

## APPENDICES

### APPENDIX 1

APPENDIX 1 – MOVEMENT DEVELOPMENT MILESTONES			
Age (years)	Fine Motor Skills	Hand-eye Skills	Gross Motor Skills
4	<p>7. holds the <b>pencil between fingers</b> (no longer holding the pencil in fist, but with the help of fingers)</p> <p>8. <b>drawing becomes recognizable</b>, drawing a person with three body parts or two-to-four-part person (head, torso, limbs) - the proportions are not yet exact, the Picture is mostly one-dimensional, a line indicates the limbs and torso sometimes, but it is already recognizable - the head is better first, then the body</p> <p>9. <b>likes to color</b></p> <p>10. copies cross, square</p> <p>11. cuts paper in half</p> <p>12. dresses no buttons</p> <p>13. ties single knot</p>	<p>14. <b>ball throwing:</b> with an overhead throw</p> <p>15. <b>ball handling:</b> catches bounced ball</p> <p>+lateral dominance is largely established, handedness becomes clear</p>	<p>16. <b>static balance:</b> standing on one foot for approx. 6 seconds (between 4-8 seconds) and for 2 seconds on tiptoes – reducing the support surface makes it difficult to maintain balance</p> <p>17. <b>dynamic balance:</b> jumping, running, climbing stairs - gladly solves more difficult tasks that require skill</p> <p>18. hops on one foot (approx. 2-3 times), climbs up and down climbing frames, slides</p> <p>19. jumping forward approx. 30-60 cm, jumping from a height of 70-80 cm, jumping forward with a pair of feet continuously, long; gallops</p> <p>20. jumping forward on one leg 3-5 jumps or 1 meter long</p> <p>21. walking: walks in a line with legs in front of each other, can carry a glass full of water without spilling</p>

			<p>22. walking backward in line</p> <p>23. running: can turn sharply, can stop suddenly</p> <p>24. walking down the stairs with alternate legs without holding on - can even walk on longer stairs at 8-10 steps with alternate legs; the steepness and unusual height of the stairs still disturbing, in which case they can still come down with a back step</p>
5	<p>25. <b>tripod pencil grasp</b></p> <p>26. <b>dresses</b> and <b>undresses</b> without assistance - unbuttons and buttons medium-size buttons</p> <p>27. <b>colours</b> between lines</p> <p>28. <b>draws person</b> with at least three body parts (mostly between 5-10)</p> <p>29. <b>"quasi" writing</b> - pretending to write</p> <p>30. <b>copies</b> triangle and square and other geometric <b>shapes</b></p> <p>31. <b>cuts</b> out a circle</p>	<p>32. <b>ball throwing</b> with trunk rotation: rotation of the trunk is already strongly engaged: the ball is over the shoulder, the elbow extension is still dominant during the throw, stepping forward with the same foot as the throwing arm during the throw</p> <p>33. <b>ball handling</b>: can throw a tennis ball 1-2 meters into the bin (spinal rotation is already activated); can now mostly catch a large ball, hip and knee flexion to make a soft catch</p> <p>34. can kick not only the stationary ball but also the rolling ball</p> <p>+lateral dominance is established, stabilized</p>	<p>35. <b>static balance</b>: standing on one foot for 8 to 10 seconds</p> <p>36. <b>dynamic balance</b>:</p> <p>37. walking, running, jumping</p> <p>38. walking on a beam, feet in front of each other</p> <p>39. walking on tip toes</p> <p>40. walking backward (heel-toe)</p> <p>41. jumping forward from a standing position at a distance of cca. 70-80 cm</p> <p>42. can turn backwards 180° by jumping up from a standing position</p> <p>43. jumping backwards with even feet 6 times in a row</p> <p>44. bunny hopping, frog jumping</p> <p>45. skipping with alternating feet</p>

			<p>46. hopping 8 to 10 times on one foot</p> <p>47. jumping over an object and landing with both feet together</p> <p>48. galloping, leaping</p> <p>49. leaping in place</p> <p>50. jumping up and down</p> <p>51. more precariously jumping forwards and backwards on even feet</p> <p>52. jumping forwards and upwards from one leg</p> <p>53. somersaulting without leaning sideways</p> <p>54. swinging, climbing</p>
6	<p>55. <b>builds</b>, plays with Legos, puts together puzzles</p> <p>56. can <b>eat properly</b> with a knife and fork</p> <p>57. while drawing, the <b>writing movements</b> already appear – perhaps they already try to write</p> <p>58. depiction is detailed</p> <p>59. draws a 12- to 14-part person</p> <p>60. <b>keeps the line</b> when coloring</p> <p>61. <b>ties shoes</b></p>	<p>62. sense of the ball continues to develop, <b>throwing</b> enters the mature phase</p> <p>63. already throws from a standing one leg forward (transverse lunge), the trunk also turns before throwing, the momentum of the arm movement during the throw is supplemented by the forward rotation of the trunk</p> <p>64. throws a small ball into a paper basket from a distance of up to 3-4 meters</p> <p>65. skillfully throws at the target from a distance of 2 meters</p>	<p>67. difficult walking, running and jumping situations: walks skillfully along the beam with his feet in front of each other, it is capable of crossing even half a meter while walking - e.g. over a puddle</p> <p>68. good at running and jumping, runs well on uneven ground, steep slopes and stairs, jumps, runs away, jumps over small ditches, tree trunks (obstacles)</p> <p>69. <b>static balance:</b></p> <p>a. standing on one leg with eyes open: 10-15 seconds; with eyes closed for 6-10 seconds (optimally,</p>

		<p>66. <b>catching the ball</b> also develops, the eye follows the movement of the incoming ball well, the hand position and arm movement changes according to the flight of the ball, when it comes into contact with the ball, it slows down its momentum by letting go of the arm</p> <p>+lateral dominance develops, so the hand on the dominant side is more skillful</p>	<p>the trunk does not swing out too much and the arms do not move significantly)</p> <p>70. <b>dynamic balance:</b></p> <ul style="list-style-type: none"> <li>a. can walk on the line with good balance even over longer distances - this can be tested with a 3-4 meter long taped line</li> <li>b. jump over a rope 25 cm high</li> <li>c. double-legged forward jump approx. 1 meter away</li> <li>d. jumping forward on one leg fast and long</li> <li>e. jumping on the spot on one leg 6-7 times continuously</li> </ul> <p>71. likes to try/practice various forms of exercise: hopscotch, jumping rope, roller skating, cycling</p> <ul style="list-style-type: none"> <li>a. can master the complex movements of sports movements - able to complete a 45-60 minute playful sports session</li> <li>b. can learn the basics of most sports movements: soccer, bicycle, roller skating, swimming, skiing, etc. - understands and follows rules</li> </ul>
7	<p>72. skilled in <b>craft techniques:</b> painting, drawing, cutting, gluing, paper folding, plastic molding</p>		<p>77. moves persistently and skillfully: soccer, bicycle, running, bouncing a ball</p> <p>78. complex movements, proper balance and</p>

	<p>73. helps with simple <b>housework</b>: peeling, chopping, stirring, cutting dough, sweeping, wiping</p> <p>74. movement coordination is becoming more and more skillful, can solve tasks that require fine motor skills</p> <p>75. he depicts events in <b>drawing</b>, human drawing includes at least 6 body parts</p> <p>76. drawings develop, differentiate, show details - e.g. pocket on the dress arcs, loops, waves - elements of writing movements appear</p>		<p>coordination are assumed</p>
7	<p>81. skilled in <b>craft techniques</b>: painting, drawing, cutting, gluing, paper folding, plastic molding</p> <p>82. helps with simple <b>housework</b>: peeling, chopping, stirring, cutting dough, sweeping, wiping</p> <p>83. movement coordination is becoming more and more skillful, can solve tasks that require fine motor skills</p> <p>84. he depicts events in <b>drawing</b>, human drawing includes at least 6 body parts</p> <p>85. drawings develop, differentiate, show details - e.g. pocket on the dress arcs, loops, waves -</p>		<p>86. moves persistently and skillfully: soccer, bicycle, running, bouncing a ball</p> <p>87. complex movements, proper balance and coordination are assumed</p>

	elements of writing movements appear		
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*Table 1: Motor skills and movement developmental milestones from age 4 to age 7*

*References:*

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