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MOBAK - KG

Basic motor competencies in kindergarten



TEST MANUAL



Imprint

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M O B A K - K G

Basic motor competencies in kindergarten

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TEST MANUAL



Executive Summary MOBAK-KG

Initial Situation

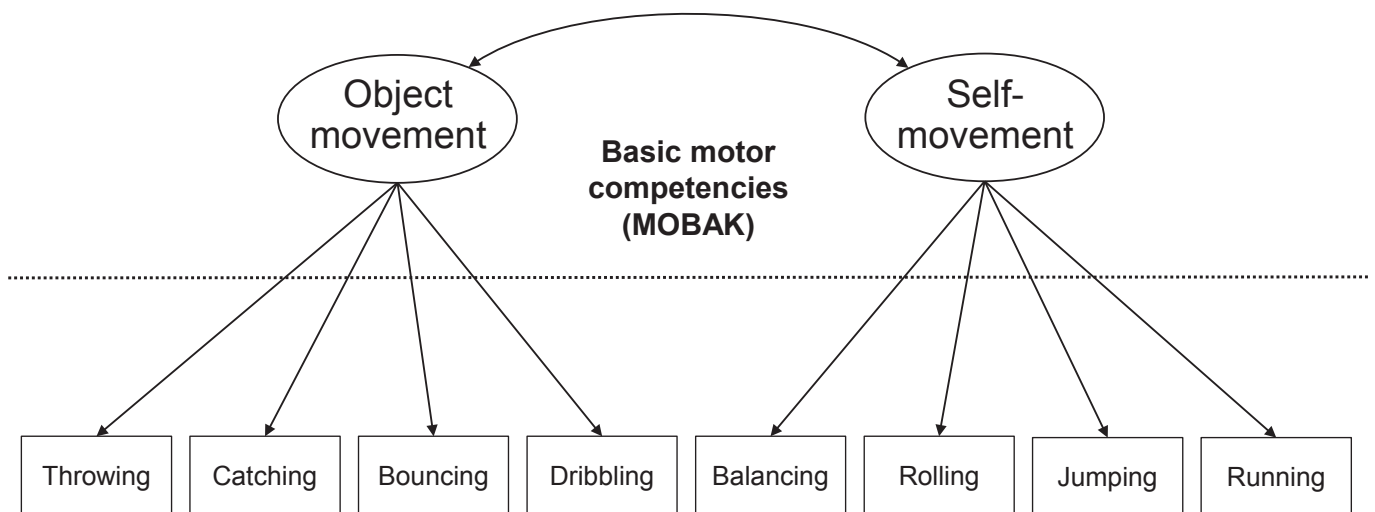
In the course of systematic quality assurance, increasingly the question to which extent learning outcomes are achieved by children in sports and physical education arises. The central learning objectives of physical education in kindergarden and primary school are the curriculum-based basic motor competencies that enable children to play an active part in the culture of sports and exercise.

Targeted diagnostics are an indispensable prerequisite for the systematic promotion of basic motor competencies. By describing the children's level of motor competencies, information is gained that helps teachers to adapt their methodical and didactic behaviour to the children's requirements. In order to assess and measure basic motor competencies, valid and practicable survey tools are needed.

Test setup and content

MOBAK-KG is designed for 4- to 6-year-old children. Thus, questions about the status and development of basic motor competencies in early childhood can be dealt with.

The basic motor competencies of *self-movement* are covered with four tasks (balancing, rolling, jumping, running) and *object movement* with four tasks (throwing, catching, bouncing, dribbling). The difficulty and complexity of the requirements set in the MOBAK items are adapted to the children's age.



Test implementation

The MOBAK-KG enables a standardized and economical assessment of basic motor competencies for scientific testing as well as sports teaching practice testing. The implementation of the curriculum-based MOBAK items is quickly and easily achieved in a sports hall. Each test task is explained and demonstrated once by the test leader.

For scientific testing, a supervised operation is recommended, in which a test leader completes each of the eight tasks with three or four children one after another. The full testing cycle takes about 35 minutes and can comfortably be done within a 45-minute physical education lesson.

For tests concerning sports teaching practice, it is recommended for items to be divided into several sports lessons and evaluated individually. This approach renders the use of the MOBAK-KG feasible for individual teachers.

Test assessment

The assessment of the MOBAK items is easily feasible due to dichotomous coding (pass vs. fail) and clear standardization criteria.

- MOBAK test items „throwing“ and „catching“: The children have six attempts each (no trial), with the number of hits or failed attempts being noted. Afterwards 0-2 hits or passed attempts are to be rated with 0 points, 3-4 hits or passed attempts with 1 point and 5-6 hits or passed attempts with 2 points.
- MOBAK test items „bouncing“, „dribbling“, „balancing“, „rolling“, „jumping“ and „running“: the children have two attempts to complete the test items (no trial). These items are dichotomously scaled (0 = failed, 1 = passed), with the number of successful attempts noted (never passed = 0 points, once passed = 1 point, passed twice = 2 points).

The criteria of passing / failing can be found in the descriptions of the test items.

Test evaluation

Through the formation of totals, the evaluation of the individual MOBAK test items and the two MOBAK competence areas *object movement* and *self-movement* can easily be done.

- Based on the scores 0 to 2, the MOBAK test items provide specific information on which child passed which test item and in which area there is need for support. This allows the content of lessons to be adapted to the current level of the children's performance.
- The MOBAK competence areas *object movement* and *self-movement* are calculated by the addition of the four MOBAK test items, respectively. A maximum of 8 points (4 test items x 2 points) can be achieved for each area:
object movement = „throwing“ + „catching“ + „bouncing“ + „dribbling“
self-movement = „balancing“ + „rolling“ + „jumping“ + „running“

The MOBAK competence areas provide information on a broader range of tasks than the MOBAK test items. Through the scoring system (0 to 8 points), the determination of the level of the basic motor competencies is made possible.

Test quality criteria

To ensure content validity, the design and selection of MOBAK-KG items were closely linked to the objectives in the German curricula. In a validation study (N = 403 children, 53% male, M = 5.69 years, SD = 0.56, range: 4.58-6.58 years) the construct validity of the MOBAK-KG was confirmed by confirmatory factor analyses. Reliability testing was also carried out with the help of confirmatory factor analyses, which enable assessment of reliability on construct measurement. The associated factor reliabilities (self-movement: FR = .67; object movement: FR = .71) are consistently satisfactory.

Application areas

MOBAK-KG allows for the assessment of the following questions on the status and the development of basic motor competencies:

- *Screening:* What is the current status of basic motor competencies?
- *Monitoring:* Are basic motor competencies achieved by children in physical education and how can physical education be optimized in this area?
- *Characterization of subpopulations:* What are differences between groups (e.g., gender, age) regarding basic motor competencies?
- *Diagnostics of special needs:* Which basic motor competencies should be specifically promoted (for the weaker ones)?
- *Description of the course of development:* How do basic motor competencies change in the course of children's development?
- *Intervention evaluation:* Do basic motor competencies change after a targeted intervention?

Summary

The MOBAK-KG enables a standardized and economic assessment of basic motor competencies in 4-6-year-old children. The implementation of the curriculum-based MOBAK items is quickly and easily achieved in a sports hall. Due to the dichotomous coding (passed vs. failed) and clear standardization criteria, the assessment of the items is easily and comprehensibly carried out. The evaluation is significantly facilitated by the formation of total values.



Evaluation table MOBAK-KG test instrument

Area:		Object movement						Self-movement			
		(1) Throwing	(2) Catching	(3) Bouncing	(4) Dribbling	(5) Balancing	(6) Rolling	(7) Jumping	(8) Running	Total points	
Item:		6	6	2	2	2	2	2	2		
Trials:											
Valuation:		0-2 hits / passed attempts = 0 pts. 3-4 hits / passed attempts = 1 pt. 5-6 hits / passed attempts = 2 pts.		0 passed attempts = 0 pts. 1 passed attempts = 1 pt. 2 passed attempts = 2 pts.		0 passed attempts = 0 pts. 1 passed attempt = 1 pt. 2 passed attempts = 2 pts.					
No.	Name	f/m	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Total points	
			(Hits)	(passed at- tempts)							
Item average:											
Class average:				Object movement:				Self-movement:			

Evaluation table MOBAK-KG test instrument

Area:			Object movement						Self-movement				Total points
Item:	(1) Throwing	(2) Catching	(3) Bouncing	(4) Dribbling	(5) Balancing	(6) Rolling	(7) Jumping	(8) Running				Total points	
									Trials:		Points		Points
Valuation:	0-2 hits / passed attempts = 0 pts. 3-4 hits / passed attempts = 1 pt. 5-6 hits / passed attempts = 2 pts.	6	2	2	2	2	2	2	0 passed attempts = 0 pts. 1 passed attempt = 1 pt. 2 passed attempts = 2 pts.				
No.	Name	f/m	(Hits)	Pts.	<small>(passed at-tempts)</small>	Pts.	Points	Points	Points	Points	Points	Points	Total points
Item average:			Object movement:					Self-movement:					
Class average:			Object movement:					Self-movement:					


Object movement

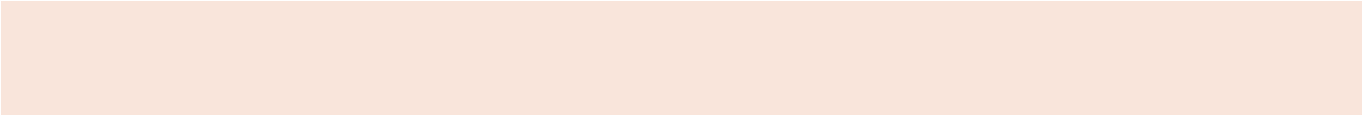
	Throwing (1) 	Catching (2) 	Bouncing (3) 	Dribbling (4) 
Qualification	Can hit a target with a ball.	Can catch a ball.	Can bounce and catch a ball.	Can dribble a ball without losing control.
Test set-up	The target is placed at 1.1 m (lower edge) height on a wall. 1.5 m in front of the target a scratch line is marked.	Two lines are marked with tape at a 1.5 m distance from each other. These lines are connected by a vertical line and marked in the middle at 0.75 m.	A ball is ready on an open area. A cross of tape is marked on the floor.	A corridor is marked with tape (2.8 x 9.0 m internal dimensions) with cones placed in all corners. After 3.0 m and after 6.0 m, a middle section of a vaulting box is placed transversely into the corridor.
Test item	The child throws six rounders from a scratch line at a target.	The test leader throws the basketball with obliquely outstretched arms onto the middle ground marking, so that the ball jumps about 1.1 m up. The child catches the ball after the bounce.	The child continuously bounces the ball to the floor with both hands and catches it again without losing the ball.	The child dribbles the ball with its feet around the vaulting box parts through the corridor.
Criteria	The child stands behind the vaulting box middle section. Hitting the target counts as a point.	The ball must be caught with the palms of the hands. The ball must not be caught in the „basket“ or pressed against the chest to hold it.	The ball must be bounced at least 5 times in a row without error from the beginning. The ball must not be lost. There must be an active acceleration of the ball by a forearm push (no dropping). The ball must be caught with the palms of the hands.	The child has to move forward smoothly and continuously. The ball may not be touched with the hands. The sides of the corridor may not be left neither by the child nor the ball. The side markings and the vaulting box sections may not be touched.
Valuation	6 attempts, the amount of successful attempts is recorded.	6 attempts, the amount of successful attempts is recorded.	2 attempts, the amount of successful attempts is recorded.	2 attempts, the amount of successful attempts is recorded.
Materials	<ul style="list-style-type: none"> • 6 rounders (diameter: 65 mm; weight: 80 g) • 1 round target (diameter: 40 cm) • Middle part of vaulting box • Tape (approx. 30 mm wide) 	<ul style="list-style-type: none"> • 1 small basketball (size 3; diameter: 17 cm) • 1 pole • Tape (approx. 30 mm wide) 	<ul style="list-style-type: none"> • 1 volleyball (size 5) • Tape (approx. 30 mm wide) 	<ul style="list-style-type: none"> • 1 futsal (size 4, weight: 350 g) • 4 cones • 2 vaulting box middle sections (L: 1.5 m) • Tape (approx. 30 mm wide)

Self-movement


	Balancing (5)	Rolling (6)	Jumping (7)	Running (8)
<p>Qualification</p>	<p>Can balance across a turned-over long bench.</p>	<p>Can roll forwards.</p>	<p>Can jump forwards continuously (one-legged).</p>	<p>Can run forwards and backwards.</p>
<p>Test set-up</p>	<p>A long bench is placed upside-down on the floor. On the middle of the bench, a distance of 3.0 m is marked with tape.</p>	<p>Two mats are laid one after another on a springboard. In front of the springboard, a upper section of a vaulting box is placed.</p>	<p>2 lines at a distance of 3.0 m are marked with tape and cones.</p>	<p>A corridor of 0.6 x 4.0 m is marked perpendicular to the wall with tape and cones. The start line (short side of the corridor) is marked with tape.</p>
<p>Test item</p>	<p>From the first marking, the child balances forward over the reversed long bench to the second marking, touches it and then balances backwards back to the first marking.</p>	<p>The child performs a forward roll on the downwardly inclined plane and comes to a standstill on its feet in one flow.</p>	<p>The child starts in a two-legged stand behind the starting line. It continuously jumps on one leg until it crosses the end line. Afterwards it turns and jumps on the other leg back to the starting line.</p>	<p>The child starts behind the starting line, runs forwards to the wall and touches it with his hand. Then it runs backwards until it touches the start line and repeats the whole sequence. Running back and forth twice in a row is considered one attempt.</p>
<p>Criteria</p>	<p>The child balances without stopping. Fluent forward and backward movement has to be visible. The markings must be touched. The bench may not be left. The hip of the child must be perpendicular to the long bench. Step-to-step technique is not allowed.</p>	<p>The movement execution is fluid without interruption. The rolling movement is straight with a round back and takes place over the neck and if necessary over the back of the head. No rolling off the sides/over the shoulders. The child may not stand up with crossed legs.</p>	<p>The child jumps continuously without stopping for more than 1 second. The one-legged jump must be maintained over the entire distance.</p>	<p>The child makes continuous steps and runs back and forth twice without interruption. Cones and side lines must not be touched. The wall and the start line must be touched. The hip (body transverse axis) remains perpendicular to the running direction.</p>
<p>Valuation</p>	<p>2 attempts, the amount of successful attempts is recorded.</p>	<p>2 attempts, the amount of successful attempts is recorded.</p>	<p>2 attempts, the amount of successful attempts is recorded.</p>	<p>2 attempts, the amount of successful attempts is recorded.</p>
<p>Materials</p>	<ul style="list-style-type: none"> • 1 long bench (38 cm high, at the bottom at least 3.2 m x 10 cm) • Tape (approx. 30 mm wide) 	<ul style="list-style-type: none"> • 2 gymnastic mats (approx. 7 cm thick) • Springboard • Upper section of a vaulting box 	<ul style="list-style-type: none"> • 4 cones • Tape (approx. 30 mm wide) 	<ul style="list-style-type: none"> • 6 cones • Tape (approx. 30 mm wide)

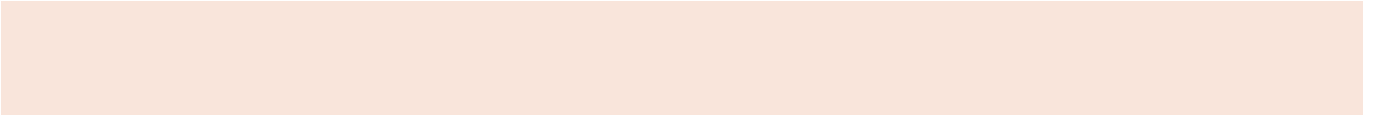
Throwing (1)

Test battery	MOBAK-KG	
Area	Object movement	
Qualification	Can hit a target with a ball.	
Test set-up	The target is placed at 1.1 m (lower edge) height on a wall. 1.5 m in front of the target a scratch line is marked. The long side of the middle section of a vaulting box is applied to the scratch line.	
Test item	The child throws six rounders from a scratch line at a target.	
Criteria	<ul style="list-style-type: none">• The child stands behind the vaulting box middle section.• Hitting the target counts as a point.	
Valuation	6 attempts, amount of hits is recorded.	
Materials	<ul style="list-style-type: none">• 6 rounders (diameter: 65 mm; weight: 80 g)• 1 round target (diameter: 40 cm)• Middle section of a vaulting box• Tape (approx. 30 mm wide)	
Instruction/ Demonstration	„Stand behind the vaulting box and throw the balls at the target. You have six attempts in total. Have a look, I'll show it once.“ (demonstration)	
Information for the test leader	<ul style="list-style-type: none">• The type of throwing is selected freely (pushing the ball is allowed).• Demonstration of an impact throw.	




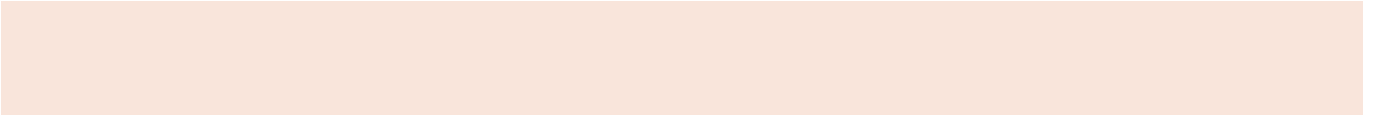
Catching (2)

Test battery	MOBAK-KG	
Area	Object movement	
Qualification	Can catch a ball.	
Test set-up	Two lines are marked with tape at a 1.5 m distance from each other. These lines are connected by a vertical line and marked in the middle at 0.75 m with tape. For orientation, a pole is marked at a height of 1.1 m and placed next to the line.	
Test item	The test leader and the child stand behind the lines 1.5 meters apart. The test leader throws the basketball with obliquely outstretched arms onto the middle ground marking, so that the ball jumps about 1.1 m up. The child catches the ball after the bounce.	
Criteria	<ul style="list-style-type: none">• The ball is caught after the bounce.• The ball must be caught with the palms of the hands.• The ball must not be caught in the „basket“ or pressed against the chest to hold it.	
Valuation	6 attempts, the amount of successful attempts is recorded.	
Materials	<ul style="list-style-type: none">• 1 small basketball (size 3; diameter: 17 cm)• 1 pole• Tape (approx. 30 mm wide)	
Instruction/ Demonstration	„Position yourself behind the line. I will drop the ball on the floor once so it bounces back. Try to catch the ball after the bounce. Catch the ball with your hands so it does not touch your chest.“ (demonstration)	
Information for the test leader	<ul style="list-style-type: none">• Demonstration: Test leader positions himself in front of the child and holds up the ball in front of his head.• The ball may be caught with both hands.• The test leader should practice the throwing of the ball to make sure the ball bounces up 1.1 m.• Beware of scattering balls.• The ball may be caught directly after the bounce or after passing the reversal point.	




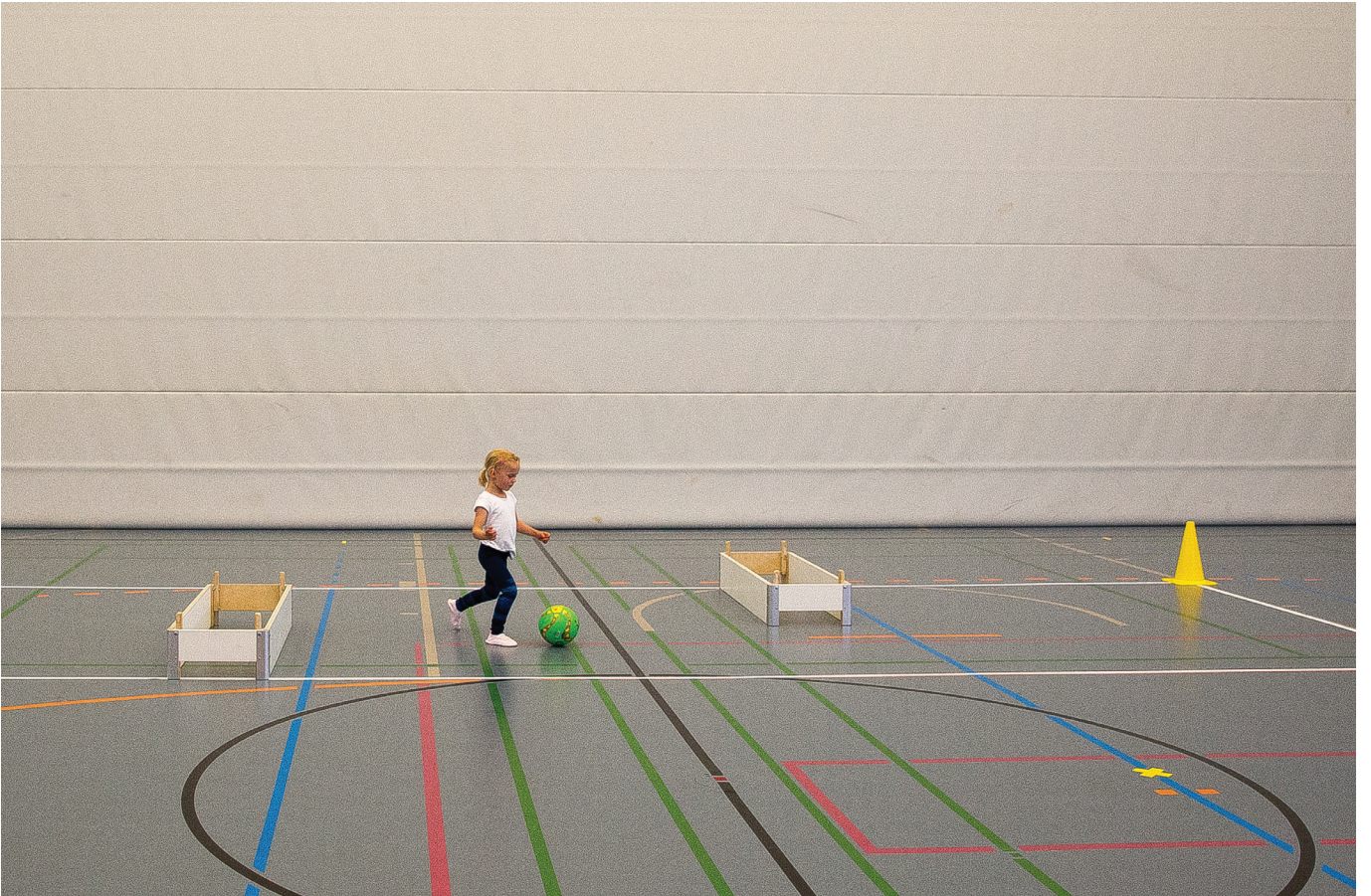
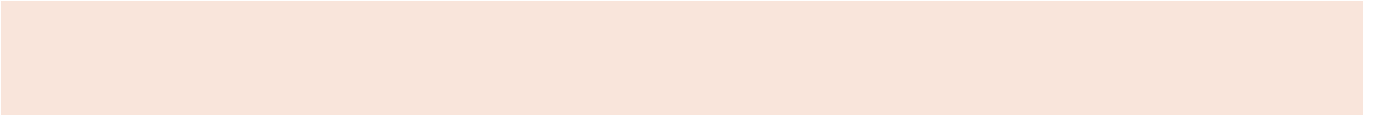
Bouncing (3)

Test battery	MOBAK-KG	
Area	Object movement	
Qualification	Can bounce and catch a ball.	
Test set-up	A ball is ready on an open area. A cross of tape is marked on the floor.	
Test item	The child continuously bounces the ball to the floor with both hands and catches it again without losing the ball.	
Criteria	<ul style="list-style-type: none">• The ball must be bounced at least 5 times in a row without error from the beginning.• The ball must not be lost.• There must be an active acceleration of the ball by a forearm push (no dropping).• The ball must be bounced rhythmically on the floor.• A maximum of 1 sec may pass between the bounces.• The ball must be caught at approx. drop height.• The ball must be caught with the palms of the hands.	
Valuation	2 attempts, the amount of successful attempts is recorded.	
Materials	<ul style="list-style-type: none">• 1 volleyball (size 5)• Tape (approx. 30 mm wide)	
Instruction/ Demonstration	„Stand with the ball in your hands and your legs slightly straddled. Bounce the ball on the ground and catch it again. Do it as often as you can. I'll tell you when to stop. Have a look, I'll show it once.“ (demonstration)	
Information for the test leader	<ul style="list-style-type: none">• Demonstration with slightly straddled legs.• One-handed bouncing is allowed.• Allow the child to bounce up to ten times per trial, then ask to stop.• As soon as an error occurs, the attempt is considered terminated.	




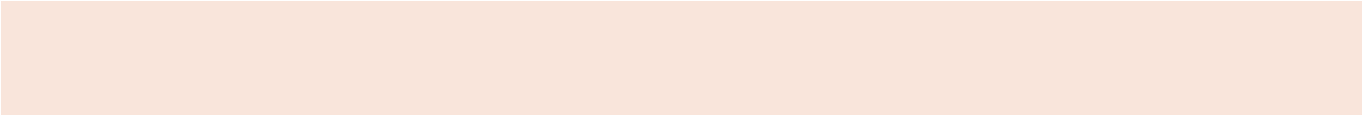
Dribbling (4)

Test battery	MOBAK-KG	
Area	Object movement	
Qualification	Can dribble a ball without losing control.	
Test set-up	A corridor is marked with tape (2.8 x 9.0 m internal dimensions) with cones placed in all corners. After 3.0 m and after 6.0 m, a middle section of a vaulting box is placed transversely into the corridor. The starting point in the middle of the short side of the corridor is marked with a cross of tape.	
Test item	The child dribbles the ball with its feet around the vaulting box parts through the corridor.	
Criteria	<ul style="list-style-type: none">• The child has to move forward smoothly and continuously.• The ball may not be touched with the hands.• The sides of the corridor may not be left neither by the child nor the ball.• The side markings may not be touched.• The vaulting box parts may not be touched.	
Valuation	2 attempts, the amount of successful attempts is recorded.	
Materials	<ul style="list-style-type: none">• 1 futsal (size 4, weight: 350 g)• 4 cones• 2 vaulting box middle sections• Tape (approx. 30 mm wide)	
Instruction/ Demonstration	„Stand behind the start line with the ball on your foot. Dribble the ball between the vaulting box sections through the corridor to the finish line. Stay in the field between the two lines and try not to touch the vaulting box parts. Have a look, I'll show it once.“ (demonstration) “Remember that speed doesn't matter. What matters is that the task is completed without error.“	
Information for the test leader	<ul style="list-style-type: none">• The ball may be dribbled with both feet.• The child may not stop for more than 1 second.• Contests between the children, which lead to improper execution of the task, should be stopped early.	




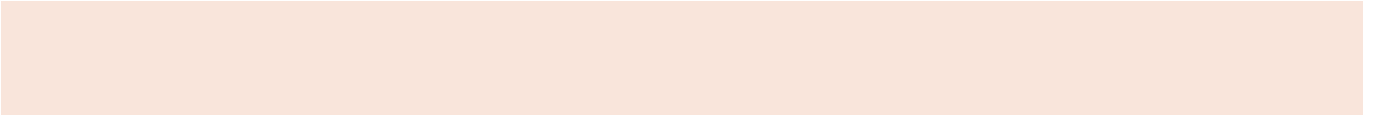
Balancing (5)

Test battery	MOBAK-KG	
Area	Self-movement	
Qualification	Can balance across a turned-over long bench.	
Test set-up	A long bench is placed upside-down on the floor with one end facing the wall. On the middle of the bench, a distance of 3.0 m is marked with tape.	
Test item	From the first marking, the child balances forward over the reversed long bench to the second marking, touches it and then balances backwards back to the first marking.	
Criteria	<ul style="list-style-type: none">• The child balances without stopping.• Fluent forward and backward movement has to be visible.• The marking must be touched.• The bench may not be left.• Balancing sideways is not allowed.• The hip of the child must be perpendicular to the long bench.• Step-to-step technique is not allowed.	
Valuation	2 attempts, the amount of successful attempts is recorded.	
Materials	<ul style="list-style-type: none">• 1 long bench (38 cm high, at the bottom 10 cm wide and at least 3.2 m long)• Tape (approx. 30 mm wide)	
Instruction/ Demonstration	„Step onto the bench and try to balance across. First you balance forward to the marking and then backwards to the first marking. Have a look, I'll show it once.“ (demonstration)	
Information for the test leader	<ul style="list-style-type: none">• The child may not stop for more than 1 sec.• Corrections to keep the balance are allowed.• The test leader announces the reaching of the end mark when going backwards.	




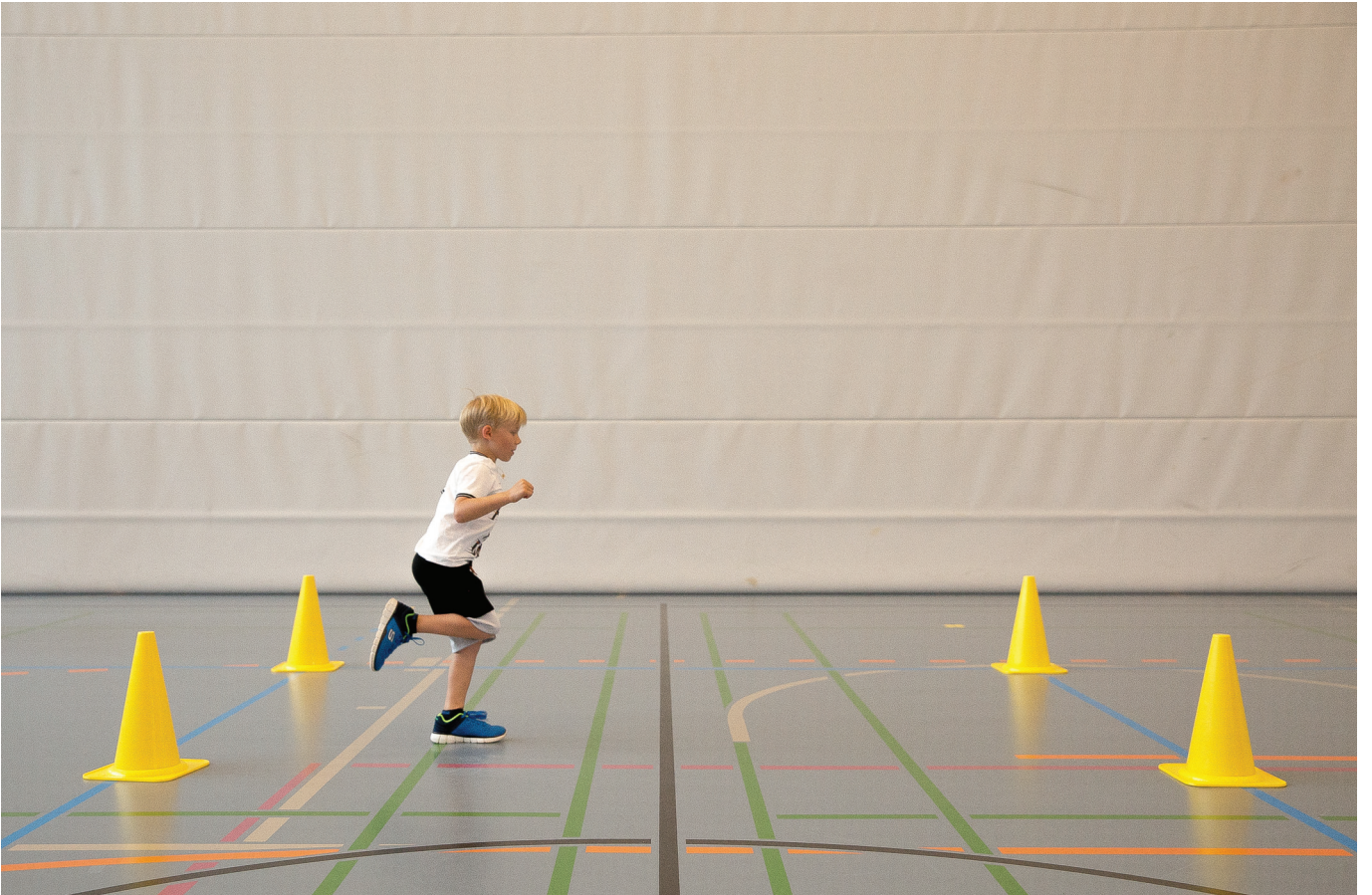
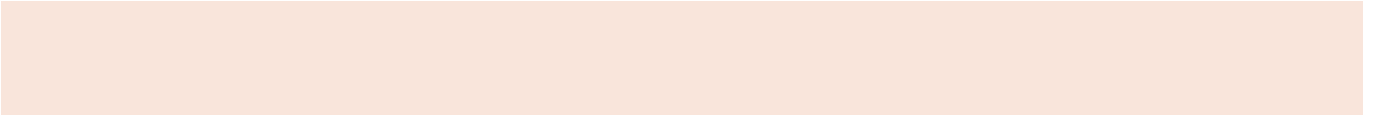
Rolling (6)

Test battery	MOBAK-KG	
Area	Self-movement	
Qualification	Can roll forwards.	
Test set-up	Two mats are laid one after another on a springboard, forming a downwardly inclined plane. In front of the springboard, an upper section of a vaulting box is placed.	
Test item	The child performs a roll forward on the downwardly inclined plane and comes to a standstill on its feet in one flow.	
Criteria	<ul style="list-style-type: none">• The movement execution is fluid without interruption.• The rolling movement is straight with a round back and takes place over the neck and if necessary over the back of the head.• No rolling off the sides/over the shoulders.• The child may not stand up with crossed legs.	
Valuation	2 attempts, the amount of successful attempts is recorded.	
Materials	<ul style="list-style-type: none">• 2 gymnastic mats (approx. 7 cm thick)• Springboard (or see-saw block)• Upper section of a vaulting box	
Instruction/ Demonstration	„Stand on top of the vaulting box section. Squat down and place your hands in front of you. Place your chin onto your chest and roll forward on the mat into a stand. You may lean on your hands when getting up. Have a look, I'll show it once.“ (demonstration without support of hands when getting up)	
Information for the test leader	<ul style="list-style-type: none">• Start from a squatted position. The chin is on the chest.• The hands may assist in getting up.• The test leader provides an example of a safe position. If intervening is necessary, the attempt counts as failed.	




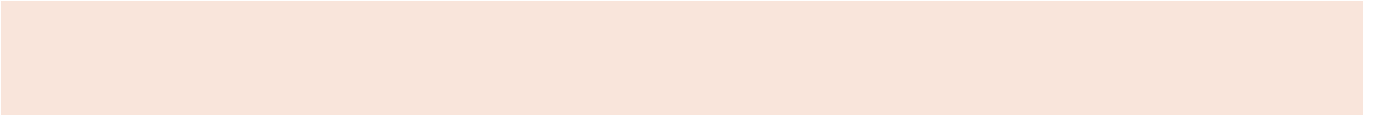
Jumping (7)

Test battery	MOBAK-KG	
Area	Self-movement	
Qualification	Can jump forwards continuously (one-legged).	
Test set-up	2 lines at a distance of 3.0 m are marked with tape and cones.	
Test item	The child starts in a two-legged stand behind the starting line. It continuously jumps on one leg until it crosses the end line. Afterwards it turns and jumps on the other leg back to the starting line.	
Criteria	<ul style="list-style-type: none">• The child jumps continuously without stopping for more than 1 second.• The one-legged jump must be maintained over the entire distance.	
Valuation	2 attempts, the amount of successful attempts is recorded.	
Materials	<ul style="list-style-type: none">• 4 cones• Tape (approx. 30 mm wide)	
Instruction/ Demonstration	„Stand behind the starting line with both legs. Jump on one leg over to the end line. After that, turn around and jump over to the start line on the other leg. Have a look, I'll show it once.“ (demonstration)	
Information for the test leader	<ul style="list-style-type: none">• The child decides freely with which leg it starts.• For the direction change the child may stand with both feet for a short moment.• After the completion of the first jumping distance, the test leader gives an indication that the jumping leg must be changed.	



Running (8)

Test battery	MOBAK-KG	
Area	Self-movement	
Qualification	Can run forwards and backwards.	
Test set-up	A corridor of 0.6 x 4.0 m is marked perpendicular to the wall with tape and cones. The start line (short side of the corridor) is marked with tape.	
Test item	The child starts behind the starting line, runs forward to the wall in the corridor and touches it with his hand. Then it runs backwards until it touches the start line and repeats the whole sequence. Running back and forth twice in a row is considered one attempt.	
Criteria	<ul style="list-style-type: none">• The child makes continuous steps and runs back and forth twice without interruption.• The cones and the side lines must not be touched.• The wall and the start line must be touched.• The hip (body transverse axis) remains perpendicular to the running direction.	
Valuation	2 attempts, the amount of successful attempts is recorded.	
Materials	<ul style="list-style-type: none">• 6 cones• Tape (approx. 30 mm wide)	
Instruction/ Demonstration	„Stand behind the starting line between the cones. Now run forward to the wall and touch it. Then you run backwards until you touch the start line between the cones and do the same again. Stay between the cones on the sides. Have a look, I'll show it once.“ (demonstration)	
Information for the test leader	<ul style="list-style-type: none">• Demonstrate with indication: forward, backwards, forward and backwards again.• After the first sequence, the test leader may give a reminder to repeat the sequence to complete the attempt.	



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