



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 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. This standard takes 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 Michigan⁴ and 2000 CDC Growth Charts for the United States⁵ and CDC Advance Data No. 361, Dated 7/5/2005. All sudden shifts of proportion have been eliminated so as to reflect the gradual growth and development of the child. To verify the proposed body measurements, a three-dimensional Avatar was created in the size range by Alvanon Inc.⁶ for a visual reference and also attached in the documentation.

1. Scope

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

1.2 The maximum age for the Boy's chart is 15 years old to the size 20.

1.3 The size table includes the range of toddler sizes, these values are for both girls and boys and will be included in the girl's standard as well.

1.4 These tables list body measurements for the complete range of Boys sizing. 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 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 U.S. Department of Commerce, *Voluntary Product Standard: Body Measurement for the Sizing of Children's Apparel*, NIST Publication No. PS 54-172, Washington, D.C.

³ Available from National Center for Health Statistics(NCHS), a division of Centers for Disease Control & Prevention (CDC), 1600 Clifton Rd., Atlanta, GA 30333, <http://www.cdc.gov>.

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

⁵ 2000 CDC Growth Charts for the United States: Methods and Development, National Center for Health Statistics, *Vital Health Stat*, 11 (246), 2002.

⁶ Alvanon, Inc. 145W 30th Street Suite 1000, New York, NY 10001.

1.5 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.

1.6 *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*:⁷

[D123 Terminology Relating to Textiles](#)

[D5219 Terminology Relating to Body Dimensions for Apparel Sizing](#)

2.2 *ISO Standard*:⁸

[ISO 3635 Size Designation of Clothes, Definitions, and Body Measurement Procedures](#)

3. Terminology

3.1 *Definitions*:

3.1.1 For definitions relating to body dimensions, refer to Terminology [D5219](#).

⁷ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

⁸ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

3.1.2 For definitions of other textile terms used in this standard, refer to Terminology **D123**.

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. This practice should in turn reduce or minimize consumer confusion and dissatisfaction related to apparel sizing. (Also refer to ISO 3635 Size Designation Procedures.)

4.2 Three-dimensional avatars depicting each of the children's sizes were created by Alvanon, Inc. and included in this standard to assist manufactures in visualizing the posture, shape, and proportions generated by the measurements charts in the accompanying Tables. (See **Figs. 1-9**.)

5. Apparatus

5.1 *Tape Measure*, (dimensionally stable and approximately 1.5 cm (1/2 in.) wide and graduated accurately in cm (1/16 in.).

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

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

5.4 *Metal Ruler*.

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 Take measurements over regular undergarments normally worn.

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

6.1.4 Refer to Terminology **D5219** for the location of all points to be measured.

6.2 Body Measurements:

6.2.1 *Body Weight*—Weight as measured on a calibrated scale taken with the subject in undergarments.

6.2.2 *Head Girth*—Measure the maximum horizontal circumference of the head above the ears.

6.2.3 *Neck Base Girth*—Measure the circumference of the neck, taken over the cervicale at the back and the top of the collarbone at the front.

6.2.4 *Mid-Neck Girth*—Measure the horizontal circumference of the neck, taken approximately 25 mm (1 inch) above the neck base level.

6.2.5 *Shoulder Girth*—Measure the horizontal circumference around the shoulders, taken at the front break-point level with the arms down.

6.2.6 *Chest/Bust Girth*—Measure the horizontal circumference around the body, taken under the arms and across the fullest part of the chest/bust apex including the lower portion of the shoulder blades.

6.2.7 *Under-Bust Girth*—Measure the horizontal circumference around the body under the arms and bust.

6.2.8 *Upper-Chest Girth*—Measure the horizontal circumference around the body, taken under the arms and above the fullest part of the chest/bust including the lower portion of the shoulder blades.

6.2.9 *Waist Girth*—Measure the minimum horizontal circumference around the body at waist height.

6.2.10 *High-Hip Girth*—Measure the maximum horizontal circumference around the body, taken at high hip level approximately 7.5 cm (3 inches) below the waist level including the abdominal extension.

6.2.11 *Hip/Seat Girth*—Measure the maximum horizontal circumference around the body at hip height.

6.2.12 *Thigh Girth*—Measure the maximum horizontal circumference of the upper leg, taken close to the crotch.

6.2.13 *Mid-Thigh Girth*—The maximum horizontal circumference of the upper leg, taken midway between the hip girth level and the midpoint (or crease) of the knee.

6.2.14 *Knee Girth*—Measure the maximum horizontal circumference of the knee, taken over the kneecap with the leg straight.

6.2.15 *Calf Girth*—Measure the maximum horizontal circumference of the lower leg, taken between the knee and the ankle.

6.2.16 *Ankle Girth*—Measure the maximum horizontal circumference of the ankle, taken over the greatest prominence of the anklebones.

6.2.17 *Armscye Girth*—Measure the circumference from the shoulder joint through the front break-point, the armpit, the back break-point and to the starting point, taken with the arms down.

6.2.18 *Upper-Arm Girth*—Measure the maximum circumference of the arm, taken midway between the elbow and the shoulder joints with the arm bent 1.57 rad (90°).

6.2.19 *Elbow Girth*—Measure the maximum circumference of the elbow, taken over the outer prominence of the elbow bone with the arm bent 1.57 rad (90°).

6.2.20 *Wrist Girth*—Measure the maximum circumference of the wrist, taken over the inner and outer prominence of the wrist bones.

6.2.21 *Hand Girth*—Measure the maximum circumference of the hand around the knuckles excluding the thumb, taken with the fingers together.

6.2.22 *Trunk Length (total vertical)*—Measure the circumference taken from a point on the right shoulder midway between the neck base and the shoulder joint, down the back through the crotch and up over the prominence of the right chest/bust apex to the starting point, avoiding constriction at the crotch.

TABLE 1 Boy's Sizes 2–20 Body Measurements, Inch-Pound Units

Size	Children's Body Measurements 2 to 7						Boy's Body Measurements 8-20, maximum age based at 15 yrs.							
	2	3	4	5	6	7	8R	10R	12R	14R	16R	18R	20R	
Body Weight (Mean), lb	29	31½	36	41	45	55	65	78	95	108	118	130	140	
Body Weight (Range), lb	28-30	30-33	34-38	39-43	42-48	52-58	61-68	71-87	87-100	102-112	114-125	125-135	132-146	
Girth Measurements, in.														
Head Girth	20	20¼	20½	20¾	21	21⅝	21½	21¾	22	22¼	22½	22¾	23	
Neck Base Girth	10⅞	10⅝	10¾	11⅞	11½	11½	12	12⅝	12¾	13¼	13¾	14¼	14¾	
Mid-Neck Girth	9¼	9⅝	9⅞	10	10⅝	10⅝	10¾	11⅞	11½	12	12½	13	13½	
Shoulder Girth	23⅝	24⅞	25⅞	26¾	27¾	29⅞	30½	31¾	33⅞	34¾	36⅞	37¾	39¼	
Chest/Bust Girth	20½	21	22	23	24	25½	26½	27½	28½	30½	32	33½	35	
Under-Bust Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Upper-Chest Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Waist Girth	21	21½	22	22½	23	23½	24½	25½	26½	28	29½	31	32½	
High-Hip Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Hip/Seat Girth	21	22	23	24	25	26½	27¾	29	30½	32	33½	35	36½	
Thigh Girth	11¾	12⅝	13	13⅝	14¼	15½	16½	17	17¾	18½	19¼	20	20¾	
Mid-Thigh Girth	11	11⅝	11⅞	12⅝	12⅞	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Knee Girth	8½	8¾	9⅞	9½	9⅞	10½	11½	11½	12	12⅝	13¼	13⅞	14½	
Calf Girth	8¼	8⅝	8⅞	9	9⅞	10⅞	10⅞	11	11½	12⅞	12¾	13⅞	14	
Ankle Girth	5½	5⅞	6¼	6⅞	7	7⅞	8	8¼	8⅞	9	9⅞	9¾	10⅞	
Armscye Girth	8½	9⅞	9¾	10⅞	11	11¾	12⅞	13	13¼	13¾	14⅞	15¼	16⅞	
Upper-Arm Girth	6⅞	6⅞	6⅞	6⅞	7⅞	7½	7¾	8¼	8¾	9¼	9¾	10¼	10¾	
Elbow Girth	6¼	6½	6¾	7	7¼	7½	7¾	8⅞	8½	8⅞	9¼	9⅞	10	
Wrist Girth	4½	4⅞	4¾	4⅞	5	5¼	5½	5¾	6	6¼	6½	6⅞	6¾	
Hand Girth	5¾	6	6	6⅞	6¼	6¾	7¼	7½	8⅞	8⅞	8⅞	9¼	9⅞	
Trunk Length (total vertical girth)	33¾	35⅞	38⅞	40¼	42⅞	43⅞	45⅞	49¾	52¼	53¾	55¾	60	63¾	
Vertical Measurements, in.														
Height, inches	35	38	41	44	46½	49½	52	55½	58½	61½	64	66½	69	
Head and Neck Length	6¾	7	7¼	7½	7½	7¾	8	8⅞	8¼	8½	8¾	9	9⅞	
Cervicale Height	28¼	31	33¾	36¼	38¾	41⅞	44	47⅞	50¼	53	55¼	57½	59⅞	
Cervicale to Crotch	14¼	15⅞	16⅞	17½	18½	18¾	19¾	21⅞	22⅞	23¼	24¼	26⅞	28⅞	
Cervicale to Knee	-	-	-	-	-	28⅞	29⅞	32	33½	35	36⅞	38⅞	40⅞	
Center Back Waist Length	8⅞	9⅞	10⅞	10⅞	11⅞	11⅞	12	13⅞	13¾	14	14½	15⅞	16¾	
Center Front Waist Length	8	8½	9	9⅞	9⅞	10½	10⅞	11⅞	12⅞	12½	13	14	15	
Scye Depth	3¼	3⅞	3⅞	4¼	4½	4⅞	4⅞	5¼	5⅞	5½	5¾	6	6⅞	
Side Waist Length	4¾	5	5⅞	5⅞	5½	5¾	5¾	6½	7⅞	7⅞	7½	8	8⅞	
Waist to Hip/Seat Height	3⅞	3¾	4⅞	4¾	5	5	5¾	6	6⅞	6¼	6⅞	7	7½	
Waist to Knee Height	11	12¼	13⅞	14⅞	16	16⅞	18	19¼	20	21⅞	22½	23⅞	24	
Waist Height	19½	21⅞	23⅞	26	28	30⅞	32⅞	34⅞	36¾	39⅞	41⅞	42¼	43½	
High-Hip Height	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Hip/Seat Height	16⅞	17⅞	19½	21¼	22⅞	25¾	26¾	28½	30⅞	33⅞	34⅞	35¼	36	
Crotch Height	14	15⅞	17⅞	18¾	20¼	23¼	24¼	25½	27⅞	29¾	31	31⅞	31¾	
Rise Height	5½	6	6¾	7¼	7⅞	7½	8⅞	9⅞	9⅞	9⅞	10⅞	11⅞	11¾	
Knee Height	8½	9⅞	10¼	11⅞	12	13¾	14⅞	15⅞	16¾	18	18⅞	19⅞	19½	
Ankle Height	2	2⅞	2¼	2⅞	2½	2⅞	3⅞	3¼	3½	3½	3½	3½	3½	
Width and Length Measurements, in.														
Crotch Length (total)	14¾	15⅞	17	18	19⅞	19½	20⅞	22½	23¾	24¾	26	27¾	29½	
Shoulder Length	27⅞	3	3⅞	3¼	3⅞	3½	3¾	3⅞	4⅞	4⅞	4⅞	4¾	4⅞	
Shoulder Slope	22°	22°	21.5°	21.5°	21.5°	19°	19°	19°	19°	19°	19°	19°	19°	
Shoulder Drop	1	1⅞	1⅞	1¼	1¼	1¼	1¾	1⅞	1⅞	1⅞	1½	1⅞	1⅞	
Across Back Shoulder Width	9¼	9⅞	10	10⅞	10¾	11¼	12	12¼	12¾	13½	14⅞	14⅞	15⅞	
Across Front Shoulder Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Upper Back Width	8⅞	9⅞	9⅞	9¾	10	11	11⅞	11¾	12¼	13⅞	13⅞	14⅞	14½	
Upper Front Chest Width	8⅞	8½	8⅞	9¼	9½	9⅞	10½	10⅞	11⅞	11⅞	12¼	12¾	13⅞	
Back Width	-	-	-	-	-	-	-	-	-	-	-	-	-	
Front Chest Width	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bust Point to Bust Point	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Neck to Bust Point	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Bust Point to Bust Point (Halter)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Cervicale to Wrist Length	17½	18⅞	19¾	20⅞	21⅞	22¼	23¾	25⅞	26⅞	27⅞	29⅞	30½	32	
Shoulder and Arm Length	15¾	16⅞	18	19	19⅞	20¼	21½	22⅞	24⅞	25⅞	26¾	28¼	29⅞	
Arm Length	12⅞	13⅞	14⅞	15¾	16⅞	16¾	17¾	19	20	21	22½	23½	24½	
Hand Length	3¾	3⅞	4¼	4½	5	5¼	5½	5⅞	6⅞	7	7⅞	7⅞	8	
Hand Width	3⅞	3¼	3¼	3⅞	3½	3¾	4⅞	4¼	4⅞	4⅞	5⅞	5¼	5⅞	
Foot Length	5¼	5⅞	6	6½	6⅞	7¾	8⅞	8¾	9⅞	9⅞	9⅞	10	10⅞	
Foot Width	2¼	2⅞	2½	2⅞	2⅞	2⅞	3¼	3⅞	3½	3⅞	3¾	4	4¼	

6.2.23 *Height*—Measure the vertical distance from the crown of the head to the floor, taken with subject standing and without shoes.

6.2.24 *Head and Neck Length*—Measure the distance from the crown of the head to the cervicale (contour), taken with the head erect and the neck unbent.

6.2.25 *Cervicale Height*—Measure the vertical distance from the cervicale to the floor, taken with subject standing and without shoes.

6.2.26 *Cervicale to Crotch*—Measure the vertical distance from the cervicale to the horizontal mid-point of the crotch, taken with subject standing.

TABLE 3 Boy's Sizes 4–20 (Slim) Body Measurements, Inch-Pound Units

	Boy's Body Measurements 4-20, Slim						Maximum age based at 15 yrs. 15½ years				
Size	4S	5S	6S	7S	8S	10S	12S	14S	16S	18S	20S
Body Weight (Mean), lb	30	36	40	49	53	65	77	90	105	116	128
Body Weight (Range), lb	28-34	33-41	39-45	46-52	55-62	65-81	79-89	93-104	103-114	112-125	122-137
Girth Measurements, in.											
Head Girth	20¾	20⅝	20⅞	21¼	21½	21¾	22	22¼	22½	22¾	23
Neck Base Girth	10¼	10⅝	10⅞	11	11½	11⅞	12¼	12¾	13¼	13¾	14¼
Mid-Neck Girth	9⅞	9⅝	9⅞	10⅞	10½	10⅞	11¼	11¾	12¼	12¾	13¼
Shoulder Girth	24¼	25¼	26¼	27⅞	28¾	30⅞	31½	33⅞	34⅝	36⅞	37⅞
Chest/Bust Girth	20½	21½	22	23	24	25	27	29	30½	32	33½
Under-Bust Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Upper-Chest Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Waist Girth	20	20½	21	21½	22½	23½	24½	26	27½	29	30½
High-Hip Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hip/Seat Girth	20	20½	21½	23	24¼	25½	27	28½	30	31½	33
Thigh Girth	11½	12⅞	13	13⅝	14⅝	15⅞	15⅞	16⅝	17⅞	18⅞	18⅞
Mid-Thigh Girth	11	11⅝	12⅞	12¾	13¼	14	14½	15¼	16	16¾	17½
Knee Girth	8½	8⅞	9⅞	9⅝	10⅞	10⅝	11¼	11⅞	12½	13⅞	13¾
Calf Girth	8	8⅞	8⅞	9⅞	9¾	10¼	10⅞	11½	12⅞	12¾	13⅞
Ankle Girth	6⅞	6½	6⅞	7⅞	7¾	8	8⅞	8¾	9	9⅞	9¾
Armscye Girth	9⅝	10¼	10¾	11⅝	12⅞	12⅞	13⅞	13⅝	14¼	14¾	15⅝
Upper-Arm Girth	6⅞	6⅞	6⅞	6⅞	7⅞	7⅞	8⅞	8⅞	9⅞	9⅞	10⅞
Elbow Girth	6⅞	6⅞	6⅝	6⅞	7⅞	7½	7⅞	8¼	8⅞	9	9⅞
Wrist Girth	4¼	4⅞	4½	4¾	5	5¼	5½	5¾	6	6⅞	6¼
Hand Girth	5¼	5½	5¾	5⅞	6⅞	6⅞	7¼	7½	7⅞	8⅞	8½
Trunk Length (total vertical girth)	37¼	39⅞	41	42½	44½	48⅞	51⅞	52⅞	54¾	59⅞	62⅞
Vertical Measurements, in.											
Height	41	44	46½	49½	52	55½	58½	61½	64	66½	41
Head and Neck Length	7⅞	7½	7⅞	7¾	8	8⅞	8¼	8½	8¾	9	7⅞
Cervicale Height	33¾	36¼	38¾	41⅞	44	47⅞	50¼	53	55¼	57½	33¾
Cervicale to Crotch	16⅞	17½	18½	18¾	19¾	21⅞	22⅞	23¼	24¼	26⅞	16⅞
Cervicale to Knee	23⅞	24⅞	26¾	28½	29⅞	32	33½	35	36⅞	38⅞	23⅞
Center Back Waist Length	10⅞	10⅞	11⅞	11⅝	12	13⅞	13¾	14	14½	15⅞	10⅞
Center Front Waist Length	9	9⅞	9⅞	10½	10⅞	11⅞	12⅞	12½	13	14	9
Scye Depth	3⅞	4¼	4½	4⅞	4⅞	5¼	5⅞	5½	5¾	6	3⅞
Side Waist Length	5⅞	5⅞	5½	5¾	5¾	6½	7⅞	7⅞	7½	8	5⅞
Waist to Hip/Seat Height	4⅞	4¾	5	5¼	5¾	6	6⅞	6¼	6⅞	7	4⅞
Waist to Knee Height	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Waist Height	23⅞	26	28	30⅞	32⅞	34⅞	36¾	39⅞	41⅞	42¼	43½
High-Hip Height	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hip/Seat Height	19½	21¼	23	25¾	26¾	28½	30⅞	33⅞	34⅞	35¼	36
Crotch Height	17⅞	18¾	20¼	23¼	24¼	25¼	27⅞	29¾	31	31⅞	31¾
Rise Height	6¾	7¼	7⅞	7½	8⅞	9⅞	9⅞	9⅞	10⅞	11⅞	11¾
Knee Height	10¼	11⅞	12	13¾	14⅞	15⅞	16¾	18	18⅞	19⅞	19½
Ankle Height	2¼	2⅞	2½	2⅞	3⅞	3¼	3½	3½	3½	3½	3½
Width and Length Measurements, in.											
Crotch Length (total)	16¼	17¼	18⅞	18¼	20	21¾	23	24⅞	25⅞	27⅞	28⅞
Shoulder Length	3	3⅞	3¼	3⅞	3⅞	3¾	4	4¼	4½	4¾	4⅞
Shoulder Slope	21.5°	21.5°	21.5°	19°	19°	19°	19°	19°	19°	19°	19°
Shoulder Drop	1	1⅞	1⅞	1⅞	1¼	1⅞	1⅞	1½	1⅞	1⅞	1⅞
Across Back Shoulder Width	9⅞	10	10⅞	10⅞	11⅞	11⅞	12⅞	13⅞	13¾	14¼	14¾
Across Front Shoulder Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Upper Back Width	8⅞	9⅞	9⅞	10⅞	10⅞	11⅞	11⅞	12⅞	13	13½	14
Upper Front Chest Width	7⅞	8⅞	8⅞	9¼	9⅞	10	10½	11¼	11⅞	12⅞	12⅞
Back Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Front Chest Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bust Point to Bust Point	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Neck to Bust Point	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bust Point to Bust Point (Halter)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cervicale to Wrist Length	19⅞	20½	21½	22¼	23⅞	24⅞	25⅞	27⅞	29⅞	30½	31⅞
Shoulder and Arm Length	17⅞	18⅞	19⅞	20¼	21⅞	22½	23¾	25⅞	26¾	28⅞	29
Arm Length	14⅞	15½	16⅞	16⅞	17½	18¾	19¾	21¼	22⅞	23⅞	24¼
Hand Length	4⅞	4⅞	4⅞	5	5⅞	5¾	6¼	7	7	7½	7⅞
Hand Width	3¼	3¼	3¼	3⅞	3⅞	4	4⅞	4⅞	4⅞	5	5⅞
Foot Length	6	6½	6⅞	7⅞	8¼	8⅞	9	9⅞	9½	9⅞	10
Foot Width	2½	2⅞	2⅞	2⅞	3⅞	3¼	3⅞	3⅞	3⅞	3⅞	4⅞

6.2.29 *Center Front Waist Length*—Measure from the center front neck base line to the center front waist level (contour).

TABLE 4 Boys Sizes 4–20 (Slim) Body Measurements, SI Units

Size	Boy's Body Measurements 4-20, Slim					Maximum age based at 15 yrs. 15½ years					
	4S	5S	6S	7S	8S	10S	12S	14S	16S	18S	20S
Body Weight (Mean), kg	13.61	16.33	18.14	22.23	24.04	29.48	34.93	40.82	47.63	52.62	58.06
Body Weight (Range), kg	12.70-15.42	14.97-18.60	17.69-20.41	20.87-23.59	24.95-28.12	29.48-36.74	35.83-40.37	42.18-47.17	46.72-51.71	50.80-56.70	55.34-62.14
Girth Measurements, cm											
Head Girth	51.83	52.47	53.11	54.06	54.70	55.33	55.97	56.60	57.24	57.88	58.51
Neck Base Girth	26.08	27.03	27.67	27.98	29.26	30.21	31.16	32.44	33.71	34.98	36.25
Mid-Neck Girth	23.85	24.49	25.12	25.76	26.71	27.67	28.62	29.89	31.16	32.44	33.71
Shoulder Girth	61.69	64.24	66.78	69.64	73.14	76.64	80.14	84.27	88.09	91.90	95.72
Chest/Bust Girth	52.15	54.70	55.97	58.51	61.06	63.60	68.69	73.78	77.59	81.41	85.22
Under-Bust Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Upper-Chest Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Waist Girth	50.88	52.15	53.42	54.70	57.24	59.78	62.33	66.14	69.96	73.78	77.59
High-Hip Girth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hip/Seat Girth	50.88	52.15	54.70	58.51	61.69	64.87	68.69	72.50	76.32	80.14	83.95
Thigh Girth	29.26	30.85	33.07	34.66	37.21	38.48	40.39	42.29	44.20	46.11	48.02
Mid-Thigh Girth	27.98	29.57	30.85	32.44	33.71	35.62	36.89	38.80	40.70	42.61	44.52
Knee Girth	21.62	22.58	23.21	24.49	25.76	27.03	28.62	30.21	31.80	33.39	34.98
Calf Girth	20.35	21.31	22.58	23.85	24.80	26.08	27.67	29.26	30.85	32.44	34.03
Ankle Girth	15.58	16.54	17.49	18.76	19.72	20.35	21.31	22.26	22.90	23.85	24.80
Armscye Girth	24.49	26.08	27.35	29.57	30.85	32.75	33.39	34.66	36.25	37.52	39.75
Upper-Arm Girth	15.58	16.22	16.85	17.49	18.13	19.40	20.67	21.94	23.21	24.49	25.76
Elbow Girth	15.58	16.22	16.85	17.49	18.13	19.08	20.03	20.99	21.94	22.90	23.85
Wrist Girth	10.81	11.13	11.45	12.08	12.72	13.36	13.99	14.63	15.26	15.58	15.90
Hand Girth	13.36	13.99	14.63	14.95	16.22	16.85	18.44	19.08	20.03	21.31	21.62
Trunk Length (total vertical girth)	94.76	100.17	104.30	107.17	113.21	124.34	130.70	133.88	139.28	150.41	159.95
Vertical Measurements, cm											
Height	104.30	111.94	118.30	125.93	132.29	141.19	148.82	156.46	162.82	169.18	175.54
Head and Neck Length	18.76	19.08	19.40	19.72	20.35	20.67	20.99	21.62	22.26	22.90	23.21
Cervicale Height	85.86	92.22	98.58	106.53	111.94	120.52	127.84	134.83	140.56	146.28	152.32
Cervicale to Crotch	42.29	44.52	47.06	47.70	50.24	55.65	58.19	59.15	61.69	67.10	71.55
Cervicale to Knee	59.47	63.28	68.05	71.55	75.37	81.41	85.22	89.04	93.17	97.63	102.71
Center Back Waist Length	25.76	27.03	28.30	29.57	30.53	33.39	34.98	35.62	36.89	39.75	42.61
Center Front Waist Length	22.90	23.85	25.12	26.71	27.03	30.21	31.48	31.80	33.07	35.62	38.16
Scye Depth	9.86	10.81	11.45	11.77	12.40	13.36	13.67	13.99	14.63	15.26	16.22
Side Waist Length	13.67	13.67	13.99	14.63	14.63	16.54	18.13	18.76	19.08	20.35	21.31
Waist to Hip/Seat Height	11.13	12.08	12.72	13.36	14.63	15.26	15.58	15.90	16.22	17.81	19.08
Waist to Knee Height	34.66	37.84	40.70	42.93	45.79	48.97	50.88	54.38	57.24	58.83	61.06
Waist Height	60.74	66.14	71.23	77.91	82.36	88.09	93.49	100.17	104.62	107.48	110.66
High-Hip Height	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hip/Seat Height	49.61	54.06	58.51	65.51	68.05	72.50	77.91	84.27	88.72	89.68	91.58
Crotch Height	43.57	47.70	51.52	59.15	61.69	64.24	69.64	75.68	78.86	79.18	80.77
Rise Height	17.17	18.44	18.76	19.08	20.67	23.21	23.85	24.49	25.76	28.30	29.89
Knee Height	26.08	28.30	30.53	34.98	36.57	39.11	42.61	45.79	47.38	48.65	49.61
Ankle Height	5.72	6.04	6.36	7.31	7.95	8.27	8.90	8.90	8.90	8.90	8.90
Width and Length Measurements, cm											
Crotch Length (total)	41.34	43.88	46.11	46.43	50.88	55.33	58.51	61.37	64.55	69.01	73.46
Shoulder Length	7.63	7.95	8.27	8.59	9.22	9.54	10.18	10.81	11.45	12.08	12.40
Shoulder Slope	54.70	54.70	54.70	48.34	48.34	48.34	48.34	48.34	48.34	48.34	48.34
Shoulder Drop	2.54	2.86	2.86	2.86	3.18	3.50	3.50	3.82	4.13	4.13	4.13
Across Back Shoulder Width	24.49	25.44	26.39	27.67	29.57	30.21	31.48	33.39	34.98	36.25	37.52
Across Front Shoulder Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Upper Back Width	22.58	23.85	25.12	26.39	27.67	28.30	29.57	32.12	33.07	34.34	35.62
Upper Front Chest Width	20.03	21.31	22.58	23.53	25.12	25.44	26.71	28.62	29.57	30.85	32.12
Back Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Front Chest Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bust Point to Bust Point	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Neck to Bust Point	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bust Point to Bust Point (Halter)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cervicale to Wrist Length	48.65	52.15	54.70	56.60	59.47	62.65	65.83	70.91	74.09	77.59	80.45
Shoulder and Arm Length	44.84	47.38	49.93	51.52	53.74	57.24	60.42	65.19	68.05	71.55	73.78
Arm Length	37.21	39.43	41.66	42.93	44.52	47.70	50.24	54.06	56.29	59.47	61.69
Hand Length	10.49	11.13	12.40	12.72	13.67	14.63	15.90	17.81	17.81	19.08	20.03
Hand Width	8.27	8.27	8.27	8.59	9.86	10.18	11.13	11.77	12.40	12.72	13.04
Foot Length	15.26	16.54	17.49	19.40	20.99	21.94	22.90	23.85	24.17	25.12	25.44
Foot Width	6.36	6.68	6.68	7.31	7.95	8.27	8.59	9.22	9.22	9.86	10.49

6.2.30 Scye Depth—Measure the vertical distance from the cervicale to the back break-point level, taken with the arms down.

6.2.31 Side Waist Length—Measure the distance from the mid-underarm point of the armscye to the waist level, taken along the side of the body (contour).

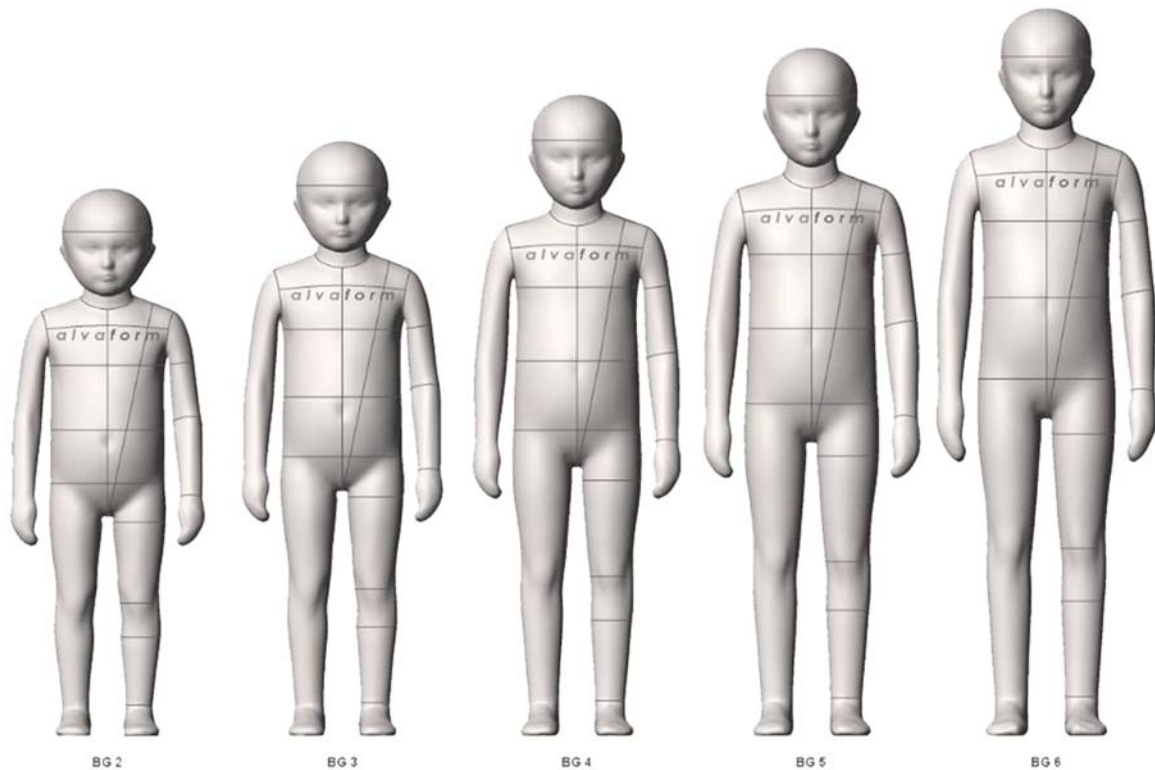


FIG. 1 Form Front 2–6

6.2.32 *Waist to Hip/Seat Height*—Measure the distance from the waist level to the hip girth level, taken along the side of the body (contour).

6.2.33 *Waist to Knee Height*—Measure the vertical distance from the waist level to a point level with the midpoint of the back of the knee (or crease), taken along the side of the body.

6.2.34 *Waist Height*—Measure the distance from the waist level to the hip girth level along the side of the body (contour) then vertically to the floor, taken with subject standing and without shoes.

6.2.35 *High-Hip Height*—Measure the distance from the high-hip girth level to the hip girth level along the side of the body (contour) then vertically to the floor, taken with the subject standing and without shoes.

6.2.36 *Hip/Seat Height*—Measure the vertical distance from the hip girth level to the floor along the side of the body, taken with subject standing and without shoes.

6.2.37 *Crotch Height*—Measure the vertical distance from the midpoint of the crotch to the floor, taken with the subject standing and without shoes.

6.2.38 *Rise Height*—Measure the vertical distance from the waist level at the side of the torso to the flat surface, taken with subject sitting on hard, flat surface.

6.2.39 *Knee Height*—Measure the vertical distance from the midpoint of the back of the knee (or crease) to the floor, taken with subject standing and without shoes.

6.2.40 *Ankle Height*—Measure the vertical distance from the prominence of the outer ankle bone to the floor, taken with subject standing and without shoes.

6.2.41 *Crotch Length (total)*—Measure the distance from waist level at the center front, through the crotch and to the waist level at the center back, avoiding constriction at the crotch.

6.2.42 *Shoulder Length*—Measure the distance from the side of the neck base to the top of the shoulder joint, taken with the arm down.

6.2.43 *Shoulder Slope*—Measure the degree of difference between the shoulder slant and the horizontal line that originates at the side neck base, taken with a goniometer positioned on the shoulder and moved until the baseline is parallel to the floor.

6.2.44 *Shoulder Drop*—Measure the vertical drop distance from the high point of the shoulder at the neck and the top of the shoulder joint, taken with the arms down.

6.2.45 *Across Back Shoulder Width*—Measure the horizontal distance across the back from the top of one shoulder joint to the top of the other shoulder joint, taken with the arms down.

6.2.46 *Across Front Shoulder Width*—Measure the horizontal distance across the front from the top of one shoulder joint to the top of the other shoulder joint, taken with the arms down.

6.2.47 *Upper Back Width*—Measure the horizontal distance across the back from back break-point to back break-point over the shoulder blades, taken with the arms down.

6.2.48 *Upper Front Chest Width*—Measure the horizontal distance across the chest from the front break-point, taken with the arms down.

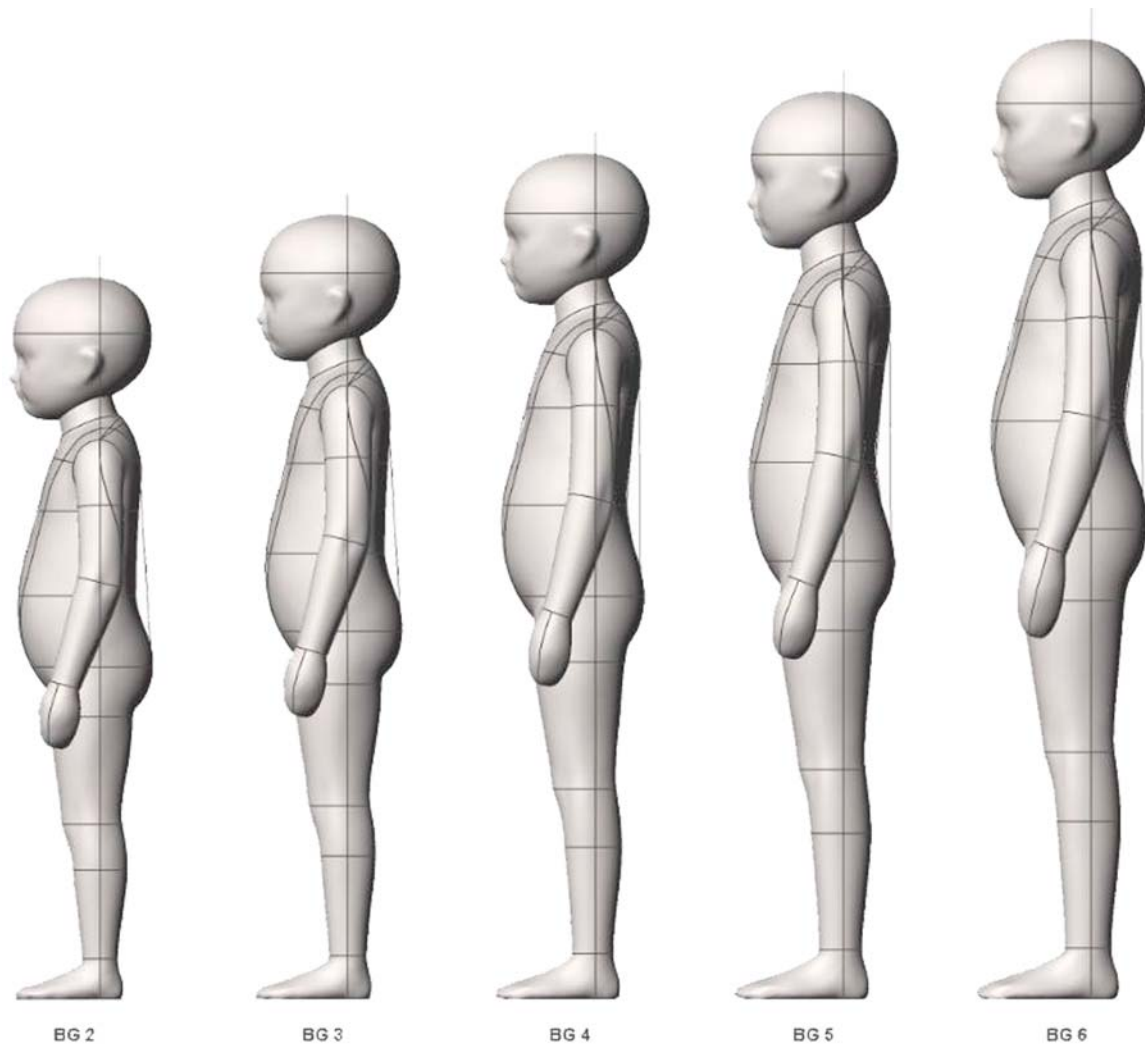


FIG. 2 Form Side 2-6

6.2.49 *Back Width*—Measure the horizontal distance across the back from back break-point to back break-point over the shoulder blades, taken with the arms down.

6.2.50 *Front Chest Width*—Measure the horizontal distance across the chest from the front break-point, taken with the arms down.

6.2.51 *Bust Point to Bust Point*—Measure the horizontal distance from bust apex to bust apex, taken with the arms down.

6.2.52 *Neck to Bust Point*—Measure the distance from the side of the neck base to the bust apex (contour), taken with the arms down.

6.2.53 *Bust Point to Bust Point (Halter)*—Measure the distance from the bust apex around the neck base to the bust apex (contour), taken with the arms down.

6.2.54 *Cervicale to Wrist*—Measure the distance from the cervicale over the top of the shoulder joint, along the outside of the arm, over the elbow to the prominent wrist bone, taken with the arm bent 1.57 rad (90°) and the hand placed on the hip.

6.2.55 *Shoulder and Arm Length*—Measure the distance from the side of the neck base across the shoulder joint and

along the outside of the arm over the elbow to the prominent wrist bone, taken with the arm bent 1.57 rad (90°) and the hand placed on the hip.

6.2.56 *Arm Length*—Measure the distance from the top of the shoulder joint along the outside of the arm over the elbow to the prominent wrist bone, taken with the arm bent (1.57 rad or 90°) and the hand placed on the hip.

6.2.57 *Hand Length*—Measure the straight distance from the prominence of the longest finger to the inner wrist bone, taken across the palm of the hand with fingers together and palm flat (use a stable, flat ruler).

6.2.58 *Hand Width*—Measure the maximum width across the palm of the hand excluding the thumb, taken with fingers together and palm flat (use a stable, flat ruler).

6.2.59 *Foot Length*—Measure the straight distance from the prominence of the back of the heel to the prominence of the longest toe, taken with the foot on a flat surface without shoes (use stable, flat ruler).

6.2.60 *Foot Width*—Measure the straight distance from one side of the foot to the other side at the widest part, taken with the subject standing and without shoes (use stable, flat ruler).

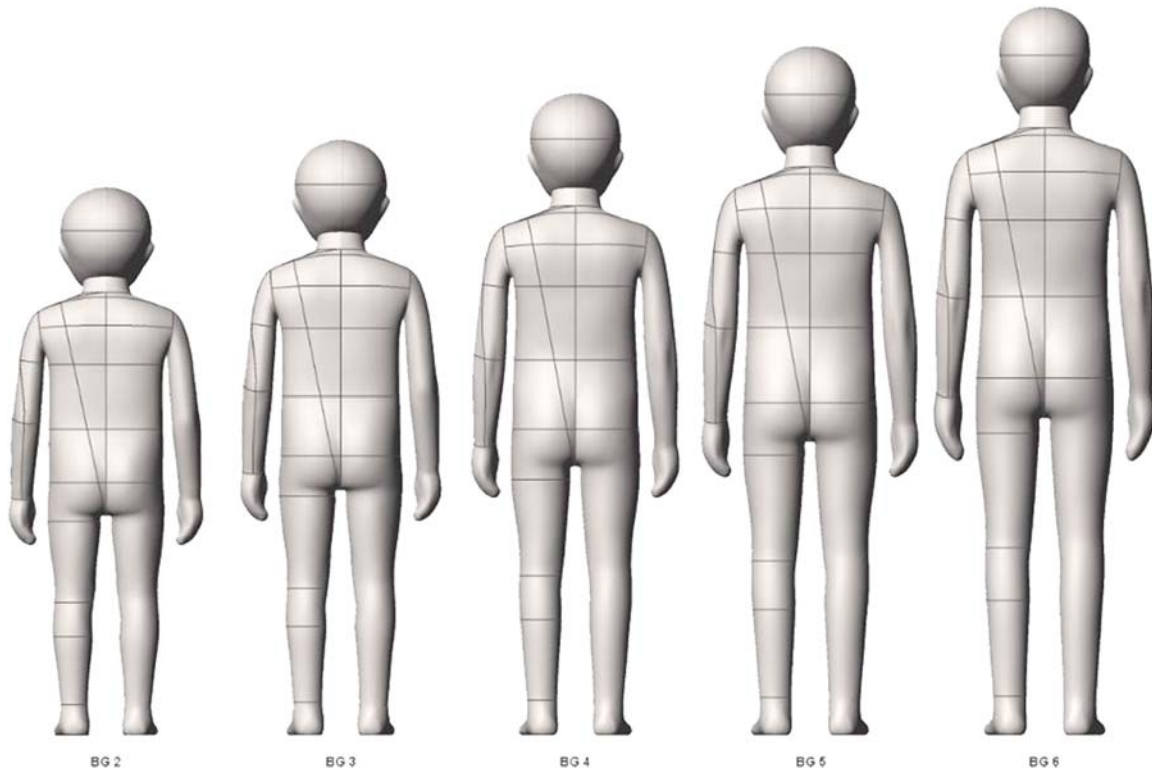


FIG. 3 Form Back 2-6

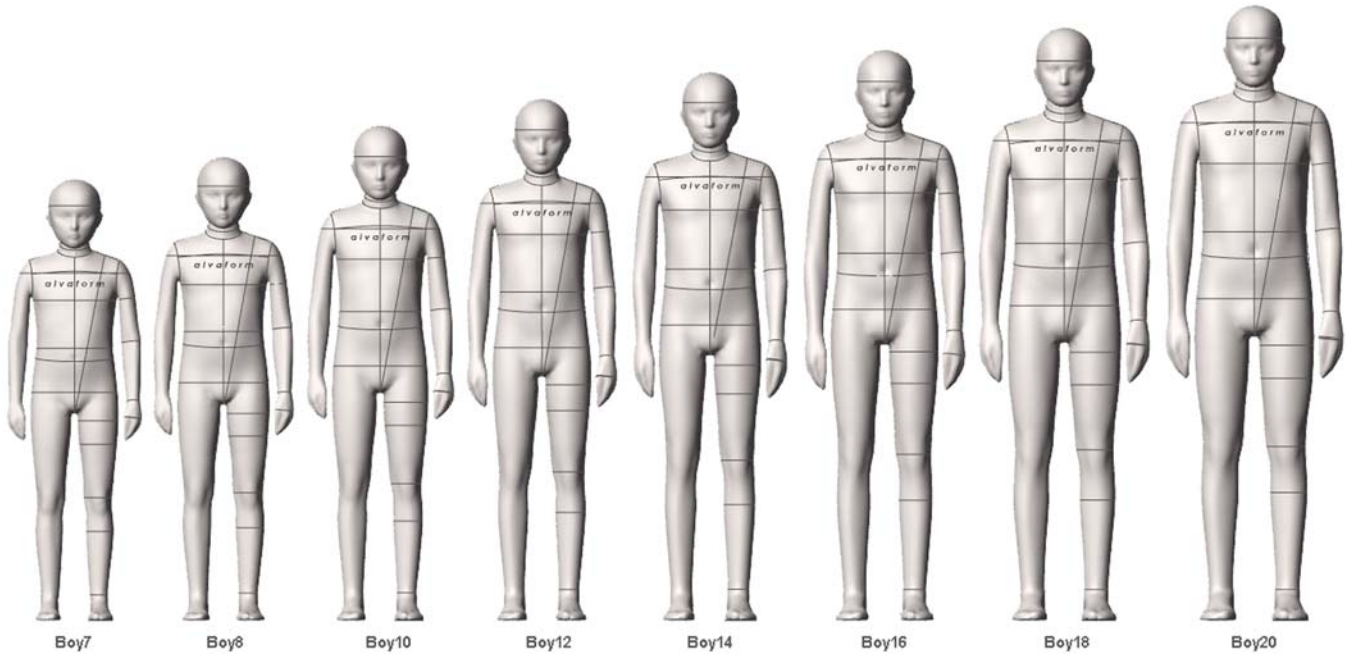


FIG. 4 Form Front 7-20 Reg. Boys

7. Keywords

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

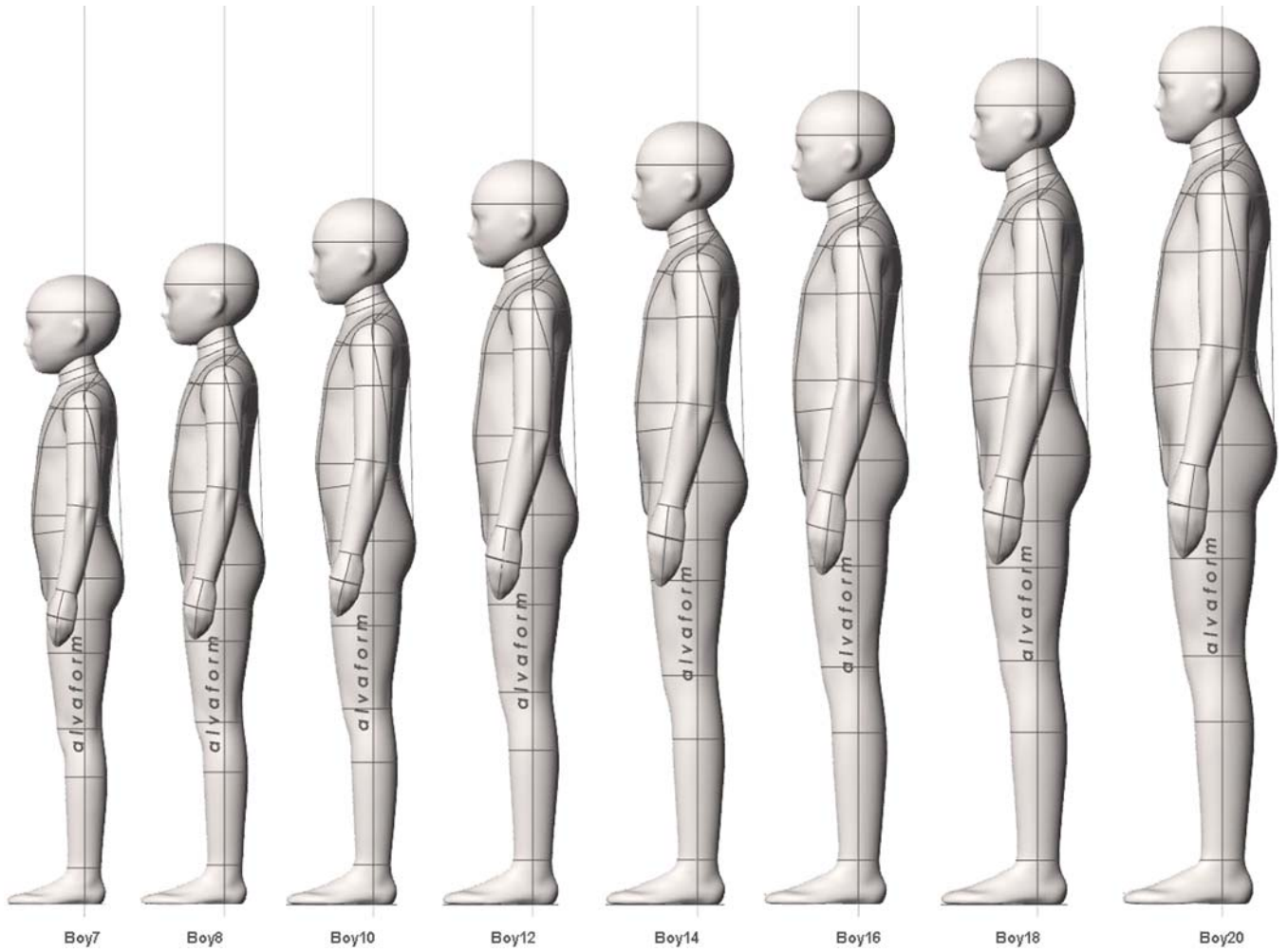


FIG. 5 Form Side 7-20 Reg. Boys

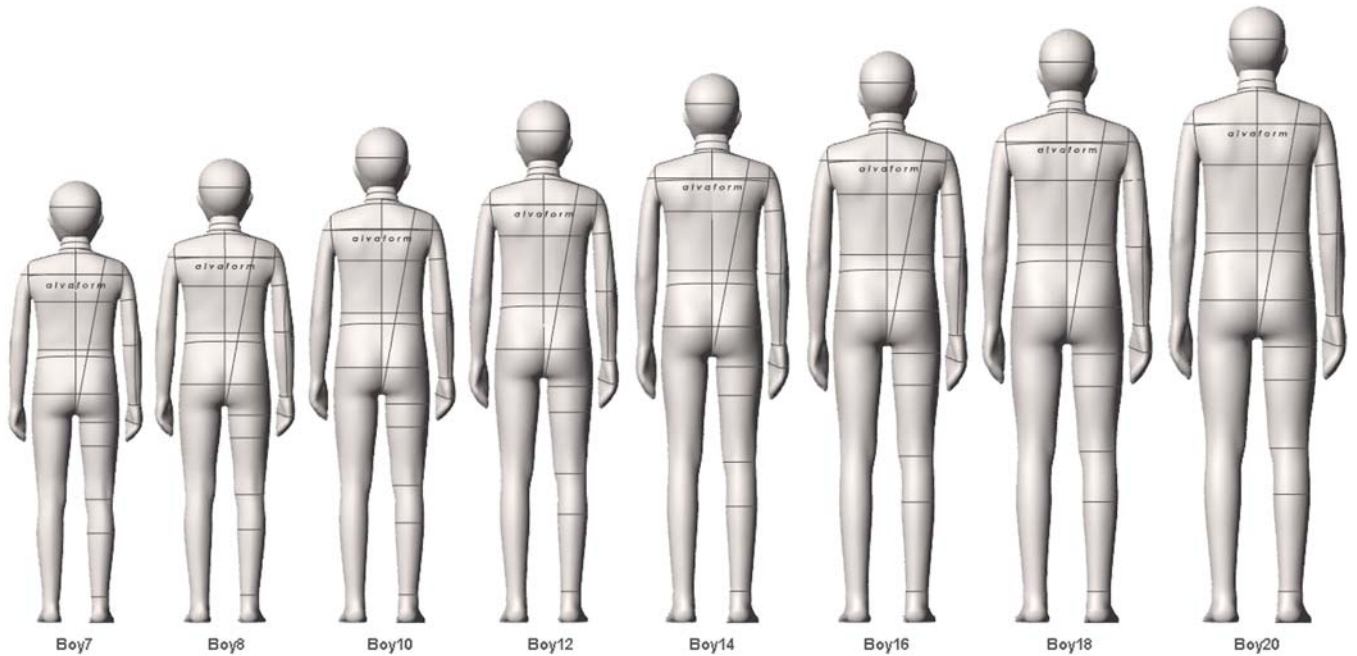


FIG. 6 Form Back 7-20 Reg. Boys

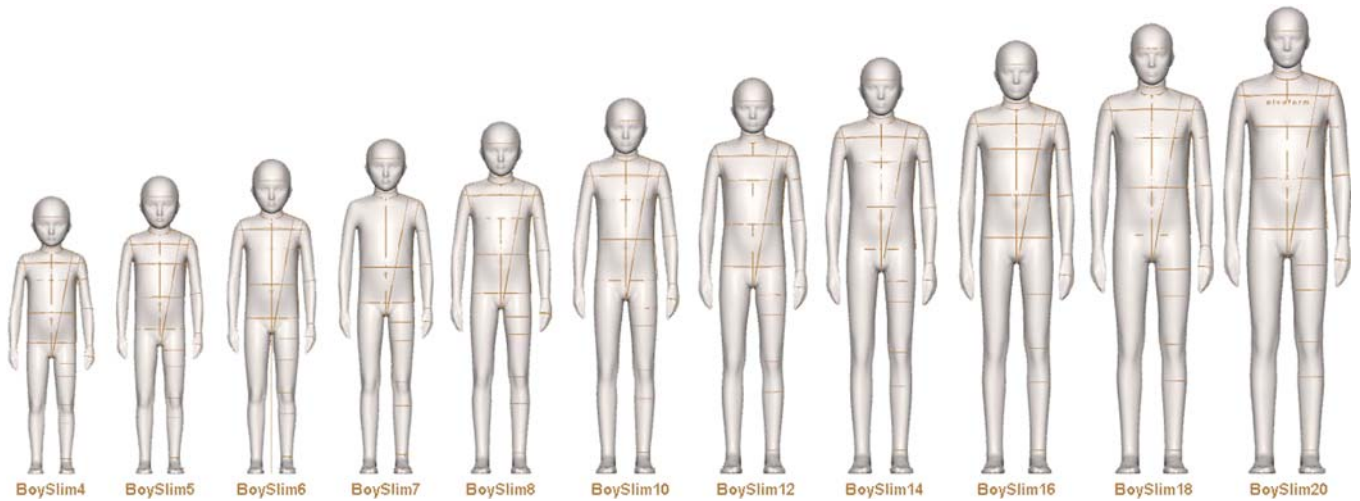


FIG. 7 Form Front 4-20 Slim Boys

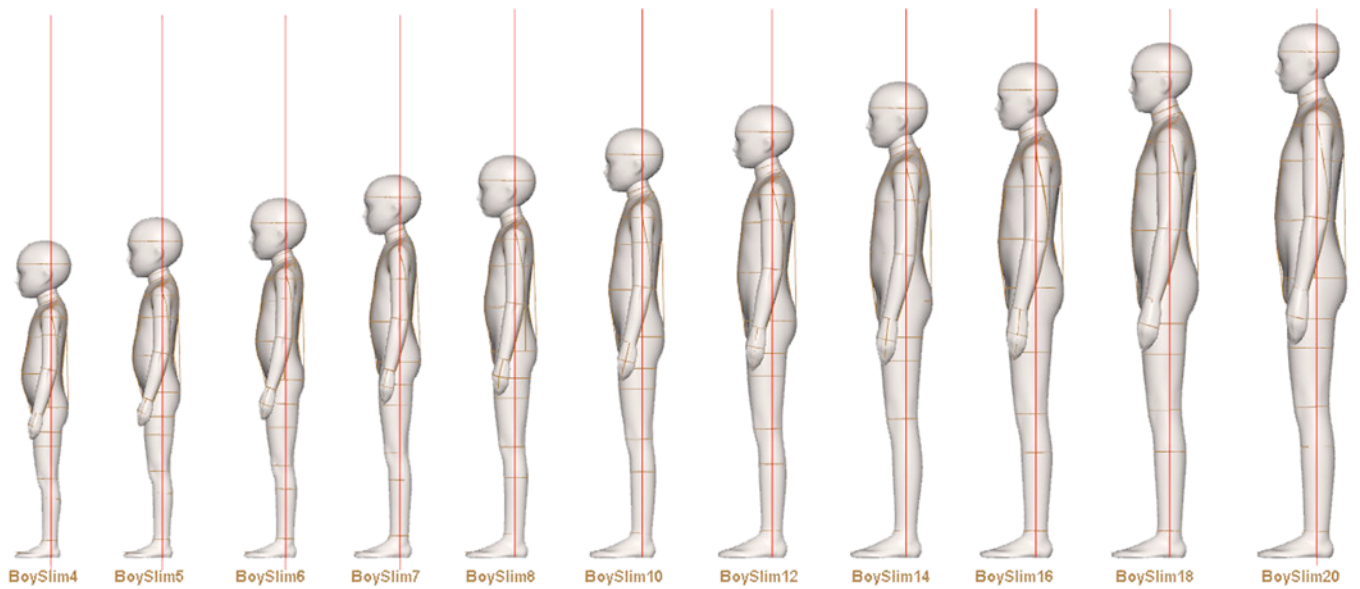


FIG. 8 Form Side 4-20 Slim Boys

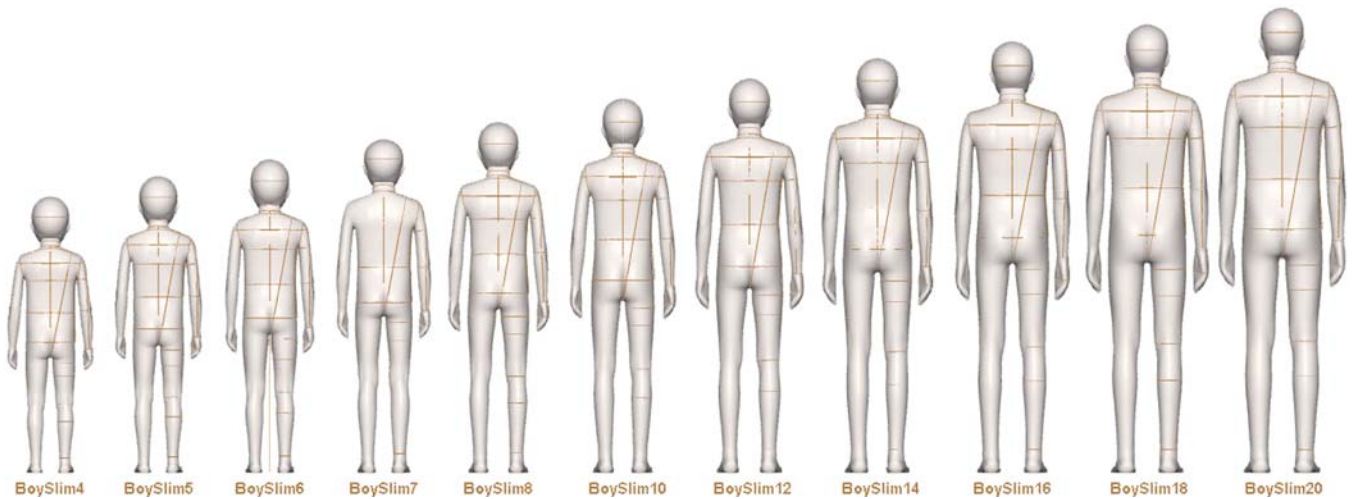


FIG. 9 Form Back 4-20 Slim Boys

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