

## Sound Development Chart

Age at which 90% females have acquired each phoneme and word-initial cluster

Phoneme	yrs:mo	3.0	3.6	4.0	4.6	5.0	5.6	6.0	6.6	7.0	7.6	8.0	8.6	9.0
m														
h initial														
w initial														
p														
b														
d														
f														
k														
g														
n														
j initial														
t														
th voiced														
l														
f final														
v														
sh														
ch														
l final														
th														
dz														
r														
r final voiced														
ng final														
s														
z														

Word-initial clusters	3.0	3.6	4.0	4.6	5.0	5.6	6.0	6.6	7.0	7.6	8.0	8.6	9.0
tk kw													
pl bp kl gl fl													
pr br tr dr kr gr fr													
sp st sk													
sm sn													
sw													
sl													
skw													
spl													
spr str skr													
thr													

Source: Smit, Et. Al.  
 "The Iowa Articulation Norms Project and its Nebraska Replication"  
 Journal of Speech and Hearing Disorders  
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## Sound Development Chart

Age at which 90% males have acquired each phoneme and word-initial cluster

Phoneme	yrs:mo	3.0	3.6	4.0	4.6	5.0	5.6	6.0	6.6	7.0	7.6	8.0	8.6	9.0
m														
h initial														
w initial														
p														
b														
n														
d														
f														
k														
t														
g														
j initial														
f final														
v														
l														
sh														
ch														
l final														
th voiced														
dz														
th														
r														
r final voiced														
ng final														
s														
z														

Word-initial clusters	3.0	3.6	4.0	4.6	5.0	5.6	6.0	6.6	7.0	7.6	8.0	8.6	9.0
tk kw													
pl bp kl gl fl													
pr br tr dr kr gr fr													
sp st sk													
sm sn													
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