

DEVELOPMENT

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Table 1. Scoring System: Draw-a-Person Test

One Point Assigned per Feature:

Head present	Fingers present
Neck present	Correct number of fingers shown
Neck, two dimensions	Opposition of thumb shown (must include fingers)
Eyes present	Hands present
Eye detail: Brows or lashes	Arms present
Nose present	Arms at side or engaged in activity
Nose, two dimensions (not round ball)	Feet: any indication
Mouth present	Attachment of arms to legs I (to trunk or anywhere)
Lips, two dimensions	Attachment of arms and legs II (at correct point on trunk)
Both nose and lips in two dimensions	Trunk present
Both chin and forehead shown	Trunk in proportion, 2 dimensions (if greater than breadth)
Bridge of nose (straight to eyes; narrower than base)	Clothing I (anything)
Hair I (any scribble)	Clothing II (two articles of clothing)
Hair II (more detail)	
Ears present	

Mental Age (yr)	Points Scored by Boys	Points Scored by Girls
3	4	5
4	7	7
5	11	11
6	13	14
7	16	17
8	18	20

Table 2. Receptive Language Development (continued)

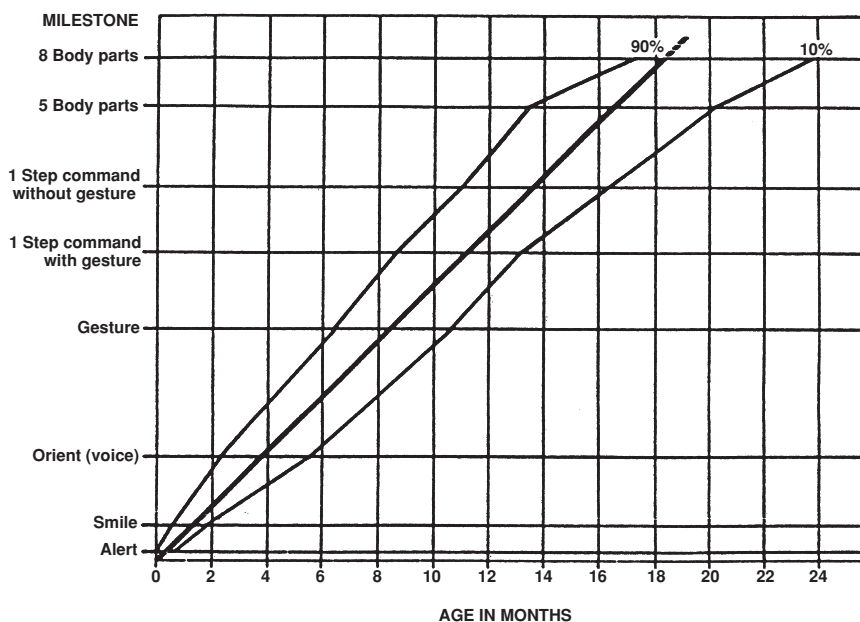
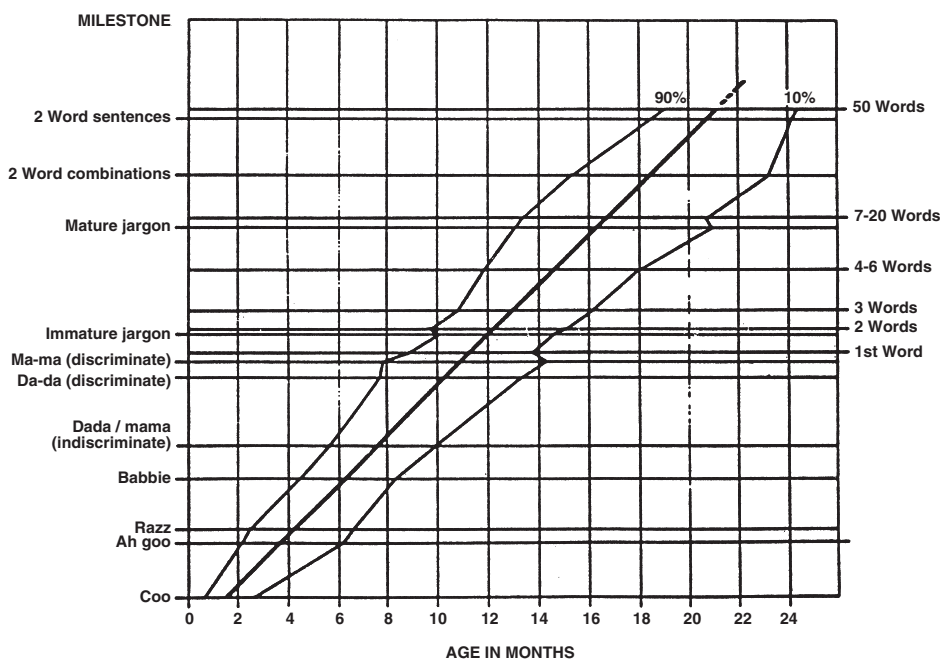


Table 3. Expressive Language Development (continued)**Table 4. Developmental Milestones from Birth to 5 Years**

Age (Months)	Adaptive/Fine Motor	Language	Gross Motor	Personal-Social
1	Grasp reflex (hands fisted)	Facial response to sounds	Lifts head in prone position	Stares at face
2	Follows object with eyes past midline	Coos (vowel sounds)	Lifts head in prone position to 45°	Smiles in response to others
4	Hands open Brings objects to mouth	Laughs and squeals Turns toward voice	Sits: Head steady Rolls to supine	Smiles spontaneously
6	Palmar grasp of objects	Babbles (consonant sounds)	Sits independently Stands, hands held Pulls to stand	Reaches for toys Recognizes strangers Feeds self Waves bye-bye Points to indicate wants
9	Pincer grasp	Says "mama," "dada" nonspecifically, comprehends "no"	Stands independently Walks, one hand held Walks independently	Drinks from cup Imitates activities Feeds self with spoon
12	Helps turn pages of book	2-4 words Follows command with gesture	Walks up steps	Removes coat Verbalizes wants Pulls up pants Washes, dries hands Toilet trained Puts on shirt, knows front from back Engages in associative play
15	Scribbles	4-6 words Follows command no gesture	Jumps Kicks ball Rides tricycle using pedals	Dresses with little assistance Shoes on correct feet
18	Turns pages of book	10-20 words Points to 4 body parts	Broad-jumps 24 inches	Shows off Ties shoes
24	Solves single-piece puzzles	Combines 2-3 words Uses "I" and "you"	Skips (alternating feet)	
30	Imitates horizontal and vertical lines	Names all body parts		
36	Copies circle Draws person with 3 parts	Gives full name, age, and sex Names 2 colors		
42	Copies cross	Understands "cold," "tired," "hungry"		
48	Counts 4 objects Identifies some numbers and letters	Understands prepositions (under, on, behind, in front of) Asks "how" and "why"		
54	Copies square Draws person with 6 parts	Understands opposites		
60	Prints first name Counts 10 objects	Asks meaning of words		

Table 2A. Causes of Failure to Thrive

Age at Onset	Diagnostic Considerations
Before birth (IUGR, prematurity)	Especially in "symmetric" IUGR, consider prenatal infections, congenital syndromes, teratogenic exposures (anticonvulsants, alcohol, etc.)
Neonatal	Incorrect formula preparation; failed breast-feeding; neglect; poor feeding interactions; metabolic, chromosomal, or anatomic abnormality (less common)
3–6 months	Underfeeding (possibly associated with poverty); improper formula preparation; milk protein intolerance; oral-motor dysfunction; celiac disease; HIV infection; cystic fibrosis; congenital heart disease; GE reflux
7–12 months	Autonomy struggles; overly fastidious parent; oral-motor dysfunction; delayed introduction of solids; intolerance of new foods
After 12 months	Coercive feeding; highly distractible child; distracting environment; acquired illness; new psychosocial stressor (divorce, job loss, new sibling, death in the family, etc.)

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Table 3. Primitive Reflexes

Primitive Reflex	Age at Disappearance (Months)	Description
Palmar grasp	3–4	Pressing against the palmar surface of the infant's hand results in flexion of all fingers.
Rooting	3–4	Stroking the perioral skin at the corners of the mouth causes the mouth to open and turn to stimulated side.
Galant	2–3	Stroking along the paravertebral area causes lateral flexion of the trunk with the concavity toward the stimulated side.
Moro	4–6	Sudden movement of the head causes symmetric abduction and extension of the arms followed by gradual adduction and flexion of the arms over the body.
Asymmetric tonic neck	4–6	Turning the head to 1 side leads to extension of extremities on that side and flexion on the contralateral side. This puts the infant in the fencing position.
Tonic labyrinthine	2–3	In supine neck extension leads to shoulder retraction and trunk and lower extremity extension. This is reduced by neck flexion.
Positive support	2–3	Stimulation of the ball of the foot leads to co-contraction of opposing muscle groups, allowing weight to be borne.
Placing/Stepping	Variable	When the dorsal surface of one foot touches the underside of a table, the infant places the foot on the table top.

Table 4. Penile and Clitoral Length in the Newborn Infant

Gestational Age	Length (Mean ± SD) (cm)
Male Measure from pubic ramus to the tip of the glans with gentle traction applied. ^a	
30 wk	2.5 ± 0.4
34 wk	3.0 ± 0.4
Term	3.5 ± 0.4
Female Measure with labia majora separated and the prepuce skin retracted. ^b	
Term infants	4.0 ± 1.24
Preterm infants—The clitoris achieves full size by 24 wk gestation and may appear more prominent relative to the labia in premature infants.	

^aFeldman KW, Smith DW. Fetal phallic growth and penile standards for newborn male infants. *J Pediatr.* 1975;86:395.

^bOberfield S, Mondok A, Shanrivar F, et al. Clitoral size in full-term infants. *Am J Perinatol.* 1989;6(4):453.

Table 5. Tanner Stages in the Female

Stage	Breast	Pubic Hair
1	Prepubertal, elevation of papilla only	Prepubertal
2	Enlargement of areola, elevation of breast and papilla ("breast bud")	Sparse, long, straight, slightly pigmented hair along labia
3	Further enlargement of breast and areola with no separation of contour	Hair is darker, curlier, and coarser with increased distribution on pubes
4	Areola and papilla form a second mound above the breast	Adult-type hair limited to pubes with no extension to medial thigh
5	Mature breast	Mature distribution of inverse triangle with spread to medial thighs

Table 6. Tanner Stages in the Male

Stage	Genital Development	Pubic Hair
1	Prepubertal	Prepubertal
2	Enlargement of testes (>4 mL volume) and scrotum with reddening of scrotal skin	Sparse, long, straight, slightly pigmented hair at base of penis
3	Growth of penis, primarily length, with further increase in size of testes and scrotum	Hair is darker and curlier with increased distribution on pubes
4	Further increase in length and breadth of penis with development of glans, increase in testes and scrotum	Adult-type hair limited to pubes with no extension to medial thigh
5	Adult size and shape	Mature distribution with spread to medial thighs and lower abdomen

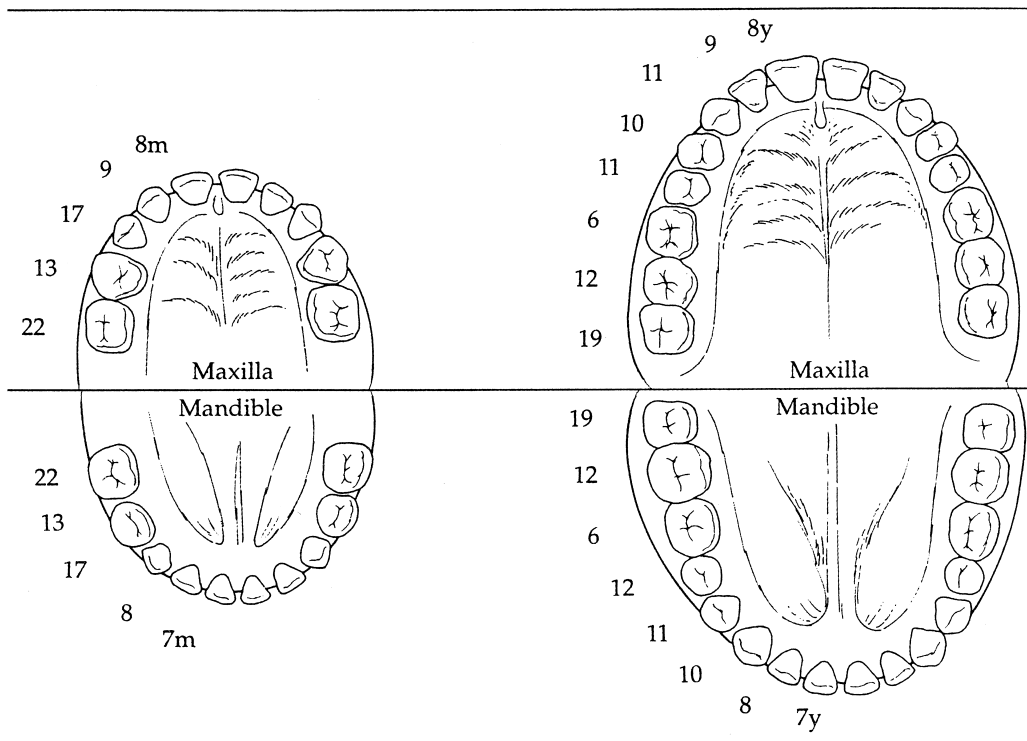
Table 7. Normal Growth Rates

Age	Expected Growth Rate
1st year	25 cm (10 inches)/y
2nd year	12.5 cm (5 inches)/y
Childhood	6.25 cm (2.5 inches)/y
Adolescence, boys	15–38 cm (6–15 inches)
Adolescence, girls	15–25 cm (6–12 inches)

Table 8. Head Growth Velocity

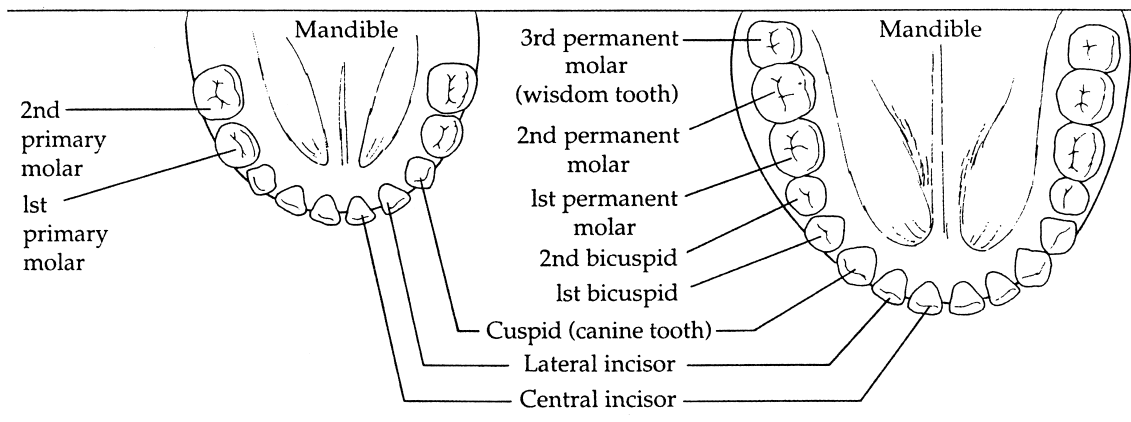
Full-term		Preterm	
2 cm/mo	0–3 months	1 cm/wk	0–2 months
1 cm/mo	3–6 months	0.5 cm/wk	2–4 months
0.5 cm/mo	7–12 months	See full-term	>4 months

Table 9. Illustrations of the Primary and Permanent Dentition. A and B, The Numbers Represent the Average Age of Eruption for the Teeth, Indicated in Months for the Primary Teeth and Years for the Permanent Dentition. C and D, The Names of Specific Teeth in the Primary and Permanent Dentition are Shown



A. Primary Dentition

B. Permanent Dentition



C. Primary Dentition

D. Permanent Dentition