



Designation: **D 5826 – 9500**

Standard Tables of Body Measurements for Children, Sizes 2 to 6x/7¹

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INTRODUCTION

These tables ~~are~~ were developed from data published by the U.S. Department of Commerce. These data were based on original research conducted by the U.S. Department of Agriculture² in the 1930s. These tables take into consideration children's growth patterns reflected in the 1980 charts for the National Center for Health Statistics³ and the 1977 Anthropometric Study of U.S. Infants and Children conducted by the University of Michigan.⁴ All sudden shifts of proportion have been eliminated so as to reflect the gradual growth and development of the child. A limited sampling of children was measured and fitted with garments made as directed in these tables to verify the proposed body measurements.

1. Scope

1.1 These tables list body measurements of children, sizes 2 to 6x/7. Although these measurements are body measurements, they can be used as a baseline in designing apparel for children in this age range when taking into account such factors as fabric type, ease for body movement, styling, and fit.

1.2 The values stated in either acceptable metric units or other units shall be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system must be used independently of the other, without combining values in any way.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

D 123 Terminology Relating to ~~Textile Materials~~ Textiles⁵

¹ These tables are under the jurisdiction of ASTM Committee D13 on Textiles and are the direct responsibility of Subcommittee D13.55 on Body Measurement for Apparel Sizing.

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² O'Brien, R., et al. *Body Measurement to American Boys and Girls for Garment and Pattern Construction*, Miscellaneous Publication No. 366, U.S. Department of Agriculture, July 1941.

³ Available from National Center for Health Statistics.

⁴ Snyder, L., *Anthropometry of Infants, Children, and Youth to Age 18*, University of Michigan, May 1977.

D 5219 Terminology Relating to Body Dimensions for Apparel Sizing⁶

2.2 *ISO Standard:*

ISO 3635 Size Designation of Clothes, Definitions, and Body Measurement Procedures⁷

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions relating to body dimensions, refer to Terminology D 5219.

3.1.2 For definitions of other textile terms, used in these tables, refer to Terminology D 123.

4. Significance and Use

4.1 The use of the body measurement information in Tables 1 and 2 will assist manufacturers in developing patterns and garments that are consistent with the current anthropometric characteristics of the population of interest. This practice should in turn reduce or minimize consumer confusion and dissatisfaction related to apparel sizing. (Also refer to ISO 3635 Size Designation Procedures.)

5. Apparatus

5.1 *Tape Measure*, dimensionally stable and approximately 15- mm (1/2- in.) wide and accurately graduated in mm (1/16-in.) increments.

5.2 *Scale*, standard, calibrated body weight type.

6. Procedure

6.1 *General:*

6.1.1 For all vertical and most horizontal measurements, subject is to be standing erect without shoes and with feet approximately 15- cm (6- in.) apart.

6.1.2 For all horizontal

6.1.2 Take measurements subject over regular undergarments normally worn.

6.1.3 Take measurements from the same side of the body for consistency.

6.1.4 Refer to be held in a vertical position.

6.1.3 Measurements Terminology D 5219 for the child body are taken over the nude body. location of all points to be measured.

6.2 *Body Measurements:*

6.2.1 *Height*—Measure from the top of the head to the soles of the feet.

6.2.2 *Weight*—Take on a calibrated scale with a Body Weight—Weigh the nude subject.

6.2.3 *Chest Girth*—Measure horizontally around the body under the arms and across the nipples so as to include including the lower portion of the shoulder blades.

6.2.4 *Waist Girth*—Measure horizontally around the body at waist height.

6.2.5 *Hip/ Girth (Seat Girth)*—Measure horizontally around the body at hip height.

6.2.6 *Vertical Trunk*—Measure from (1) a point on Neck Base Girth—Measure around the shoulder, midway between neck, touching over the n cervicale at the back and the normal armhole line, to (2) the bottom top of the crotch and back up to the shoulder, taking care to avoid constriction collar bone at the crotch. front.

6.2.7 *Head Armscye Circumference*—Measure the maximum circumference of distance from the head above shoulder joint through the front-break point, the armpit, the back break point, and to the starting point, with the arm down.

6.2.8 *Neck Base Upper-Arm Girth*—Measure around the neck, touching the cervical at the back and the upper borders maximum circumference of the collar bone at arm midway between the front, following the points that would be made by a fine-linked chain pressed over these points. elbow and shoulder joint.

6.2.9 *Armscye*—With Elbow Girth—Measure the arm down, measure circumference of the distance from elbow while the shoulder joint through the front break point, the armpit, the back break point, and the starting point. arm is bent at 1.57 rad or 90°.

6.2.10 *Upper Arm Wrist Girth*—Measure the wrist circumference of over the arm midway between the elbow inner and shoulder joint. outer prominence at the lower end of the forearm.

6.2.11 *Elbow Thigh Girth*—Measure the maximum circumference of the elbow while upper leg close to the arm is straight. crotch.

6.2.12 *W Knee Girth*—Measure the knee circumference of the wrist over the inner knee cap and outer prominence at parallel to the lower end of floor, with the forearm. leg straight.

6.2.13 *Thigh Ankle Girth*—Measure the circumference of over the upper part greatest prominence of the leg (close to the crotch). ankle.

⁵ Annual Book of ASTM Standards, Vol 07.01.

⁶ Annual Book of ASTM Standards, Vol 07.02.

⁷ Available from American National Standards Institute, 11 West W. 42nd St., 13th Floor, New York, NY 10036.

TABLE 1 Children's 2 to 6X/7 Body Measurements Without Clothing, SI Units^A

Size	2	3	4	5	6	6X/7
Height, cm	83.8–90.2	91.4–97.8	99.1–105.4	106.7–113	114.3–118.1	119.4–123.2
Body Weight, kg	13.8–15.4	16–17.6	18.2–19.8	20.4–23.1	23.7–26.4	27–29.7
Girth Measurements, cm						
Chest	50.8	53.3	56	58.4	61	62.9
Chest Girth	50.8	53.3	55.9	58.4	61.0	62.9
Waist	50.8	52.4	53.3	54.6	55.9	57.2
Waist Girth	50.8	52.1	53.3	54.6	55.9	57.2
Hip/Seat	53.3	56	58.4	61	63.5	65.4
Hip Girth (Seat Girth)	53.3	56.0	58.4	61.0	63.5	65.4
Vertical Trunk Length (Without Diaper)	83.8	90.2	96.5	102.9	108	111.8
Neck Base Girth	83.8	90.2	96.5	102.9	108	111.8
Head-Circumference	50.8	51.4	52.4	52.7	53.3	54
Neck-Base	25.4	26.4	27.3	28.3	29.2	30.2
Armseye	24.6	23.2	24.8	26.4	27.9	29.2
Armseye Circumference	21.6	23.2	24.8	26.4	27.9	29.2
Upper Arm	15.6	16.2	16.8	17.5	18.1	18.7
Upper-Arm Girth	15.6	16.2	16.8	17.5	18.1	18.7
Elbow	17.1	17.8	18.4	19.1	19.7	20.3
Elbow Girth	17.1	17.8	18.4	19.1	19.7	20.3
Wrist	11.4	11.7	12.1	12.4	12.7	13.0
Wrist Girth	11.4	11.7	12.1	12.4	12.7	13.0
Thigh	29.8	31.4	33	34.6	36.2	37.8
Thigh Girth	29.8	31.4	33.0	34.6	36.2	37.8
Knee	21.3	22.2	23.2	24.1	25.1	25.7
Knee Girth	21.3	22.2	23.2	24.1	25.1	25.7
Ankle	14	14.9	15.9	16.8	17.8	18.7
Ankle Girth	14.0	14.9	15.9	16.8	17.8	18.7
Across-Shoulder	23.8	24.8	25.7	26.7	27.6	28.3
Total Vertical Trunk Length	83.8	90.2	96.5	102.9	108.0	111.8
Across-Back	22.5	23.5	24.4	25.4	26.4	27
Across-Chest	24.3	22.2	23.2	24.1	25.1	25.7
Total Crotch Length	39.7	42.5	45.4	48.3	51.1	52.7
Arm Length	29.5	32.4	35.2	38.1	41	43.8
Head Circumference	50.8	51.4	52.1	52.7	53.3	54.8
0						
Cervicale to Wrist^{40.6}						
Vertical Measurement^{40.6}						
Cervicale Height	71.8	78.7	85.7	92.7	98.4	101.6
Head and Neck Length	17.1	17.8	18.4	19.1	19.7	20.3
Cervicale to Back Waist	21.6	22.9	24.1	25.4	26.7	27.9
Center Back Waist Length	21.6	22.9	24.1	25.4	26.7	27.9
Front-Waist Length	20.3	21.6	22.9	24.1	25.4	26.7
Center Front Waist Length	20.3	21.6	22.9	24.1	25.4	26.7
Seye-Depth	11.4	12.1	12.7	13.3	14	14.6
Scye Depth	11.4	12.1	12.7	13.3	14.0	14.6
Waist Height	50.8	56.5	62.2	67.9	71.1	74.3
Hip Height	41	45.4	50.2	54.9	57.8	60.6
Hip Height	41.0	45.4	50.2	54.9	57.8	60.6
Crotch Height	36.2	40	43.8	47.6	50.2	52.7
Crotch Height	36.2	40.0	43.8	47.6	50.2	52.7
Knee Height	22.2	24.1	26	27.9	29.2	30.5
Knee Height	22.2	24.1	26.0	27.9	29.2	30.5
Ankle Height	4.8	5.4	5.4	5.7	6	6.0
Ankle Height	4.8	5.1	5.4	5.7	6.0	6.0
Width and Length Measurements, cm						
Across-Shoulder Width	23.8	24.8	25.7	26.7	27.6	28.3
Back Width	22.5	23.5	24.4	25.4	26.4	27.0
Cross-Chest Width	21.3	22.2	23.2	24.1	25.1	25.7
Arm Length	29.5	32.4	35.2	38.1	41.0	43.8
Cervicale to Wrist	40.6	44.1	47.6	50.8	54.0	57.2
Foot Length	15.9	17.1	17.8	18.4	19.7	21
Foot Length	15.9	17.1	17.8	18.4	19.7	21.0
Foot Width	6.4	6.7	7	7.6	8.3	8.9
Foot Width	6.4	6.7	7.0	7.6	8.3	8.9

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^A All table data are in centimetres. These measurements are for the nude body. No allowance has been given for clothing or diapers. Add approximately 8 cm to the vertical trunk measurement to accommodate the diaper.

6.2.14 *Knee Total Vertical Trunk Length*—Measure the circumference of distance from the knee while right shoulder line midway between the neck base and the shoulder joint, down the back through the crotch, and over the right chest to the starting point, taking care to avoid constriction at the crotch.

6.2.15 *Ankle Total Crotch Length*—Measure from the circumference of waist level at the ankle over center front through the inner and outer bony prominence crotch, to the waist level at the lower end of center back, taking care to avoid constriction at the lower leg-crotch.

TABLE 2 Children's 2 to 6X/7 Body Measurements Without Clothing, Inch-Pound Units^A

Size	2	3	4	5	6	6X/7
Height, in.	33–35½	36–38½	39–41½	42–44½	45–46½	47–48½
Body Weight, lb	25–28	29–32	33–36	37–42	43–48	49–54
	Girth Measurements, in.					
Chest	20	21	22	23	24	24¾
Chest Girth	20	21	22	23	24	24¾
Waist	20	20½	21	21½	22	22½
Waist Girth	20	20½	21	21½	22	22½
Hip/Seat	21	22	23	24	25	25¾
Hip Girth (Seat Girth)	21	22	23	24	25	25¾
Vertical Trunk Length (Without Diaper)	33	35½	38	40½	42½	44
Neck Base Girth	33	35½	38	40½	42½	44
Head Circumference	20	20¼	20½	20¾	21	21¼
Neck Base	10	10⅜	10¾	11⅛	11½	11⅞
Armseye	8½	9¼	9¾	10⅜	11	11½
Armseye Circumference	8½	9¼	9¾	10⅜	11	11½
Upper Arm	6½	6¾	6¾	6¾	7⅛	7⅜
Upper-Arm Girth	6½	6¾	6¾	6¾	7⅛	7⅜
Elbow	6¾	7	7¼	7½	7¾	8
Elbow Girth	6¾	7	7¼	7½	7¾	8
Wrist	4½	4⅝	4¾	4⅞	5	5⅛
Wrist Girth	4½	4⅝	4¾	4⅞	5	5⅛
Thigh	11¾	12¾	13	13⅝	14¼	14⅞
Thigh Girth	11¾	12¾	13	13⅝	14¼	14⅞
Knee	8¾	8¾	9½	9½	9¾	10⅞
Knee Girth	8¾	8¾	9½	9½	9¾	10⅞
Ankle	5½	5⅞	6¼	6⅝	7	7⅜
Ankle Girth	5½	5⅞	6¼	6⅝	7	7⅜
Across Shoulder	9¾	9¾	10¼	10½	10¾	11¼
Total Vertical Trunk Length	33	35½	38	40½	40¾	41½
Across Back	8⅞	9¼	9⅝	10	10⅜	10⅝
Across Chest	8¾	8¾	9½	9½	9¾	10⅞
Across Chest	8¾	8¾	9½	9½	9¾	10⅞
Total Crotch Length	15⅝	16¾	17⅞	19	20⅞	20¾
Arm Length	14⅝	15	15⅞	16	16⅜	17¼
Head Circumference	20	2	13⅞	14	14⅞	15⅞
Cervicale to Wrist	16	17⅞	18¾	20	21¼	22¼
Cervicale to Wrist	20½	21⅞	22¾	24	25¼	26¼
	22½					
	Vertical Measurements, in.					
Cervicale Height	28¼	31	33¾	36½	38¾	40
Head and Neck Height	6¾	7	7¼	7½	7¾	8
Head and Neck Length	6¾	7	7¼	7½	7¾	8
Cervicale to Back Waist	8½	9	9½	10	10½	11
Center Back Waist Length	8½	9	9½	10	10½	11
Front Waist Length	8	8½	9	9½	10	10½
Center Front Waist Length	8	8½	9	9½	10	10½
Scye Depth	4½	4¾	5	5¼	5½	5¾
Waist Height	20	22¼	24½	26¾	28	29¼
Hip Height	16⅞	17⅞	19¾	21⅞	22¾	23⅞
Crotch Height	14¼	15¾	17¼	18¾	19¾	20¾
Knee Height	8¾	9½	10¼	11	11½	12
Ankle Height	1⅞	2	2⅞	2¼	2⅞	2⅞
	Width and Length Measurements, in.					
Across-Shoulder Width	9¾	9¾	10⅞	10½	10⅞	11⅞
Back Width	8⅞	9¼	9⅝	10	10⅜	10⅝
Cross-Chest Width	8¾	8¾	9½	9½	9¾	10⅞
Arm Length	11⅝	12¾	13⅞	15	16⅞	17¼
Cervicale to Wrist	16	17⅞	18¾	20	21¼	22¼
Foot Length	6¼	6¾	7	7¼	7¾	8¼
Foot Width	2½	2⅝	2¾	3	3¼	3½

^A All table data are in inches. These measurements are for the nude body. No allowance has been given for clothing or diapers.

6.2.16 *Across Shoulder*—Measure across Head Circumference—Measure the back from the top maximum circumference of one shoulder joint to the top of head above the other shoulder joint. ears.

6.2.17 *Across Back*—Measure across the back Cervicale Height—Measure from armseye the cervicale following the contour of the spinal column to armseye at approximately the same level as of the hips, then vertically to the soles of the feet.

6.2.18 *Across Chest*—Measure across Head and Neck Length—Measure the front of the chest distance from armseye the crown to armseye. the cervicale with the head erect and the neck unbent.

6.2.19 *Total Crotch* Center Back Waist Length—Measure along the distance spine from (1) the waist level at the center front through the crotch and cervicale to (2) the waist level at the center back. waist.

6.2.20 *Arm* Center Front Waist Length—With the arm bent 90° at the elbow, measure—Measure from (1) the top of the shoulder along the outside or posterior surface of the arm over the elbow, center front neck baseline to (2) the prominent wrist bone at the

back of the hand near the little finger. center front waist level.

6.2.21 *Cervicale to Wrist*—With the elbow bent, measure ~~Scye Depth~~—Measure vertically from the (1) cervicale by way of the top of the shoulder and along the outside surface of the arm around the elbow; to (2) the prominent wrist bone at the back upper edge of a tape passed horizontally under the hand near the little finger. armpits.

6.2.22 *Cervicale Waist Height*—Measure the ~~plumb line~~ distance from the cervicale waist to the soles of the feet. floor.

6.2.23 *Head and Neck Length*—With ~~Hip Height~~—Measure the head erect and distance at the neck unbent, measure side of the plumb line distance body from the crown hip to the cervicale. floor.

6.2.24 *Cervicale to Back waist Crotch Height*—Measure ~~along the spine~~ distance from the cervicale midpoint of the crotch to waist. the floor.

6.2.25 *Front Waist Length Knee Height*—Measure from the ~~front crease in the back~~ of the neck base knee to the front of the waist. floor.

6.2.26 *Scye Depth Ankle Height*—Measure ~~along the spine~~ from the cervicale center of the outer ankle bone to a point level to an imaginary horizontal line connecting the mid-underarm points. floor.

6.2.27 *Waist Height*—Measure ~~Across-Shoulder~~—Measure across the plumb line distance back from the waist top of one shoulder joint to the soles top of the f other shoulder joint, with arms down.

6.2.28 *Hip Height Back Width*—Measure the distance at across the side of the body back from the hip level back-break point to back-break over the soles of the feet. shoulder blades.

6.2.29 *Crotch-Chest Width*—Measure ~~across the plumb line distance from the midpoint front of the crotch chest from front-break point~~ to the soles of the feet. front-back point.

6.2.30 *Knee Height*—Measure ~~Arm Length~~—Measure the plumb line height from top of the knee to shoulder joint along the soles outside of the f arm over the elbow to the prominent wrist bone, with the arm bent at 1.57 rad (90°) and the hand placed on the hip.

6.2.31 *Ankle Height*—Measure ~~Cervicale to Wrist~~—Measure from the distance at cervicale over the side top of the body from shoulder joint, along the outer ankle bone outside of the arm over the elbow to the soles of prominent wrist bone, with the feet arm bent at 1.57 rad (90°) and the hand placed on the hip.

6.2.32 *Foot Length*—~~To be submitted.~~—Measure the distance from the most prominent part of the heel where it touched the floor to the end of the most prominent toe, with the subject standing barefoot.

6.2.33 *Foot Width*—~~To be~~ Measure the distance from the one side of the foot to the other at the widest part at the bottom using a ruler, with the subject standing barefoot.

7. Keywords

7.1 apparel; body measurements; children; garment sizes; tables

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