

Developmental Articulation Norms

Iowa-Nebraska Articulation Norms*

Sound	Age at which 90% of children acquire the sound		Age at which considered delayed	
	Females	Males	Females	Males
p b m	3 years	3 years	3 yrs-6 mos.	3 yrs-6 mos.
n	3 yrs-6 mos.	3 years	4 yrs.	3 yrs-6 mos.
h-	3 years	3 years	3 yrs.-6 mos.	3 yrs.-6 mos.
w-	3 years	3 years	3 yrs-6 mos.	3 yrs.-6 mos.
d	3 years	3 yrs.-6 mos.	3 yrs.-6 mos.	4 years
k	3 yrs.-6 mos.	3 yrs.-6 mos.	4 yrs.-6 mos.	4 yrs.-6 mos.
g	3 yrs.-6 mos.	4 years	4 yrs.-6 mos.	5 years
f- (as in fan)	3 yrs.-6 mos.	3 yrs.-6 mos.	4 yrs.-6 mos.	4 yrs.-6 mos.
y (as in yes)	4 years	5 years	4 yrs-6 mos.	5 yrs-6 mos.
t	4 years	3 yrs.-6 mos.	4 yrs.-6 mos.	4 years
th (voiced as in this)	4 yrs.-6 mos.	7 years	5 yrs.-6 mos.	8 years
l- (as in lemon)	5 years	6 years	6 years	7 years
-f (as in leaf)	5 yrs.-6 mos.	5 yrs.-6 mos.	6 years	6 years
v	5 yrs.-6 mos.	5 yrs.-6 mos.	6 yrs.-6 mos.	6 yrs.-6 mos.
th (voiceless as in thumb)	6 years	8 years	7 years	8 yrs.-6 mos.
sh ch j (as in jump)	6 years	7 years	7 years	8 years
-l (as in ball)	6 years	7 years	7 years	8 years
s z	7 years	7 years	8 years	8 years
ng	7 years	7 years	7 yrs.-6 mos.	7 yrs-6 mos.
r- (as in run)	8 years	8 years	8 yrs-6 mos.	8 yrs.-6 mos.
-er (as in water)	8 years	8 years	8 yrs-6 mos.	8 yrs.-6 mos.
Initial Clusters				
tw kw	4 years	5 yrs-6 mos.	5 yrs.	6 yrs-6 mos.
pl bl kl gl fl	5 yrs-6 mos.	6 years	6 yrs.-6 mos.	7 years
sp st sk sm sn sw sl skw spl	7 years	7 years	8 years	8 years
pr br tr dr kr gr fr	8 years	8 years	8 yrs.-6 mos.	8 yrs.-6 mos.
thr (as in throw) spr str skr	9 years	9 years	9 yrs.-6 mos.	9 yrs.-6 mos.

*Adapted from Smit, Hand, Freilinger, Bernthal, & Bird (1990). *Journal of Speech and Hearing Disorders*, 55, 779-798.

Note regarding sound positions: example- m refers to beginning, middle and ending words positions; h- refers to initial word positions; and -f refers to middle and final word positions.

