

## Interpreting Results for Speech Sound Emergence and Mastery

Speech sound acquisition is best described as a developmental progression in which an individual begins to correctly produce a sound in some context (e.g., single syllable words, consonant singletons) or in specific words. With exposure and practice over time, an individual produces a sound correctly in almost all contexts and words.

Tables showing the age of emergence and mastery of phonemes by age and sex are presented on page 8. Table D.1 indicates the age at which 50%, 75%, and 90% of children in the GFTA–3 normative sample produced phonemes correctly one or more times during test administration. Table D.2 indicates the ages at which 90% of the children in the GFTA–3 normative sample articulated the phonemes in initial, medial, and final word positions with at least 85% accuracy.

### Recording Errors on Table D.1 (Emergence of Phonemes by Age)

Table D.1 is provided separately for females and males. Use the purple table for females and the blue table for males.

To complete Table D.1, first complete the Sounds-in-Words Phonetic Error Analysis. Refer to the individual’s speech sound errors marked on the Sounds-in-Words Phonetic Error Analysis. For phonemes marked as incorrect in all occurrences (e.g., all items with /s/ are marked as errors), circle those phonemes on Table D.1. Then, using the individual’s age, locate the appropriate age range and draw an “age line” under the age range. If the individual is age 9 or older, draw a line under the oldest age range. See Figure 18.

### Interpreting Information About the Emergence of Phonemes

The phonemes above the “age line” were produced correctly at least one or more times by the GFTA–3 normative sample of the same age and sex. That is, in comparison to same age, same sex peers, an individual’s speech sound profile should include one or more correct productions of each phoneme above the “age line.” The phonemes circled above the “age line” are ones that should have been produced correctly in at least one context, but have not for the individual tested. The phonemes below the “age line” are those that had not emerged by the GFTA–3 normative sample of the same age and sex. The individual you tested would not be expected to produce these phonemes.

### Recording Errors on Table D.2 (Mastery of Phonemes by Age)

Table D.2 is provided separately for females and males. Use the purple table for females and the blue table for males.

To complete Table D.2, first complete the Sounds-in-Words Phonetic Error Analysis. Refer to the individual’s speech sound errors marked on the Sounds-in-Words Phonetic Error Analysis. If one instance of a phoneme is produced incorrectly in a given word position, circle that phoneme on Table D.2. Then, using the individual’s age, locate the appropriate age range and draw an “age line” under the age range. If the individual is age 9 or older, draw a line under the oldest age range. See Figure 18.

### Interpreting Information About the Mastery of Phonemes

The phonemes above the “age line” are those that were mastered (produced correctly at least 85% of the time) by the GFTA–3 normative sample of the same age and sex. Error phonemes circled above the “age line” are those that should have been mastered by the individual tested. The phonemes below the “age line” are those that had not been mastered by the GFTA–3 normative sample of the same age and sex. The individual you tested would not be expected to produce these phonemes with at least 85% mastery.

**Table D.1** Ages at Which Phonemes Were Present in 50%, 75%, and 90% of Normative Sample (Female)

		Produced by 50% of children	Produced by 75% of children	Produced by 90% of children	
FEMALE	Emergence* of Phonemes by Age	2:0-2:5	/ə/ /v/ /j/ /nt/	/g/ /ŋ/ /z/ /ʃ/ /tʃ/ /dʒ/ /r/ /w/ /h/	/p/ /b/ /t/ /d/ /k/ /m/ /n/ /f/ /s/ /l/
		2:6-2:11	/b/ /br/ /kw/ /sw/	/ə/ /v/	/g/ /ŋ/ /z/ /w/ /j/ /h/
		3:0-3:5	/dr/ /gl/ /gr/ /kr/ /pl/ /pr/ /sl/ /st/ /tr/	/br/ /nt/ /sp/	/v/ /tʃ/
		3:6-3:11	/ð/ /fr/	/st/	/ə/ /dʒ/ /r/
		4:0-4:5	/θ/	/b/ /gl/ /kw/ /pl/ /sl/ /sw/	/ʃ/ /nt/ /sp/ /st/
		4:6-4:11		/ð/ /dr/ /gr/ /kr/ /pr/	/br/ /fr/ /gl/ /pl/ /tr/
		5:0-5:11		/θ/	/ð/ /b/ /dr/ /kw/ /pr/ /sl/ /sw/
		6:0-6:11			/θ/ /gr/ /kr/
		7:0-7:11			
		8:0-8:11			

**Table D.2** Ages at Which 90% of the GFTA-3 Normative Sample Mastered Consonants and Consonant Clusters by Initial, Medial, and Final Position (Female)

		Initial position	Medial position	Final position	
FEMALE	Mastery** of Phonemes by Age	2:0-2:5		/p/	
		2:6-2:11	/m/		
		3:0-3:5	/b/ /d/ /k/ /n/ /w/ /h/	/d/ /g/ /m/ /n/ /f/	/p/
		3:6-3:11	/f/		/n/
		4:0-4:5	/t/ /sp/ /st/	/b/ /k/ /ŋ/ /z/ /j/	/d/ /k/ /m/ /f/ /v/ /nt/
		4:6-4:11	/tʃ/ /dʒ/ /l/ /j/ /fr/ /gl/ /pl/ /tr/	/tʃ/ /l/	/b/ /t/ /g/ /ʃ/ /tʃ/
		5:0-5:11	/p/ /s/ /z/ /ʃ/ /b/ /dr/ /kw/ /pr/ /sl/ /sw/	/ʃ/	/s/ /l/
		6:0-6:11	/v/ /ð/ /r/ /br/ /gr/ /kr/	/v/ /s/ /dʒ/ /r/ /br/	/ə/ /ŋ/ /z/ /tr/
		7:0-7:11	/g/ /θ/	/t/ /ð/	/θ/
		8:0-8:11			

**Table D.1** Ages at Which Phonemes Were Present in 50%, 75%, and 90% of Normative Sample (Male)

		Produced by 50% of children	Produced by 75% of children	Produced by 90% of children	
MALE	Emergence* of Phonemes by Age	2:0-2:5	/ə/ /v/ /dʒ/ /j/ /kw/ /nt/	/n/ /ŋ/ /f/ /s/ /z/ /ʃ/ /tʃ/ /l/ /r/ /w/ /h/	/p/ /b/ /t/ /d/ /k/ /g/ /m/
		2:6-2:11	/br/ /tr/	/v/	/ə/ /n/ /f/ /r/ /w/ /h/
		3:0-3:5	/b/ /sp/ /st/ /sw/	/j/ /nt/	/ŋ/ /v/ /s/ /z/ /ʃ/ /tʃ/ /dʒ/ /l/
		3:6-3:11	/ð/ /dr/ /fr/ /gl/ /gr/ /kr/ /pl/ /pr/ /sl/	/kw/ /st/ /sw/	/j/ /nt/
		4:0-4:5	/θ/	/br/ /kr/ /pl/ /sp/	/kw/
		4:6-4:11		/pr/ /sl/ /tr/	
		5:0-5:11		/ð/ /dr/ /fr/ /gl/ /gr/	/b/ /p/ /sp/ /st/ /sw/
		6:0-6:11		/θ/	/ð/ /br/ /dr/ /gl/ /gr/ /kr/ /tr/
		7:0-7:11			/θ/ /fr/ /pr/ /sl/
		8:0-8:11			

**Table D.2** Ages at Which 90% of the GFTA-3 Normative Sample Mastered Consonants and Consonant Clusters by Initial, Medial, and Final Position (Male)

		Initial position	Medial position	Final position	
MALE	Mastery** of Phonemes by Age	2:0-2:5			
		2:6-2:11	/m/	/p/	
		3:0-3:5	/b/ /d/ /n/ /f/ /h/	/d/ /g/ /m/ /ŋ/ /f/	/p/ /n/ /f/
		3:6-3:11	/k/ /w/	/n/ /z/ /j/	/b/ /d/ /k/ /m/ /nt/
		4:0-4:5	/t/ /kw/	/b/ /k/	/g/ /v/
		4:6-4:11	/s/ /ʃ/ /tʃ/ /dʒ/	/ʃ/ /tʃ/	/v/ /ʃ/ /tʃ/
		5:0-5:11	/p/ /z/ /l/ /j/ /b/ /pl/ /sp/ /st/ /sw/	/s/ /l/	/ŋ/ /z/
		6:0-6:11	/g/ /v/ /dr/ /gl/ /gr/ /kr/ /tr/	/r/	
		7:0-7:11	/ð/ /r/ /br/ /fr/ /pr/ /sl/	/v/	/ə/ /l/ /r/
		8:0-8:11		/t/ /ð/ /dʒ/ /br/	/θ/ /s/
> 8:11	/θ/				

**Figure 18.** Examples of Recording Errors for Emergence and Mastery Interpretation