



Standard Tables of Body Measurements for Boys, Sizes 8 to 14 Slim and 8 to 20 Regular¹

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INTRODUCTION

These tables were developed from body measurements used currently by apparel manufacturers and retail organizations. The measurements were derived originally from the 1970 Voluntary Product Standard PS 36-70 by the U.S. Department of Commerce National Bureau of Standards.²

1. Scope

1.1 These tables list body measurements of boys, sizes 8 to 14 Slim and 8 to 20 Regular. Although these are body measurements, they can be used as a baseline in designing apparel for boys and students in this size range when considering such factors as fabric type, ease for body movement, styling, and fit.

1.2 These tables list body measurements for Slim and Regular. Slim subjects are of same stature (height), with a slimmer body, and lower body weight than regular subjects as illustrated by the measurement charts.

1.3 The values stated in either acceptable SI units or inch-pound 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.

1.4 *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 Textiles³

D 5219 Terminology Relating to Body Dimensions for Apparel Sizing⁴

2.2 *ISO Standard:*

ISO 3635 Size Designation of Clothes, Definitions, and

Body Measurement Procedures⁵

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 1-4 will assist manufacturers in developing patterns and garments that are consistent with the current anthropometric characteristics of the population of interest. These tables should in turn reduce or minimize consumer confusion and dissatisfaction related to apparel sizing. (Also refer to ISO 3635.)

5. Apparatus

5.1 *Tape Measure*, dimensionally stable and approximately 15 mm (½in.) wide and accurately graduated in 1.6 mm (⅛-in.) increments.

5.2 *Plastic Goniometer*, to measure the degree of shoulder slope.

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

6. Procedure

6.1 *General:*

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

6.1.2 Take measurements over regular undergarments normally worn.

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

¹ These tables are under the jurisdiction of ASTM Committee D-13 on Textiles and are the direct responsibility of Subcommittee D13.55 on Body Measurement for Apparel Sizing.

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² U.S. Department of Commerce, *Voluntary Product Standard: Body Measurements for the Sizing of Boys' Apparel*, NIST Publication No. PS 36-70, Washington, DC.

³ *Annual Book of ASTM Standards*, Vol. 07.01.

⁴ *Annual Book of ASTM Standards*, Vol. 07.02.

⁵ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

TABLE 1 Boys Sizes 8–14 (Slim)

Size	Body Measurements, SI Units					
	8S	9S	10S	11S	12S	14S
Height, cm	127.0	132.1	137.2	142.2	147.3	154.9
Body weight, kg	24.0	26.3	29.5	32.2	34.9	40.8
	Girth Measurements, cm					
Chest girth	64.1	66.0	67.9	69.8	71.8	75.6
Waist girth	54.6	55.9	57.1	58.4	59.7	62.2
Hip girth (seat girth)	64.1	66.0	67.9	70.5	73.0	78.1
Neck base girth	30.5	31.1	31.7	32.4	33.0	34.3
Armhole circumference	28.9	29.8	30.8	31.7	33.0	35.2
Upper-arm girth	17.1	17.8	18.4	19.0	19.7	21.0
Elbow girth	20.0	20.6	21.3	21.9	22.5	23.8
Thigh girth	34.0	35.6	37.1	39.1	41.0	44.1
Knee girth	26.0	27.0	27.6	28.6	29.2	30.8
Calf girth	24.1	25.1	25.7	26.7	27.3	28.9
Ankle girth	19.7	20.6	21.6	22.2	22.9	24.1
Total vertical trunk length	110.5	114.3	118.1	121.9	125.7	133.3
Total crotch length	52.4	54.3	56.2	58.1	60.0	63.8
Head circumference	54.6	54.9	55.2	55.6	55.9	56.5
	Vertical Measurements, cm					
Cervicale height	105.7	110.5	115.3	120.0	124.8	131.8
Head and neck length	21.3	21.6	21.9	22.2	22.5	23.2
Cervicale to back waist	27.6	28.6	29.5	30.5	31.4	33.3
Front waist length	24.8	25.7	26.7	27.6	28.6	30.5
Scye depth	13.7	14.0	14.6	14.9	15.6	16.5
Waist height	78.7	82.5	86.4	90.2	94.0	99.1
Waist to hip height	15.6	15.9	16.5	16.8	17.5	18.4
Crotch height	56.8	60.0	63.2	66.4	69.5	73.3
Knee height	34.3	35.9	37.5	39.1	40.6	42.5
Ankle height	6.0	6.3	6.3	6.3	6.3	6.7
	Width and Length Measurements, cm					
Shoulder length	8.3	8.6	8.9	9.2	9.5	10.2
Shoulder slope	63.5	63.5	63.5	63.5	63.5	63.5
Cross-back width	27.3	27.9	28.6	29.2	29.8	31.1
Cross-chest width	22.9	23.5	24.1	24.8	25.4	26.7
Arm length	44.8	47.0	49.2	51.4	53.7	56.8
Shoulder and arm length	53.0	55.6	58.1	60.6	63.2	67.0
Cervicale to wrist	58.4	61.0	63.5	66.0	68.6	72.4

6.1.4 Refer to Terminology D 5219 for the 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 *Body Weight*—Weigh the subject on the scale.

6.2.3 *Chest Girth*—Measure horizontally around the body under the arms and across the center of the breast 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 *Neck Base Girth*—Measure around the neck, over the cervicale at the back, and the top of the collar bone at the front.

6.2.7 *Armhole Circumference*—With the arm down, measure the distance from the shoulder joint through the front-break point, the armpit, the back-break point, and back up to the starting point.

6.2.8 *Upper-Arm Girth*—Measure the circumference of the arm midway between the elbow and shoulder joint.

6.2.9 *Elbow Girth*—Measure the circumference of the elbow while the arm is bent at 1.57 rad (90°).

6.2.10 *Thigh Girth*—Measure the circumference of the upper leg close to the crotch.

6.2.11 *Knee Girth*—With the leg straight, measure the knee circumference over the knee cap and parallel to the floor.

6.2.12 *Calf Girth*—Measure the maximum circumference of the lower leg between the knee and the ankle and parallel to the floor.

6.2.13 *Ankle Girth*—Measure the ankle circumference over the inner and outer bony prominence at the lower end of the lower leg.

6.2.14 *Total Vertical Trunk Length*—Measure from a point on the shoulder, midway between the neck and the normal armhole line, to the bottom of the crotch and back up to the shoulder, taking care to avoid constriction at the crotch.

6.2.15 *Total Crotch Length*—Measure from the center front waist level through the crotch to the center back waist level.

6.2.16 *Head Circumference*—Measure the maximum circumference of the head above the ears.

6.2.17 *Cervicale Height*—Measure the plumb line distance from the cervicale to the soles of the feet.

6.2.18 *Head and Neck Length*—With the head erect and the neck unbent, measure the plumb line distance from the crown to the cervicale.

6.2.19 *Cervicale to Back Waist*—Measure along the spine from cervicale to waist.

6.2.20 *Front Waist Length*—Measure from the center front neck base line to the center front waist level.

6.2.21 *Scye Depth*—Measure along the spine from the cervicale to a point level to an imaginary horizontal line connecting the mid-underarm points.

6.2.22 *Waist Height*—Measure the plumb line distance from

TABLE 2 Boys Sizes 8–14 (Slim)

Proposed Body Measurements, Inch-Pound Units						
Size	8S	9S	10S	11S	12S	14S
Height, in.	50	52	54	56	58	61
Body weight, lb	53	58	65	71	77	90
Girth Measurements, in.						
Chest girth	25¼	26	26¾	27½	28¼	29¾
Waist girth	21½	22	22½	23	23½	24½
Hip girth (seat girth)	25¼	26	26¾	27¾	28¾	30¾
Neck base girth	12	12¼	12½	12¾	13	13½
Armhole circumference	11⅞	11¾	12⅞	12½	13	13⅞
Upper-arm girth	6¾	7	7¼	7½	7¾	8¼
Elbow girth	7⅞	8⅞	8¾	8⅞	8⅞	9⅞
Thigh girth	13⅞	14	14⅞	15⅞	16⅞	17⅞
Knee girth	10¼	10⅞	10⅞	11¼	11½	12⅞
Calf girth	9½	9⅞	10⅞	10½	10¾	11⅞
Ankle girth	7¾	8⅞	8½	8¾	9	9½
Total vertical trunk length	43½	45	46½	48	49½	52½
Total crotch length	20⅞	21⅞	22⅞	22⅞	23⅞	25⅞
Head circumference	21½	21⅞	21¾	21⅞	22	22¼
Vertical Measurements, in.						
Cervicale height	41⅞	43½	45⅞	47¼	49⅞	51⅞
Head and neck length	8⅞	8½	8⅞	8¾	8⅞	9⅞
Cervicale to back waist	10⅞	11¼	11⅞	12	12⅞	13⅞
Front waist length	9¾	10⅞	10½	10⅞	11¼	12
Scye depth	5¾	5½	5¾	5⅞	6⅞	6⅞
Waist height	31	32½	34	35½	37	39
Waist to hip height	6⅞	6¼	6½	6⅞	6⅞	7¼
Crotch height	22⅞	23⅞	24⅞	26⅞	27⅞	28⅞
Knee height	13½	14⅞	14¾	15⅞	16	16¾
Ankle height	2⅞	2½	2½	2½	2½	2⅞
Width and Length Measurements, in.						
Shoulder length	3¼	3⅞	3½	3⅞	3¾	4
Shoulder slope	25	25	25	25	25	25
Cross-back width	10¾	11	11¼	11½	11¾	12¼
Cross-chest width	9	9¼	9½	9¾	10	10½
Arm length	17⅞	18½	19⅞	20¼	21⅞	22⅞
Shoulder and arm length	20⅞	21⅞	22⅞	23⅞	24⅞	26⅞
Cervicale to wrist	23	24	25	26	27	28½

the waist to the soles of the feet.

6.2.23 *Waist to Hip Height*—Measure the plumb line distance at the side of the body from the waist to the hip.

6.2.24 *Crotch Height*—Measure the plumb line distance from the midpoint of the crotch to the soles of the feet.

6.2.25 *Knee Height*—Measure the plumb line distance from the knee midpoint to the soles of the feet.

6.2.26 *Ankle Height*—Measure the plumb line distance from the outer ankle bone to the soles of the feet.

6.2.27 *Shoulder Length*—With the arm hanging down, measure from the side neck base to the shoulder joint.

6.2.28 *Shoulder Slope*—Position the goniometer on the shoulder and move the baseline until it is parallel to the floor; identify on the dial the rad (degrees) of difference between the slope of the shoulder and the established horizontal measure of the goniometer.

6.2.29 *Cross-Back Width*—Measure across the back from back-break point to back-break point at approximately the same level as the chest.

6.2.30 *Cross-Chest Width*—Measure across the front of the chest from front-break point to front-break point.

6.2.31 *Arm Length*—With the arm bent at 1.57 rad (90°) and the hand placed on the hip, measure from the shoulder joint along the outside of the arm over the elbow to the prominent wrist bone.

6.2.32 *Shoulder and Arm Length*—With the arm bent at 1.57 rad (90°), measure from the side neck base over the top of the shoulder to the shoulder joint, then along the outside of the arm over the elbow to the prominent wrist bone.

6.2.33 *Cervicale to Wrist*—With the arm bent at 1.57 rad (90°), measure from the cervicale over the top of the shoulder to the shoulder joint, then along the outside of the arm over the elbow to the prominent wrist bone.

7. Keywords

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

TABLE 3 Boys Sizes 8–20 (Regular)

Size	Body Measurements, SI Units								
	8R	9R	10R	11R	12R	14R	16R	18R	20R
Height, cm	127.0	132.1	137.2	142.2	147.3	154.9	162.6	167.6	172.7
Body weight, kg	26.8	29.5	33.1	36.3	39.5	45.4	52.2	57.2	62.6
	Girth Measurements, cm								
Chest girth	67.3	69.2	71.1	73.0	74.9	78.7	82.5	86.4	90.2
Waist girth	59.7	61.0	62.2	63.5	64.8	67.3	69.8	72.4	74.9
Hip girth (seat girth)	67.3	69.2	71.1	73.7	76.2	81.3	86.4	90.2	94.0
Neck base girth	30.8	31.4	32.1	32.7	33.3	34.6	35.9	37.1	38.4
Armhole circumference	29.8	30.8	31.7	32.7	34.0	36.2	38.4	40.3	42.2
Upper-arm girth	18.4	19.0	19.7	20.3	21.0	23.5	23.5	24.8	26.0
Elbow girth	21.0	21.6	22.2	22.9	23.5	24.8	26.0	27.3	28.6
Thigh girth	38.1	39.7	41.3	43.2	45.1	48.3	51.4	54.0	56.5
Knee girth	27.3	28.3	28.9	29.8	30.5	32.1	33.3	34.6	35.9
Calf girth	25.4	26.4	27.0	27.9	28.6	30.2	31.4	32.7	34.0
Ankle girth	19.7	20.6	21.6	22.2	22.9	24.1	25.4	26.7	27.9
Total vertical trunk length	114.3	118.1	121.9	125.7	129.5	137.2	144.8	151.1	158.1
Total crotch length	54.3	56.2	58.1	60.0	61.9	65.7	69.5	72.1	74.6
Head circumference	54.6	54.9	55.2	55.6	55.9	56.5	57.1	57.8	58.4
	Vertical Measurements, cm								
Cervicale height	105.7	110.5	115.3	120.0	124.8	131.8	138.7	143.2	148.0
Head and neck length	21.3	21.6	21.9	22.2	22.5	23.2	23.8	24.4	24.8
Cervicale to back waist	27.9	28.9	29.8	30.8	31.7	33.7	35.6	37.5	39.7
Front waist length	25.1	26.0	27.0	27.9	28.9	30.8	32.7	34.6	36.8
Scye depth	14.0	14.3	14.9	15.2	15.9	16.8	17.8	18.7	19.7
Waist height	78.7	82.5	86.4	90.2	94.0	99.1	104.1	106.7	109.2
Waist to hip height	15.6	15.9	16.5	16.8	17.5	18.4	19.4	20.3	21.3
Crotch height	56.5	59.7	62.9	66.0	69.2	73.0	76.8	78.7	80.6
Knee height	34.3	35.9	37.5	39.1	40.6	42.5	44.4	45.4	46.4
Ankle height	6.0	6.3	6.3	6.3	6.3	6.7	6.7	7.0	7.0
	Width and Length Measurements, cm								
Shoulder length	8.6	8.9	9.2	9.5	9.8	10.5	11.1	11.7	12.4
Shoulder slope	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5
Cross-back width	28.6	29.2	29.8	30.5	31.1	32.4	33.7	34.9	36.2
Cross-chest width	23.5	24.1	24.8	25.4	26.0	27.3	28.6	29.8	31.1
Arm length	44.8	47.0	49.2	51.4	53.7	56.8	60.0	61.9	63.8
Shoulder and arm length	53.3	55.9	58.4	61.0	63.5	67.3	71.1	73.7	76.2
Cervicale to wrist	59.1	61.6	64.1	66.7	69.2	73.0	76.8	79.4	81.9

TABLE 4 Boys Sizes 8–20 (Regular)

Size	Body Measurements, Inch-Pound Units								
	8R	9R	10R	11R	12R	14R	16R	18R	20R
Height, in	50	52	54	56	58	61	64	66	68
Body weight, lb	59	65	73	80	87	100	115	126	138
	Girth Measurements, in.								
Chest girth	26½	27¼	28	28¾	29½	31	32½	34	35½
Waist girth	23½	24	24½	25	25½	26½	27½	28½	29½
Hip girth (seat girth)	26½	27¼	28	29	30	32	34	35½	37
Neck base girth	12⅞	12¾	12⅝	12⅜	13⅞	13⅝	14⅞	14⅝	15⅞
Armhole circumference	11¾	12⅞	12½	12⅜	13⅞	14¼	15⅞	15⅞	16⅞
Upper-arm girth	7¼	7½	7¾	8	8¼	8¾	9¼	9¾	10¼
Elbow girth	8¼	8½	8¾	9	9¼	9¾	10¼	10¾	11¼
Thigh girth	15	15⅝	16¼	17	17¾	19	20¼	21¼	22¼
Knee girth	10¾	11⅞	11¾	11¾	12	12⅝	13⅞	13⅞	14⅞
Calf girth	10	10⅞	10⅞	11	11¼	11⅞	12⅞	12⅞	13⅞
Ankle girth	7¾	8⅞	8½	8¾	9	9½	10	10½	11
Total vertical trunk length	45	46½	48	49½	51	54	57	59½	62¼
Total crotch length	21⅞	22⅞	22⅞	23⅞	24⅞	25⅞	27⅞	28⅞	29⅞
Head circumference	21½	21⅞	21¾	21⅞	22	22¼	22½	22¾	23
	Vertical Measurements, in.								
Cervicale height	41⅞	43½	45⅞	47¼	49⅞	51⅞	54⅞	56⅞	58¼
Head and neck length	8⅞	8½	8⅞	8¾	8⅞	9⅞	9⅞	9⅞	9¾
Cervicale to back waist	11	11⅞	11¾	12⅞	12½	13¼	14	14¾	15⅞
Front waist length	9⅞	10¼	10⅞	11	11⅞	12⅞	12⅞	13⅞	14½
Scye depth	5½	5⅞	5⅞	6	6¼	6⅞	7	7⅞	7¾
Waist height	31	32½	34	35½	37	39	41	42	43
Waist to hip height	6⅞	6¼	6½	6⅞	6⅞	7¼	7⅞	8	8⅞
Crotch height	22¼	23½	24¾	26	27¼	28¾	30¼	31	31¾
Knee height	13½	14⅞	14¾	15⅞	16	16¾	17½	17⅞	18¼
Ankle height	2⅞	2½	2½	2½	2½	2⅞	2⅞	2¾	2¾
	Width and Length Measurements, in.								
Shoulder length	3⅞	3½	3⅞	3¾	3⅞	4⅞	4⅞	4⅞	4⅞
Shoulder slope	25	25	25	25	25	25	25	25	25
Cross-back width	11¼	11½	11¾	12	12¼	12¾	13¼	13¾	14¼
Cross-chest width	9¼	9½	9¾	10	10¼	10¾	11¼	11¾	12¼
Arm length	17⅞	18½	19⅞	20¼	21⅞	22⅞	23⅞	24⅞	25⅞
Shoulder and arm length	21	22	23	24	25	26½	28	29	30
Cervicale to wrist	23¼	24¼	25¼	26¼	27¼	28¾	30¼	31¼	32¼

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