

**Appendix 4.** L, M, and S parameters and z score for weight for length/height: boys 0 to 60 months.

Length (cm)	L	M	S	-3	-2	-1	0	1	2	3
55	-5.22E-02	4.211174	0.15163	2.735242	3.119095	3.623867	4.211174	4.899473	5.712845	6.548293
56	-4.52E-03	4.505047	0.150559	2.92206	3.336684	3.878794	4.505047	5.232942	6.085001	6.951499
57	4.09E-02	4.81281	0.149446	3.118406	3.565284	4.146272	4.81281	5.581453	6.473265	7.371871
58	0.083969	5.127459	0.148295	3.319972	3.799862	4.420338	5.127459	5.936845	6.868192	7.798707
59	0.124595	5.443422	0.147111	3.523377	4.036427	4.696239	5.443422	6.292678	7.262414	8.223768
60	0.162724	5.756722	0.1459	3.726268	4.272153	4.970579	5.756722	6.644396	7.650808	8.641435
61	0.198261	6.064595	0.144668	3.927082	4.505096	5.24099	6.064595	6.988877	8.029947	9.048053
62	0.231092	6.365169	0.143419	4.124819	4.733962	5.505864	6.365169	7.324058	8.397649	9.4414
63	0.261121	6.657638	0.142159	4.319142	4.958216	5.764497	6.657638	7.64911	8.753157	9.820849
64	0.28827	6.941967	0.140895	4.510187	5.177883	6.016844	6.941967	7.964096	9.096718	10.18688
65	0.312562	7.218402	0.13963	4.698201	5.393157	6.263091	7.218402	8.269394	9.42891	10.54029
66	0.334069	7.487235	0.13837	4.883406	5.604229	6.503452	7.487235	8.565426	9.750335	10.88186
67	0.352939	7.748405	0.137119	5.065726	5.810996	6.737824	7.748405	8.852207	10.0611	11.2118
68	0.369348	8.001916	0.135882	5.245079	6.013372	6.966153	8.001916	9.129822	10.36139	11.53034
69	0.383448	8.247896	0.134663	5.421443	6.211357	7.188489	8.247896	9.398495	10.65153	11.83792
70	0.395238	8.486559	0.133466	5.594887	6.405026	7.404957	8.486559	9.658567	10.93202	12.13521
71	0.404724	8.718436	0.132295	5.76567	6.594688	7.615957	8.718436	9.91074	11.20376	12.42328
72	0.411951	8.944277	0.131155	5.93418	6.78081	7.822082	8.944277	10.15594	11.46789	12.70349
73	0.416991	9.165001	0.130048	6.100902	6.963991	8.024079	9.165001	10.39529	11.72573	12.97733
74	0.419897	9.381637	0.128975	6.266417	7.144925	8.222801	9.381637	10.63	11.97872	13.24644
75	0.420712	9.595027	0.127938	6.431197	7.324183	8.418945	9.595027	10.86108	12.22803	13.51216
76	0.419462	9.805567	0.126937	6.595432	7.502007	8.612824	9.805567	11.08901	12.47425	13.77517
77	0.416212	10.01347	0.125973	6.759151	7.678476	8.804582	10.01347	11.31409	12.71774	14.0359
78	0.411028	10.21898	0.125048	6.922385	7.853685	8.99439	10.21898	11.53665	12.95893	14.29487
79	0.403992	10.42232	0.124165	7.085125	8.02769	9.182379	10.42232	11.75696	13.19817	14.55249

Source: El Mouzan MI, Shaffi A, Al Salloum A, Alqurashi MM, Al Herbish A, Al Omer A. Z-score growth reference data for Saudi preschool children. Ann Saudi Med 2017; 37(1): 10-15.

80	0.395171	10.62379	0.123325	7.247447	8.200638	9.368778	10.62379	11.97544	13.43597	14.80936
81	0.384616	10.82378	0.122529	7.409491	8.372742	9.553888	10.82378	12.19256	13.67291	15.06616
82	0.372369	11.02287	0.121777	7.571552	8.54438	9.738182	11.02287	12.40902	13.90979	15.32382
83	0.358468	11.22161	0.12107	7.73394	8.715935	9.922128	11.22161	12.62546	14.1474	15.58324
84	0.342957	11.42046	0.120407	7.896897	8.88771	10.1061	11.42046	12.8424	14.38633	15.84511
85	0.325884	11.61991	0.119786	8.060739	9.060081	10.29053	11.61991	13.06043	14.62726	16.11021
86	0.307326	11.82035	0.119205	8.225688	9.233327	10.47577	11.82035	13.28	14.87068	16.3791
87	0.287456	12.02211	0.118665	8.391853	9.407635	10.66207	12.02211	13.50145	15.117	16.65218
88	0.266462	12.22554	0.118163	8.559366	9.583216	10.84973	12.22554	13.72519	15.36662	16.9299
89	0.244482	12.431	0.117699	8.728409	9.760325	11.03906	12.431	13.95164	15.62004	17.21278
90	0.221584	12.63897	0.117272	8.899255	9.939292	11.23046	12.63897	14.18133	15.87784	17.50153
91	0.197808	12.84983	0.116882	9.072164	10.12041	11.42426	12.84983	14.41469	16.14056	17.79674
92	0.173183	13.06379	0.116525	9.2473	10.30387	11.62068	13.06379	14.652	16.40849	18.0988
93	0.147742	13.28081	0.116201	9.424645	10.48964	11.81966	13.28081	14.89316	16.68156	18.40765
94	0.121537	13.50062	0.115907	9.604056	10.67755	12.02101	13.50062	15.13789	16.95945	18.72295
95	0.09461	13.72304	0.11564	9.78542	10.86747	12.22456	13.72304	15.38593	17.24185	19.0444
96	6.69E-02	13.9482	0.115397	9.968919	11.05956	12.43046	13.9482	15.63746	17.52898	19.37227
97	3.85E-02	14.17669	0.115176	10.15507	11.25437	12.63927	14.17669	15.8931	17.82159	19.70749
98	9.11E-03	14.40929	0.114975	10.34454	11.45257	12.85171	14.40929	16.15373	18.12067	20.05125
99	-2.12E-02	14.64664	0.114791	10.53787	11.65473	13.06836	14.64664	16.42006	18.42707	20.40458
100	-0.05237	14.88883	0.114624	10.73514	11.86094	13.28933	14.88883	16.6922	18.74096	20.76774
101	-8.44E-02	15.13566	0.114473	10.93618	12.07102	13.51443	15.13566	16.96992	19.06211	21.14054
102	-0.11709	15.38697	0.114338	11.14087	12.28484	13.74351	15.38697	17.25305	19.3903	21.5228
103	-0.15047	15.64265	0.114217	11.3491	12.50232	13.97649	15.64265	17.54145	19.72541	21.91442
104	-0.1844	15.90248	0.114109	11.56069	12.72327	14.21317	15.90248	17.83488	20.06719	22.31516
105	-0.21883	16.16615	0.114014	11.77542	12.94744	14.45327	16.16615	18.13298	20.41524	22.72466
106	-0.25368	16.43321	0.113931	11.99294	13.17446	14.69639	16.43321	18.43524	20.76898	23.14232
107	-0.28891	16.70303	0.113859	12.2128	13.40385	14.94198	16.70303	18.74096	21.12766	23.56736

Source: El Mouzan MI, Shaffi A, Al Salloum A, Alqurashi MM, Al Herbish A, Al Omer A. Z-score growth reference data for Saudi preschool children. Ann Saudi Med 2017; 37(1): 10-15.

108	-0.32448	16.97503	0.113796	12.43457	13.63515	15.18953	16.97503	19.04947	21.49052	23.99901
109	-0.36038	17.24877	0.113742	12.65798	13.86802	15.43864	17.24877	19.36026	21.85701	24.43673
110	-0.39663	17.52391	0.113695	12.8828	14.10223	15.68905	17.52391	19.67295	22.22674	24.8802
111	-0.43321	17.80012	0.113654	13.10884	14.33753	15.94046	17.80012	19.98717	22.5993	25.32904
112	-0.47012	18.07711	0.113618	13.33591	14.57373	16.19264	18.07711	20.30256	22.97427	25.78288
113	-0.50735	18.35467	0.113585	13.56388	14.81067	16.44541	18.35467	20.61884	23.35137	26.24145
114	-0.54483	18.63268	0.113554	13.79268	15.04828	16.69868	18.63268	20.9359	23.73042	26.70462
115	-0.58251	18.91106	0.113525	14.02222	15.28649	16.95238	18.91106	21.25359	24.11126	27.17221
116	-0.62029	19.18974	0.113495	14.25242	15.52522	17.20646	19.18974	21.57181	24.49371	27.64406
117	-0.65809	19.46859	0.113466	14.48316	15.76437	17.4608	19.46859	21.89041	24.87757	28.11988
118	-0.69588	19.74756	0.113436	14.71436	16.00388	17.71535	19.74756	22.2093	25.26275	28.5997
119	-0.73366	20.02662	0.113406	14.94601	16.24372	17.97008	20.02662	22.52849	25.64927	29.08363
120	-0.77145	20.30577	0.113377	15.17809	16.48388	18.22498	20.30577	22.84794	26.03715	29.57181
121	-0.80923	20.58498	0.113347	15.41058	16.72433	18.48004	20.58498	23.16765	26.42638	30.06439
122	-0.84701	20.86423	0.113317	15.64346	16.96506	18.73522	20.86423	23.48758	26.81697	30.56148

Source: El Mouzan MI, Shaffi A, Al Salloum A, Alqurashi MM, Al Herbish A, Al Omer A. Z-score growth reference data for Saudi preschool children. Ann Saudi Med 2017; 37(1): 10-15.