

Phonological Processes

Phonological processes are patterns of articulation that are developmentally appropriate in children learning to speak up until the ages listed below.

PHONOLOGICAL PROCESS	DESCRIPTION	AGE ACQUIRED
Initial Consonant Deletion	Omitting first consonant (hat → at)	2 yrs.
Consonant Cluster Deletion	Omitting both consonants of a consonant cluster (stop → op)	
Reduplication	Repeating syllables (water → wawa)	
Final Consonant Deletion	Omitting a singleton consonant at the end of a word (nose → no)	3 yrs.
Unstressed Syllable Deletion	Omitting a weak syllable (banana → nana)	
Affrication	Substituting an affricate for a nonaffricate (sheep → cheep)	
Stopping /f/	Substituting a stop for /f/ (fish → tish)	
Assimilation	Changing a phoneme so it takes on a characteristic of another sound (bed → beb, yellow → lellow)	3 - 4 yrs.
Velar Fronting	Substituting a front sound for a back sound (cat → tat, gum → dum)	
Backing	Substituting a back sound for a front sound (tap → cap)	4 - 5 yrs.
Deaffrication	Substituting an affricate with a continuant or stop (chip → sip)	4 yrs.
Consonant Cluster Reduction (without /s/)	Omitting one or more consonants in a sequence of consonants (grape → gape)	
Depalatalization of Final Singles	Substituting a nonpalatal for a palatal sound at the end of a word (dish → dit)	4 - 6 yrs.
Stopping of /s/	Substituting a stop sound for /s/ (sap → tap)	3 ½ - 5 yrs.
Depalatalization of Initial Singles	Substituting a nonpalatal for a palatal sound at the beginning of a word (shy → ty)	5 yrs.
Consonant Cluster Reduction (with /s/)	Omitting one or more consonants in a sequence of consonants (step → tep)	
Alveolarization	Substituting an alveolar for a nonalveolar sound (chew → too)	
Final Consonant Devoicing	Substituting a voiceless final consonant for a voiced consonant (bag → back)	
Stopping voiceless 'th'	Substituting a stop for voiceless 'th' (thing → ting)	
Stopping voiced 'th'	Substituting a stop for voiced 'th' (them → dem)	
Metathesis/Transposition	Transposing sounds within a word (because → causebe)	7 yrs.
Gliding	Substituting /w/ or /j/ for another consonant, such as /l/ or /r/ (run → wun, lamp → wamp)	
Epenthesis	Adding a sound between two consonants (black → balack)	8 yrs.

Data from: Stoel-Gammon & Dunn (1985), Pena-Brooks & Hedge (2007), Bowen, C. (1998) Developmental phonological disorders. A practical guide for families and teachers. Melbourne: ACER Press

Spanish Phonological Processes

Phonological processes are patterns of articulation that are developmentally appropriate in children learning to speak up until the ages listed below.

PHONOLOGICAL PROCESS	DESCRIPTION	AGE ACQUIRED
Initial Consonant Deletion (rare)	Omitting first consonant (casa → _asa)	2 - 3 yrs.
Consonant Cluster Reduction	Omitting one or more consonants in a sequence of consonants (esto → e_to)	
Unstressed Syllable Deletion	Omitting a weak syllable (escuela → _cuela)	
Stopping	Substituting a stop for a fricative (casa → cata)	
Fronting	Substituting a front sound for a back sound (cama → tama)	
Tap 'r' – Trill 'r' Deficiency	(cara → ca_a)	
Strident Omission/ Substitution	Omitting strident sounds or substituting them with other sounds (sopa → _opa)	
Final Consonant Deletion	Omitting a singleton consonant at the end of a word (azul → azu)	4 yrs.
Assimilation	Changing a phoneme so it takes on a characteristic of another sound in the word (rojo → roro)	
'r' deviations	Substituting 'r' with alternate phonemes (cuchara → cuchala)	
/l/ deviations & liquid simplification	Omitting /l/ or substituting other phonemes in its place (escuela → escueja)	
	* most phonological processes are suppressed by age 5 with a few exceptions *	
Cluster reduction of later-developing consonant blends	Omitting one or more sounds from a cluster (gl, kl, gr, kr, str, br, pr, tr, and fr)	6 - 8 yrs.

Data from: North Inland SELPA 2007; Hodson, B.W. (1980). The assessment of phonological processes. Danville, IL.; Khan, L.M.L. (1982). A review of 16 major phonological processes. Language, Speech, and Hearing in Schools; 13, 77-85.