  |

Where symbols appear in pairs, the one to the right represents a rounded vowel.

6 Vowel + Consonant Pairs

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | front | | | near-front | | | central | | | near-back | | | back | | |
| close | EY1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| near-close |  |  |  | AY2  OY5 |  |  |  |  |  |  |  | AW3  OW4 |  |  |  |
| close-mid |  |  | EY1 |  |  |  |  |  |  |  |  |  |  |  | OW4 |
| open-mid |  |  |  |  |  |  |  |  | ER |  |  |  |  |  | OY5 |
| open |  |  |  |  |  |  | AY2  AW3 |  |  |  |  |  |  |  |  |

Small symbols represent the consonant ending of the vowel-consonant pair.