FUNCTIONALLY BASED EXERCISE PROGRAM

for children and adolescents with Cerebral Palsy

GMFCS level I and II
The fitness program described in this book is developed for children and adolescents with Cerebral Palsy, classified at GMFCS level I or II. This program is used in a randomized controlled trial that examined the effects of a functionally based fitness program.*

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* Exercise Training Program in Children and Adolescents With Cerebral Palsy. A Randomized Controlled Trial  
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Introduction

Cerebral Palsy (CP) describes a group of permanent disorders of the development of movement and posture, causing activity limitation, that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. The motor disorders of CP are often accompanied by disturbances of sensation, perception, cognition, communication, and behaviour, by epilepsy and by secondary musculoskeletal problems.\(^1\)

The Gross Motor Function Classification System (GMFCS)\(^2\) is considered to be one of the most important scales for the measurement of function in CP. It was designed primarily to help clinicians prognosticate about the motor function of individuals with CP. The GMFCS consists of a 5-level scale with descriptors divided into four age bands: 0 to < 2 years, 2 to <4 years, 4 to < 6 years, and 6 to 12 years. Children at Level I are relatively capable and by the time they reach 6 to 12 years old they can walk without limitations and can run and jump to some extent, with difficulties arising only with balance speed, and coordination. At the other end of the scale, children at Level V will never achieve self-mobility unless they can learn to use a powered wheelchair with extensive adaptations. The GMFCS is based on self-initiated movements only, concentrating mostly on truncal control in sitting and functional mobility, taking into consideration everyday performance, rather than best capacity.

The ‘Surveillance of Cerebral Palsy ‘ in Europe (SCPE)\(^3\) has classified CP into three main subtypes. These are spastic, ataxic and dyskinetic CP. Agreement has been reached on the clinical findings associated with each classification sub-group as follows:

*Spastic CP* is characterised by at least two of: 1) Abnormal pattern of posture and/or movement, 2) Increased tone (not necessarily constantly), 3) Pathological reflexes (hyper-reflexia or pyramidal signs e.g. Babinski response). It may be unilateral or bilateral. *Ataxic CP* is characterised by both of 1) Abnormal pattern of posture and/or movement, 2) Loss of...
orderly muscular co-ordination, so that movements are performed with abnormal force, rhythm and accuracy. Dyskinetic CP is characterised by both of 1) Abnormal pattern of posture and/or movement, 2) Involuntary, uncontrolled, recurring, occasionally stereotyped movements of affected body parts. Dyskinetic CP may be either a) Dystonic CP, dominated by both hypokinesia and hypertonus, b) Choreo-athetotic CP, dominated by both hyperkinesia and hypotonus.

As described above, the primary deficit in CP is an injury to the brain, not to the musculoskeletal or cardio-respiratory systems. However, the limitations in movement imposed by the brain lesion can have a marked secondary effect on these systems, which may in turn become more debilitating for an individual with CP than the direct effects of the initial injury. The secondary changes contribute to a vicious cycle whereby the disability leads to deconditioning that, in turn, worsens the level of disability. Muscles need to be loaded adequately and frequently to maintain strength. Similarly, in people with CP as in all people, the heart and lungs need to be exercised at moderately intense levels on a regular basis to maintain endurance and fitness. People with CP are already at a disadvantage with respect to achieving adequate levels of physical functioning because muscles and the cardio-respiratory system are not fully developed before the brain injury occurs and, therefore, are likely to have a lower starting point as well as slowed progress in developing these structures.

It is becoming increasingly apparent that many of the adverse secondary changes may be preventable or reversible, although the extent to which this is possible has not been sufficiently explored or aggressively challenged. Management of motor disorder in CP is shifting gradually from the long-standing approach of alleviating impairments once they have occurred to a more proactive approach of promoting the type and degree of activity that may
retard the development of muscle weakness. Alleviating the energy cost of performing typical daily activities is now a more frequently recognized and stated goal of motor interventions. Muscle strength and endurance training can be undertaken to improve performance of everyday activities. However, fitness implies a more generalized and greater degree of conditioning.

While health prevention and promotion efforts for persons with disabilities lag behind those for the non-disabled population, the potential benefits are enormous in terms of participation and health-related quality of life across the lifespan.

As stated in the revised ‘Guide to Physical Therapist Practice’ of the American Physical Therapy Association, the role of the physical therapist is ‘to restore, maintain, and promote not only optimal physical function, but optimal wellness and fitness and optimal quality of life as it relates to movement’, which marks a significant expansion from its traditional mission. Strength, endurance, and fitness goals should be included in physical therapy treatment plans for the patients.

**Importance of improving strength, endurance and fitness in CP**

Historically, programs to promote physical fitness, including strengthening and cardio respiratory fitness exercise, were discouraged for patients with CP due to the concern that spasticity and abnormal movement patterns would worsen. Therefore, traditional treatment of CP has focused primarily on attempting to improve abnormal motor patterns and maintain muscle length for daily activity and positioning. The historically used approaches failed to address adequately the ensuing muscle weakness, atrophy, and negative effects of diminished amounts and intensity of activity on the cardio-respiratory system. While these secondary consequences have been recognized in CP for many decades, in the past, only a handful of proponents such as Winthrop Phelps advocated physically intensive intervention. Scientific
Functionally based exercise program for children and adolescents with cerebral palsy. Olaf Verschuren, 2009

Evidence has not supported the historically concern about the negative influence of physical fitness\(^{14-16}\) and current research indicates that resistive exercise and endurance training is an effective intervention to improve strength, aerobic capacity and function in children and adolescents with CP.\(^{6,17}\)

Documentation exists showing that individuals with CP have substantial generalized weakness.\(^{18,19}\) Durstine and colleagues\(^{5}\) described the circular process whereby persons with a chronic illness or disability experience less physical activity, which then leads to a cycle of deconditioning and further physical deterioration and reduction in activity (Figure 1). Many persons with CP lead a sedentary lifestyle with a decreased amount, variety, and intensity of physical activity.\(^{4}\) Therefore, it is not surprising that also low levels of cardio-respiratory fitness have been reported.\(^{20-24}\)

Fig.1 Cycle of deconditioning with physical inactivity. Disease can lead to inactivity and deconditioning. Deconditioning can lead to further inactivity and increase the potential for disability.

Improving the ability to walk or performing other functional activities are often the primary therapeutic goals for children with CP.\(^{25}\) Because of existing impairments, many children and adolescents with CP have at least difficulty with activities such as walking independently, walking stairs, running or navigating safely over uneven terrain.\(^{26}\) Additionally, children with CP have distinctly subnormal aerobic and anaerobic capacity in comparison with typically developing peers.\(^{20,27,28}\) Also, muscle mass is low,\(^{20}\) muscle strength is reduced\(^{19,24,29}\) and energy cost of locomotion is high.\(^{30-32}\) Low levels on these fitness components may contribute
to the difficulties in motor activities most children with CP encounter in daily life. Moreover, evidence suggests that hypoactive children are more likely to become physically sedentary adults and that encouraging the development of physical activity habits in children will help us to establish activity patterns that continue into adulthood.\textsuperscript{33}

The main question in this thesis is: “Do children with CP benefit from a fitness intervention program?” We focused on children that are classified at GMFCS level I and II. Due to the physical demands of the fitness tests and training exercises that were used throughout the study, recruitment solicited only children and adolescents who were classified at GMFCS level I (able to walk indoors and outdoors, and climb stairs without limitation) or level II (able to walk indoors and outdoors, and climb stairs holding onto a railing but experience limitations in walking on uneven surfaces and inclines, and walking in crowds or confined spaces).

The effects of this training program were considered by using the International Classification of Functioning, Disability and Health (ICF) framework for the description of health.\textsuperscript{34} The ICF is applicable across cultures, age groups and sexes. In this framework, a person’s disability can be considered in terms of impairments, activity limitations, and participation restrictions. The ICF classification served as a framework for the present study.
Principles of fitness training.

Training to improve a child’s performance obeys the three principles of training: specificity, overload and reversibility.\textsuperscript{35,36}

**Specificity**

The application of the ‘Specific Adaptation to Imposed Demands (SAID)’ principle is essential in type of training.\textsuperscript{37} Training programs are tailored to the exact demands of the activity and the individual needs of the child. This allows for specific gains to be made on the relative energy systems employed during training.

Specificity is an important principle in strength training, where the exercise must be specific to the type of strength required, and is therefore related to the particular demands of the event.

**Overload**

For training adaptations to occur the bodies systems must be overloaded beyond their normal levels. If these extra stresses are applied over a period of time the system will adapt and this becomes its new norm. During this adaptation phase the bodies systems super or over compensate in order to cope with the next session. Training in this way along with sufficient recovery will allow for super compensation to occur thus resulting in an overall increase in fitness levels.

**Reversibility or Detraining**

During periods of exercise the human body makes adaptations to cope with the stresses placed on it. During periods of inactivity the human body will however reverse these adaptations in an attempt to return itself to a norm as this is the current level of stress placed upon it. Therefore gains that have been made will be lost.
De-training is a de-conditioning process that affects performance due to the reduction in physiological capacity. During this period there is a loss of physiological adaptations associated with the training effect. Most training benefits are lost within a short period of stopping training. Most of the beneficial effects of training return to normal levels with 4-8 weeks dependent on the individual.

References


The exercise program

A functionally based exercise program, that had to be easily implemented in clinical practice, was developed. All children, regardless of their age and GMFCS-level (I or II), performed the same exercises during the program. The children worked in couples during the circuit training-sessions. We used task-specific exercises such as running and changing direction of the body abruptly, step-ups and negotiating stairs since they are important in everyday life of children and adolescents with CP. The standardized exercises, aimed to improve daily functioning, were repeated throughout the program.

The training program lasted for 8 months, and consisted of two training sessions a week. Each session lasted 45 minutes. Each training session started with an introduction of approx. 5 minutes. In these 5 minutes a heart-rate monitor was attached to the child during the first 6 months, because they used it to guide them during the aerobic training sessions. The remaining time was used to provide information and to explain the purpose of the training that was ahead. In the following 5 minutes different activities/games were used to get the children warmed-up.

In the most important training-part we used 8 standardized TASK-SPECIFIC aerobic and anaerobic exercises, which were based on walking activities, such as

- Running / Walking fast
- Step up and down
- Stepping over
- Bending
- Turning
- Getting up from the floor

The children can keep track of their progression using a score-sheet.

On this score-sheet they record the number of repetitions they achieve. This keeps most children motivated throughout the program. Since the duration of the exercise increases in the first three months the number of repetitions will increase as well, even if they do not increase their fitness. This provides positive reinforcement for the first training months, which are the hardest.
For each exercise the following information is provided.

**Intensity:** Here we described the intensity of the exercises, based on their maximum heart rate achieved during the 10-m shuttle run test.

**Number of repetitions:** Here is the number of repetitions described.

**Number of series:** Here is the number of series described.

**Activity: rest ratio:** Here is the information about the activity: rest ratio. The rest was active. This means the children were not allowed to sit down and relax. They must be walking, cycling, participating in the exercise with their buddy etc.

**Duration:** Here is the information regarding the duration of the exercise.

**Purpose:** Here is the information about the purpose of the exercise (aerobic or anaerobic).

Training intensity is progressed following this scheme.

<table>
<thead>
<tr>
<th></th>
<th>Month 1</th>
<th>Month 2</th>
<th>Month 3</th>
<th>Month 4</th>
<th>Month 5</th>
<th>Month 6</th>
<th>Month 7</th>
<th>Month 8</th>
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<tbody>
<tr>
<td><strong>Intensity aerobic</strong></td>
<td>60-70%</td>
<td>60-70%</td>
<td>70-80%</td>
<td>60-70%</td>
<td>60-70%</td>
<td>60-70%</td>
<td></td>
<td></td>
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<tr>
<td><strong>Intensity anaerobic</strong></td>
<td></td>
<td>Max.</td>
<td>Max.</td>
<td>Max.</td>
<td>Max.</td>
<td>Max.</td>
<td></td>
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<tr>
<td><strong>Training duration</strong></td>
<td>interval</td>
<td>interval</td>
<td>interval</td>
<td>interval</td>
<td>interval</td>
<td>interval</td>
<td>interval</td>
<td>interval</td>
</tr>
<tr>
<td><strong>Duration of each repetition</strong></td>
<td>3 min</td>
<td>4 min</td>
<td>6 min</td>
<td>3 min 20 sec</td>
<td>3 min 20 sec</td>
<td>3 min 25 sec</td>
<td>25 sec</td>
<td>30 sec</td>
</tr>
<tr>
<td><strong>Number of repetitions</strong></td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>3 5</td>
<td>2 5</td>
<td>2 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td><strong>Number of series</strong></td>
<td>1 1</td>
<td>1 1</td>
<td>1 2</td>
<td>1 2</td>
<td>1 3</td>
<td>1 2</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td><strong>Activity: rest</strong></td>
<td>1:1 active</td>
<td>1:1 active</td>
<td>1:1 active</td>
<td>1:1:5 Active rest</td>
<td>1:1:4 Active rest</td>
<td>1:1:3 Active rest</td>
<td>1:3 Active rest</td>
<td>1:3 Active rest</td>
</tr>
<tr>
<td><strong>Total time (including rest and activity)</strong></td>
<td>30 min</td>
<td>32 min</td>
<td>36 min</td>
<td>18 min 17 min = 35 min</td>
<td>12 min 25 min = 37 min</td>
<td>12 min 17 min = 29 min</td>
<td>19 min</td>
<td>23 min</td>
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Every 6 weeks a game is played during the training sessions. In this way the children have something to look out for. Some games we included are obstacle softball (between each base an obstacle was placed), soccer and dodgeball.

In our program we use the most common equipments that are available in a regular rehabilitation setting and/or gym.

ENJOY THE TRAININGSESSIONS

Olaf Verschuren
INTERMEZZO 1: aerobic training

'Aerobic capacity' describes the functional capacity of the cardiorespiratory system, (the heart, lungs and blood vessels). Aerobic capacity is defined as the maximum amount of oxygen the body can use during a specified period, usually during intense exercise. It is a function both of cardiorespiratory performance and the maximum ability to remove and utilize oxygen from circulating blood. To measure maximal aerobic capacity, an exercise physiologist or physician will perform a VO2 max test, in which a subject will undergo progressively more strenuous exercise while walking/running, from an easy walk through to exhaustion. The individual is typically connected to a respirometer to measure oxygen consumption, and the speed is increased incrementally over a fixed duration of time. The higher the measured cardiorespiratory endurance level, the more oxygen has been transported to and used by exercising muscles, and the higher the level of intensity at which the individual can exercise. More simply stated, the higher the aerobic capacity, the higher the level of aerobic fitness.

Many types of exercise are aerobic, and by definition are performed at moderate levels of intensity for extended periods of time. To obtain the best results, an aerobic exercise session involves a warming up period, followed by at least 20 minutes of moderate to intense exercise involving large muscle groups.

Maximal heart rate / training intensity

Heart rate is arguably a very easy cardiovascular measurement, especially in comparison to the invasive or noninvasive procedures used to estimate stroke volume and cardiac output. Consequently, measurement of (maximum) heart rate is routinely used to prescribe exercise intensities. The maximum heart rate can not be calculated by using the formula HRmax=220-age, since there is no scientific merit for use in exercise physiology and related fields. Therefore, the best way to establish a child’s maximum HRmax is to collect this data during a progressive exercise test to exhaustion. A continuous progressive exercise test lasting 6 to 17 minutes is optimal for achieving a maximal myocardial oxygen demand. The maximum heart rate achieved during such a test is used to establish the exercise intensities. After determining the maximum heart rate “training zones” can be established.
As can be seen in the training scheme the training intensity for the aerobic exercises varies between 60-70% and 70-80%. These “training zones” are the minimum a child has to achieve during the aerobic exercises. When the heart rate reaches values above these “zones” and the child can sustain the exercise for 3, 4 or 6 minutes that’s fine.
Lesson 1:  

Month 1

1. Introduction
Duration: ± 5 min  
Purpose: short introduction  
Action: tell who you are and what is expected from the children  
Tell them how long the program will be (8 months).  
Show the children the heart rate monitors and let them wear them.

2. Warming-up
Duration: ± 5 minutes  
Introduction:
"Each lesson will start with a warm-up session. This is important for your heart, muscles and lungs. We will do this together!"

• Walking/running/hopping
Arrangement
- Whole gym  
- Children in a row, next to each other.
First suggestion:  
"We run to the other side and back."
Second suggestion:  
"We hop to the other side and back two times."
Third suggestion:  
"We sprint to the other side and back two times."
Fourth suggestion:  
"We jog to the other side and back three times."

3. Fitness-part
Intensity: heart rate minimal 60-70% of their maximum heart rate  
Number of repetitions: 5  
Number of series: 1  
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 35 minutes. 5 x 6 minutes (each child is 5 x 3 minutes active and 5 x 3 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 5 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:
- **Exercise A.**
  Equipment:
  - 10 blocks
  - 1 bench
  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

- **Exercise B.**
  Equipment:
  - 5 pylons
  - 1 scoring area
  - 1 ball
  Total distance = 10-12 metres
  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**
  Equipment:
  - 2 boxes
  - beanbags/balls
  Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.
- **Exercise D.**  
   **Equipment:**  
   - 2 boxes  
   - ca. 10 balls  
   - 4 benches  
   - 1 blue exercise mat  
   
   total distance = 8-10 metres  

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

- **Exercise E.**  
   **Equipment:**  
   - 5 pylons  
   - 1 stick  
   - 1 ring  
   - 1 blue exercise mat  

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

4. **Closure**  
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 2:  

Month 1

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes  
   - **Push and Pull**
     
     **Arrangement**
     - Whole gym
     - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

![Image of children pushing](image)

3. **Fitness-part**  
   **Intensity:** heart rate minimal 60-70% of their maximum heart rate  
   **Number of repetitions:** 5  
   **Number of series:** 1  
   **Activity / rest ratio:** 1:1 (active rest; walking)  
   **Duration:** ± 35 minutes. 5 x 6 minutes (each child is 5 x 3 minutes active and 5 x 3 minutes rest) and the time to change from working stations.  
   **Purpose:** increase aerobic capacity.  
   **Action:** circuit with 5 stations  
   **Game:** The children help setting up the stations and form couples of two children.  
   **Setting:** Whole gym.  
   **Suggestions:**
- **Exercise F.**

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scoreboard.

- **Exercise G.**

  **Equipment:**
  
  - 2 sticks (e.g. stick in pylon)
  - 10-15 rings

  The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.
- **Exercise H.**
  
  Equipment:
  2 benches
  2 boxes
  Approx. 25 balls/bags

  ![Diagram of Exercise H.]

  Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise A.**
  
  Equipment:
  10 blocks
  1 bench

  ![Diagram of Exercise A.]

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
Exercise B.

**Equipment:**
- 5 pylons
- 1 scoring area
- 1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 3:          Month 1

1. Introduction
   Duration: ± 5 min

2. Warming-up
   Duration: ± 5 minutes
   - Catch one……catch all

Arrangement
   - Half of the gym.
   The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.

3. Fitness-part
   Intensity: heart rate minimal 60-70% of their maximum heart rate
   Number of repetitions: 5
   Number of series: 1
   Activity / rest ratio: 1:1 (active rest; walking)
   Duration: ± 35 minutes. 5 x 6 minutes (each child is 5 x 3 minutes active and 5 x 3 minutes rest) and the time to change from working stations.
   Purpose: increase aerobic capacity.
   Action: circuit with 5 stations
   Game: The children help setting up the stations and form couples of two children.
   Setting: Whole gym.
   Suggestions:

   - Exercise C.
     Equipment:
     2 boxes
     beanbags/balls
     Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.
- **Exercise D.**

  **Equipment:**
  - 2 boxes
  - ca. 10 balls
  - 4 benches
  - 1 blue exercise mat

  total distance = 8-10 metres

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

- **Exercise E.**

  **Equipment:**
  - 5 pylons
  - 1 stick
  - 1 ring
  - 1 blue exercise mat

  Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.
- Exercise F.

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

- Exercise G.

Equipment:
2 sticks standing up
10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

4. Closure

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 4: 

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
- Athletic start

Equipment:
2 pylons

Arrangement
- Whole gym
- Children in two rows, next to each other

- Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child returns to the group.
- Practice the same exercise with the other leg in front.
- Let them find out which leg is their “best” leg. They have 4 trials.

3. Fitness-part
Intensity: heart rate minimal 60-70% of their maximum heart rate
Number of repetitions: 5
Number of series: 1
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 35 minutes. 5 x 6 minutes (each child is 5 x 3 minutes active and 5 x 3 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 5 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:
- **Exercise H.**
  Equipment:
  - 2 benches
  - 2 boxes
  - Approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise A.**
  Equipment:
  - 10 blocks
  - 1 bench

Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

- **Exercise B.**
  Equipment:
  - 5 pylons
  - 1 scoring area
  - 1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.
- **Exercise C.**

**Equipment:**
- 2 boxes
- beanbags/balls

Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**

**Equipment:**
- 2 boxes
- Approx. 10 balls
- 4 benches
- 1 blue exercise mat

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

**4. Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 5:  
Month 1

1. Introduction  
Duration: ± 5 min

2. Warming-up  
Duration: ± 5 minutes

- Ballrace  

Equipment:  
- Hoop  
- Balls  
- 4 pylons

Arrangement  
- Half of the gym  
- Hoop and balls

The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. Fitness-part  

Intensity: heart rate minimal 60-70% of their maximum heart rate  
Number of repetitions: 5  
Number of series: 1  
Activity / rest ratio: 1:1 (active rest; walking)  
Duration: ± 35 minutes. 5 x 6 minutes (each child is 5 x 3 minutes active and 5 x 3 minutes rest) and the time to change from working stations.  
Purpose: increase aerobic capacity.  
Action: circuit with 5 stations  
Game: The children help setting up the stations and form couples of two children.  
Setting: Whole gym.  
Suggestions:
- Exercise E.

**Equipment:**
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- Exercise F.

**Equipment:**
- 2 sticks standing up
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The
child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

- **Exercise H.**

  Equipment:
  
  - 2 benches
  - 2 boxes
  - approx. 25 balls/bags

  Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scoreboard.

- **Exercise A.**

  Equipment:
  
  - 10 blocks
  - 1 bench

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 6: Month 1

1. Introduction
   Duration: ± 5 min

2. Warming-up
   Duration: ± 5 minutes
   Equipment:
   - Wall
   - Big balls

   The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. Fitness-part
   Intensity: heart rate minimal 60-70% of their maximum heart rate
   Number of repetitions: 5
   Number of series: 1
   Activity / rest ratio: 1:1 (active rest; walking)
   Duration: ± 35 minutes. 5 x 6 minutes (each child is 5 x 3 minutes active and 5 x 3 minutes rest) and the time to change from working stations.
   Purpose: increase aerobic capacity.
   Action: circuit with 5 stations
   Game: The children help setting up the stations and form couples of two children.
   Setting: Whole gym.
   Suggestions:
- **Exercise B.**

  **Equipment:**
  - 5 pylons
  - 1 scoring area
  - 1 ball

  Total distance = 10-12 metres

  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

  **Equipment:**
  - 2 boxes
  - beanbags/balls

  Total distance = 6-8 metres

  Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**

  **Equipment:**
  - 2 boxes
  - Approx. 10 balls
  - 4 benches
  - 1 blue exercise mat

  Total distance = 8-10 metres

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.
- **Exercise E.**

Equipment:
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- **Exercise F.**

![Diagram of Exercise F]

Distance mat 1: 2 metres
Distance mat 2: 3 metres
Distance mat 3: 5 metres

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 7: Month 1

1. **Introduction**
Duration: ± 5 min

2. **Warming-up**
Duration: ± 5 minutes
   - **Catch one……catch all**
   
   **Arrangement**
   - Half of the gym. The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.

3. **Fitness-part**
   - **Intensity**: heart rate minimal 60-70% of their maximum heart rate
   - **Number of repetitions**: 5
   - **Number of series**: 1
   - **Activity / rest ratio**: 1:1 (active rest; walking)
   - **Duration**: ± 35 minutes. 5 x 6 minutes (each child is 5 x 3 minutes active and 5 x 3 minutes rest) and the time to change from working stations.
   - **Purpose**: increase aerobic capacity.
   - **Action**: circuit with 5 stations
   - **Game**: The children help setting up the stations and form couples of two children.
   - **Setting**: Whole gym.

   **Suggestions**:
   - **Exercise G.**
     **Equipment**:
     2 sticks standing up
     10-15 rings

     The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.
- **Exercise H.**  
  **Equipment:**  
  - 2 benches  
  - 2 boxes  
  - Approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise A.**  
  **Equipment:**  
  - 10 blocks  
  - 1 bench

Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- **Exercise B.**

   Equipment:
   - 5 pylons
   - 1 scoring area
   - 1 ball

   Total distance = 10-12 metres

   Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

   Equipment:
   - 2 boxes
   - beanbags/balls

   Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

4. **Closure**

   Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 8:  

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
**Warming-up**  
Duration: ± 5 minutes

- **Push and Pull**  

*Arrangement*  
- Whole gym  
- Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. **Fitness-part**  
- **Obstacle baseball**

*Equipment:*  
- basket  
- bat  
- 6 benches (1 bench for the “batting team”; 1 bench for obstacle 1; 2x2 benches for obstacle 2)  
- 1 blue exercise mat  
- 1 pylon with foam ball  
- 4 mats (=4 bases)

*Arrangement:*  
- Whole gym

There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways. The batter is out when:
The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across the “home-base” line) in three attempts.
The batter-runner is out when:
    She/he fails to reach a base before a fielder with a ball delivers it to the basket.

A player on the batting team can stop at any of the bases and hope to score on a teammate’s hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 9:          Month 2

1. **Introduction**
   Duration: ± 5 min
   Tell the children the program is changing (less exercises, longer duration).

2. **Warming-up**
   Duration: ± 5 minutes
   • **Rawhide**

   **Equipment:**
   - 2 benches
   - 2 ribbons

   **Arrangement:**
   - Half of the gym.
   - Bench in the middle
   - Bench in a corner of the gym

   There are two chasers (with ribbons) who must try to catch the other children as fast as possible. One of the two chasers has to sit on the bench with both legs on one side. When chaser number 1 sits on the bench, chaser number 2 can start running. All children can cross the bench by jumping/stepping over, except the chasers. When a child is tagged he/she sits on the bench in the corner. When the chasers make a mistake, and they are both standing, all children can join the game again. The game ends when all children are tagged.

3. **Fitness-part**

   **Intensity:** heart rate minimal 60-70% of their maximum heart rate
   **Number of repetitions:** 4
   **Number of series:** 1
   **Activity / rest ratio:** 1:1 (active rest; walking)
   **Duration:** ± 35 minutes. 4 x 4 minutes (each child is 4 x 4 minutes active and 4 x 4 minutes rest) and the time to change from working stations.
   **Purpose:** increase aerobic capacity.
   **Action:** circuit with 4 stations
   **Game:** The children help setting up the stations and form couples of two children.
   **Setting:** Whole gym.
   **Suggestions:**
Exercise D.

Equipment:
- 2 boxes
- approx. 10 balls
- 4 benches
- 1 blue exercise mat

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

Exercise E.

Equipment:
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.
- **Exercise F.**

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scoreboard.

- **Exercise G.**

**Equipment:**
- 2 sticks standing up
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

### 4. Closure

Children help cleaning up the gym and return their heart rate monitors and watches. Feedback can be provided.
Lesson 10: Month 2

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

- **Athletic start**

  Equipment: 2 pylons
  
  **Arrangement**
  - Whole gym
  - Children in two rows, next to each other

  - Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.
  - Practice the same exercise with the other leg in front.
  - Let them find out which leg is their “best” leg. They have 4 trials.

3. Fitness-part

  **Intensity:** heart rate minimal 60-70% of their maximum heart rate
  
  **Number of repetitions:** 4
  
  **Number of series:** 1
  
  **Activity / rest ratio:** 1:1 (active rest; walking)
  
  **Duration:** ± 35 minutes. 4 x 4 minutes (each child is 4 x 4 minutes active and 4 x 4 minutes rest) and the time to change from working stations.
  
  **Purpose:** increase aerobic capacity.
  
  **Action:** circuit with 4 stations
  
  **Game:** The children help setting up the stations and form couples of two children.
  
  **Setting:** Whole gym.
  
  **Suggestions:**
- **Exercise A.**

  **Equipment:**
  - 10 blocks
  - 1 bench

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

- **Exercise B.**

  **Equipment:**
  - 5 pylons
  - 1 scoring area
  - 1 ball

  Total distance = 10-12 metres

  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

  **Equipment:**
  - 2 boxes
  - beanbags/balls

  Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.
- **Exercise D.**

**Equipment:**
- 2 boxes
- ca. 10 balls
- 4 benches
- 1 blue exercise mat

**total distance = 8-10 metres**

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

4. **Closure**
Children help cleaning up the gym and return their heart rate monitors and watches. Feedback can be provided.
Lesson 11: Month 2

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
- **Walking dodgeball**

   **Equipment:**
   - 2 blue exercise mats
   - 1 soft foam ball
   - ribbons

   **Arrangement:**
   - Whole gym.
   - 2 mats in the middle of each side of the gym

   Divide into even teams (or evenly matched!) and show them their own mat. Teams then take
turns to throw a soft ball at the other team. They are not allowed to walk when having the
ball. Players when hit below the knee have to go their one mat. From this position they can
continue to attack the opposite team. When they hit a player from the other team they can join
the game again. Winners are the first team to knock all the opposing team players on their
mat.

3. Fitness-part

   **Intensity:** heart rate minimal 60-70% of their maximum heart rate
   **Number of repetitions:** 4
   **Number of series:** 1
   **Activity / rest ratio:** 1:1 (active rest; walking)
   **Duration:** ± 35 minutes. 4 x 4 minutes (each child is 4 x 4 minutes active and 4 x 4 minutes
rest) and the time to change from working stations.

   **Purpose:** increase aerobic capacity.
   **Action:** circuit with 4 stations
   **Game:** The children help setting up the stations and form couples of two children.
   **Setting:** Whole gym.

   **Suggestions:**
- **Exercise E.**

**Equipment:**
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- **Exercise F.**

```
1       2
start   3
Distance mat 1: 2 metres
Distance mat 2: 3 metres
Distance mat 3: 5 metres
```

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

- **Exercise G.**

**Equipment:**
- 2 sticks standing up
- 10-15 rings

The diagram shows two sticks standing up with 10-15 rings placed in between at 4-5 metres intervals.
The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

- **Exercise H.**  
  Equipment:  
  2 benches  
  2 boxes  
  approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

4. **Closure**  
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 12: Month 2

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

- Push and Pull

Arrangement
- Whole gym
- Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. Fitness-part
Intensity: heart rate minimal 60-70% of their maximum heart rate
Number of repetitions: 4
Number of series: 1
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 35 minutes. 4 x 4 minutes (each child is 4 x 4 minutes active and 4 x 4 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 4 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:

- Exercise A.

Equipment:
- 10 blocks
- 1 bench

Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- **Exercise B.**

  Equipment:
  - 5 pylons
  - 1 scoring area
  - 1 ball

  Total distance = 10-12 metres

  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

  Equipment:
  - 2 boxes
  - beanbags/balls

  Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**

  Equipment:
  - 2 boxes
  - approx. 10 balls
  - 4 benches
  - 1 blue exercise mat

  Total distance = 8-10 metres

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back
along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 13:          Month 2

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

- **Walking/running/hopping**

  *Arrangement*
  - Whole gym
  - Children in a row, next to each other.
  
  First suggestion:
  "We run to the other side and back."
  
  Second suggestion:
  "We hop to the other side and back two times."
  
  Third suggestion:
  "We sprint to the other side and back two times."
  
  Fourth suggestion:
  "We jog to the other side and back three times."

Duration: ± 5 minutes

*Equipment:*
- Wall
- Big balls

The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times.

In total the child has to perform 3 set of 10 repetitions in total.
3. Fitness-part

- Obstacle baseball

**Equipment:**
- basket
- bat
- 6 benches (1 bench for the “batting team”; 1 bench for an obstacle 1; 2x2 benches for obstacle 2)
- 1 blue exercise mat
- 1 pylon with foamball
- 4 mats (=4 bases)

**Arrangement:**
- Whole gym

![Diagram of gym setup]

There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways.

The batter is out when:
- The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across the “home-base” line) in three attempts.

The batter-runner is out when:
- She/he fails to reach a base before a fielder with a ball delivers it to the basket.

A player on the batting team can stop at any of the bases and hope to score on a teammate's hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. Closure

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 14:  
Month 2

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes

- **Ballrace**

  **Equipment:**
  - Hoop
  - Balls
  - 4 pylons

  **Arrangement**
  - Half of the gym
  - Hoop and balls

The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. **Fitness-part**

   **Intensity:** heart rate minimal 60-70% of their maximum heart rate
   
   **Number of repetitions:** 4
   
   **Number of series:** 1
   
   **Activity / rest ratio:** 1:1 (active rest; walking)
   
   **Duration:** ± 35 minutes. 4 x 4 minutes (each child is 4 x 4 minutes active and 4 x 4 minutes rest) and the time to change from working stations.

   **Purpose:** increase aerobic capacity.

   **Action:** circuit with 4 stations

   **Game:** The children help setting up the stations and form couples of two children.

   **Setting:** Whole gym.

   **Suggestions:**
- **Exercise E.**

**Equipment:**
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- **Exercise F.**

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.
- **Exercise G.**

Equipment:
- 2 sticks standing up
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

- **Exercise H.**

Equipment:
- 2 benches
- 2 boxes
- approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 15:  Month 2

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   **Warming-up**  
   Duration: ± 5 minutes

   - **Catch one……catch all**  
     *Arrangement*  
     - Half of the gym.  
     The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.

3. **Fitness-part**  
   **Intensity**: heart rate minimal 60-70% of their maximum heart rate  
   **Number of repetitions**: 4  
   **Number of series**: 1  
   **Activity / rest ratio**: 1:1 (active rest; walking)  
   **Duration**: ± 35 minutes. 4 x 4 minutes (each child is 4 x 4 minutes active and 4 x 4 minutes rest) and the time to change from working stations.  
   **Purpose**: increase aerobic capacity.  
   **Action**: circuit with 4 stations  
   **Game**: The children help setting up the stations and form couples of two children.  
   **Setting**: Whole gym.  
   **Suggestions**:

   - **Exercise A.**  
     **Equipment**:  
     - 10 blocks  
     - 1 bench  
     Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- **Exercise B.**
  
  **Equipment:**
  
  - 5 pylons
  - 1 scoring area
  - 1 ball
  
  **Total distance = 10-12 metres**

  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**
  
  **Equipment:**
  
  - 2 boxes
  - beanbags/balls

  **6-8 metres**

  Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**
  
  **Equipment:**
  
  - 2 boxes
  - approx. 10 balls
  - 4 benches
  - 1 blue exercise mat

  **Total distance = 8-10 metres**

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.
4. **Closure**
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 16:          Month 2

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
- Athletic start
  Equipment:
    2 pylons
  Arrangement
    - Whole gym
    - Children in two rows, next to each other
  Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.
- Practice the same exercise with the other leg in front.
- Let them find out which leg is their “best” leg. They have 4 trials.

3. Fitness-part
Obstacle baseball

Equipment:
- basket
- bat
- 6 benches (1 bench for the “batting team”; 1 bench for a obstacle 1 ; 2x2 benches for obstacle 2)
- 1 blue exercise mat
- 1 pylon with foamball
- 4 mats (=4 bases)

Arrangement:
- Whole gym

There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways.

The batter is out when:
- The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across the “home-base” line) in three attempts.

The batter-runner is out when:
- She/he fails to reach a base before a fielder with a ball delivers it to the basket.

A player on the batting team can stop at any of the bases and hope to score on a teammate’s hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 17: 

1. Introduction  
Duration: ± 5 min  
Tell the children what is changing (same number of exercises, but longer duration).

2. Warming-up  
Duration: ± 5 minutes

   - Push and Pull  
   *Arrangement*  
   - Whole gym  
   - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. Fitness-part  
*Intensity*: heart rate minimal 70-80% of their maximum heart rate  
*Number of repetitions*: 3  
*Number of series*: 1  
*Activity / rest ratio*: 1:1 (active rest; walking)  
*Duration*: ± 38 minutes. 3 x 12 minutes (each child is 3 x 6 minutes active and 3 x 6 minutes rest) and the time to change from working stations.  
*Purpose*: increase aerobic capacity.  
*Action*: circuit with 3 stations  
*Game*: The children help setting up the stations and form couples of two children.  
*Setting*: Whole gym.  
*Suggestions*:

- **Exercise A.**  
  *Equipment*:  
  10 blocks  
  1 bench  
  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- **Exercise B.**

**Equipment:**
- 5 pylons
- 1 scoring area
- 1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

**Equipment:**
- 2 boxes
- beanbags/balls

Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 18:          Month 3

1. **Introduction**
   Duration: ± 5 min

2. **Warming-up**
   Duration: ± 5 minutes
   - **Athletic start**

   **Equipment:**
   - 2 pylons

   **Arrangement**
   - Whole gym
   - Children in two rows, next to each other

   - Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.
   - Practice the same exercise with the other leg in front.
   - Let them find out which leg is their “best” leg. They have 4 trials.

3. **Fitness-part**
   **Intensity:** heart rate minimal 70-80% of their maximum heart rate
   **Number of repetitions:** 3
   **Number of series:** 1
   **Activity / rest ratio:** 1:1 (active rest; walking)
   **Duration:** ± 38 minutes. 3 x 12 minutes (each child is 3 x 6 minutes active and 3 x 6 minutes rest) and the time to change from working stations.
   **Purpose:** increase aerobic capacity.
   **Action:** circuit with 3 stations
   **Game:** The children help setting up the stations and form couples of two children.
   **Setting:** Whole gym.
   **Suggestions:**
- **Exercise D.**

  **Equipment:**
  - 2 boxes
  - approx. 10 balls
  - 4 benches
  - 1 blue exercise mat

  total distance = 8-10 metres

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

- **Exercise E.**

  **Equipment:**
  - 5 pylons
  - 1 stick
  - 1 ring
  - 1 blue exercise mat

  Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.
- Exercise F.

Distance mat 1: 2 metres
Distance mat 2: 3 metres
Distance mat 3: 5 metres

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feedback can be provided.
Lesson 19: Month 3

1. Introduction
   Duration: ± 5 min

2. Warming-up
   Duration: ± 5 minutes

   • Ballrace

   Equipment:
   - Hoop
   - Balls
   - 4 pylons

   Arrangement
   - Half of the gym
   - Hoop and balls

   The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. Fitness-part

   Intensity: heart rate minimal 70-80% of their maximum heart rate
   Number of repetitions: 3
   Number of series: 1
   Activity / rest ratio: 1:1 (active rest; walking)
   Duration: ± 38 minutes. 3 x 12 minutes (each child is 3 x 6 minutes active and 3 x 6 minutes rest) and the time to change from working stations.
   Purpose: increase aerobic capacity.
   Action: circuit with 3 stations
   Game: The children help setting up the stations and form couples of two children.
   Setting: Whole gym.
   Suggestions:
- **Exercise G.**
  **Equipment:**
  - 2 sticks standing up
  - 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

- **Exercise H.**
  **Equipment:**
  - 2 benches
  - 2 boxes
  - approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scoreboard.
- **Exercise A.**

*Equipment:*
- 10 blocks
- 1 bench

Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

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4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 20: 

Month 3

1. **Introduction**
Duration: ± 5 min

2. **Warming-up**
Duration: ± 5 minutes
**Equipment:**
- Wall
- Big balls

The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. **Fitness-part**
**Intensity:** heart rate minimal 70-80% of their maximum heart rate
**Number of repetitions:** 3
**Number of series:** 1
**Activity / rest ratio:** 1:1 (active rest; walking)
**Duration:** ± 38 minutes. 3 x 12 minutes (each child is 3 x 6 minutes active and 3 x 6 minutes rest) and the time to change from working stations.
**Purpose:** increase aerobic capacity.
**Action:** circuit with 3 stations
**Game:** The children help setting up the stations and form couples of two children.
**Setting:** Whole gym.
**Suggestions:**
- **Exercise B.**

**Equipment:**
- 5 pylons
- 1 scoring area
- 1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

**Equipment:**
- 2 boxes
- beanbags/balls

Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**

**Equipment:**
- 2 boxes
- approx. 10 balls
- 4 benches
- 1 blue exercise mat

Total distance = 8-10 metres

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.
4. **Closure**
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 21:  

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes  
   - Rawhide

   **Equipment:**  
   - 2 benches  
   - 2 ribbons

   **Arrangement:**  
   - Half of the gym.  
   - Bench in the middle  
   - Bench in a corner of the gym

There are two chasers (with ribbons) who must try to catch the other children as fast as possible. One of the two chasers has to sit on the bench with both legs on one side. When chaser number 1 sits on the bench, chaser number 2 can start running. All children can cross the bench by jumping/stepping over, except the chasers. When a child is tagged he/she sits on the bench in the corner. When the chasers make a mistake, and they are both standing, all children can join the game again. The game ends when all children are tagged.

3. **Fitness-part**  
   **Intensity:** heart rate minimal 70-80% of their maximum heart rate
   **Number of repetitions:** 3
   **Number of series:** 1
   **Activity / rest ratio:** 1:1 (active rest; walking)  
   **Duration:** ± 38 minutes. 3 x 12 minutes (each child is 3 x 6 minutes active and 3 x 6 minutes rest) and the time to change from working stations.
   **Purpose:** increase aerobic capacity.
   **Action:** circuit with 3 stations
   **Game:** The children help setting up the stations and form couples of two children.
   **Setting:** Whole gym.
   **Suggestions:**

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*Functionally based exercise program for children and adolescents with cerebral palsy.*  
*Olaf Verschuren, 2009*
- Exercise E.

Equipment:
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- Exercise F.

Distance mat 1: 2 metres
Distance mat 2: 3 metres
Distance mat 3: 5 metres

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

- Exercise G.

Equipment:
- 2 sticks standing up
- 10-15 rings

4-5 metres 4-5 metres
The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

4. **Closure**
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 22:           Month 3

1. **Introduction**
   Duration: ± 5 min

2. **Warming-up**
   Duration: ± 5 minutes
   - **Push and Pull**
     **Arrangement**
     - Whole gym
     - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. **Fitness-part**
   - **Obstacle baseball**
     **Equipment:**
     - basket
     - bat
     - 6 benches (1 bench for the “batting team”; 1 bench for a obstacle 1 ; 2x2 benches for obstacle 2)
     - 1 blue exercise mat
     - 1 pylon with foamball
     - 4 mats (=4 bases)
     **Arrangement:**
     - Whole gym

There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways.

The batter is out when:
- The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across
the “home-base” line) in three attempts.
The batter-runner is out when:
   She/he fails to reach a base before a fielder with a ball delivers it to the basket.

A player on the batting team can stop at any of the bases and hope to score on a teammate’s hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 23:  

Month 3  

1. **Introduction**  
Duration: ± 5 min  

2. **Warming-up**  
Duration: ± 5 minutes  

   - **Catch one……catch all**  

   **Arrangement**  
- Half of the gym.  
The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.  

3. **Fitness-part**  
**Intensity:** heart rate minimal 70-80% of their maximum heart rate  
**Number of repetitions:** 3  
**Number of series:** 1  
**Activity / rest ratio:** 1:1 (active rest; walking)  
**Duration:** ± 38 minutes. 3 x 12 minutes (each child is 3 x 6 minutes active and 3 x 6 minutes rest) and the time to change from working stations.  
**Purpose:** increase aerobic capacity.  
**Action:** circuit with 3 stations  
**Game:** The children help setting up the stations and form couples of two children.  
**Setting:** Whole gym.  
**Suggestions:**  

- **Exercise H.**  
**Equipment:**  
- 2 benches  
- 2 boxes/bins  
- approx. 25 balls/bags  

![Diagram](image)  
8-10 metres
Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise A.**
  
  **Equipment:**
  
  10 blocks
  1 bench

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

- **Exercise B.**
  
  **Equipment:**
  
  5 pylons
  1 scoring area
  1 ball

  Total distance = 10-12 metres

  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

4. **Closure**

   Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 24:                                                                                             Month 3

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

   • Ballrace

   Equipment:
   - Hoop
   - Balls
   - 4 pylons

   Arrangement
   - Half of the gym
   - Hoop and balls

   The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. Fitness-part
Intensity: heart rate minimal 70-80% of their maximum heart rate
Number of repetitions: 3
Number of series: 1
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 38 minutes. 3 x 12 minutes (each child is 3 x 6 minutes active and 3 x 6 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 3 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:
- **Exercise C.**

  **Equipment:**
  - 2 boxes
  - beanbags/balls

  ![Diagram of Exercise C](image)

  Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**

  **Equipment:**
  - 2 boxes
  - approx. 10 balls
  - 4 benches
  - 1 blue exercise mat

  ![Diagram of Exercise D](image)

  Total distance = 8-10 metres

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.
Exercise E.

Equipment:
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
INTERMEZZO 2: anaerobic training

There are three sources of Adenosine triphosphate (ATP), the body's main energy source on the cellular level.

ATP-PC System (Phosphogen System) - This system is used only for very short durations of up to 10 seconds. The ATP-PC system neither uses oxygen nor produces lactic acid and is thus said to be alactic anaerobic. This is the primary system behind very short, powerful movements like a golf swing or a 100 m sprint.

Anaerobic System (Lactic Acid System) - Predominates in supplying energy for exercises lasting less than 2 minutes. Also known as the Glycolytic System. An example of an activity of the intensity and duration that this system works under would be a 400 m sprint.

Aerobic System - This is the long duration energy system. By 5 minutes of exercise the O2 system is clearly the dominant system.

When training the anaerobic capacity the aerobic capacity improves as well. This was shown in studies in healthy children that have shown an increase in aerobic capacity after anaerobic training. These results may be explained by the fact that resynthesis of adenosine triphosphate during high-intensity exercise depends on both aerobic and anaerobic processes. Moreover, recent studies show that high-intensity interval training is a time-efficient strategy to increase aerobic capacity during exercise that is comparable to traditional aerobic training. In addition, a low-frequency high-intensity approach to training can be associated with greater long-term adherence as compared with a high-frequency low-intensity program. Adherence to exercise programs depends on individual motivation and variation in activities. Children and adolescents are more likely to enjoy a short-term high intensity training program since it can offer the necessary variation and is closer to their nature.

Training

The anaerobic trainings part consists of two training sessions a week. Each training includes two or three exercises that focus on anaerobic capacity. Each exercise lasts 20 to 30 secs and the activity: rest ratio varies between 1:5 and 1:3.

The rest is an active one. This means it must consist of light aerobic activities (walking, playing, cycling etc.).
INTENSITY

High-intensity interval training (HIIT) is an exercise strategy that is intended to improve performance with short training sessions. Usual HIIT sessions may vary from 15-30 minutes. Most HIIT sessions have a 1:3 ratio in terms of time. For example, for running, a HIIT session may be something as 60 seconds jog, 20 seconds sprint.

In this training part it is very important that the children exercise at maximum capacity. This can not be accurately controlled by a heart rate monitor. Therefore, the children must be motivated and encouraged to perform at maximum pace.

FORMAT ANAEROBIC TRAINING

Since the activity-rest ratio is not 1:1 during the anaerobic exercises, the training couples can not be sustained. Therefore, the group will we divided into 2 groups of similar size. Each groups performs one exercise. The children start in a row. Number one starts, followed by number 2, and number 3.

Depending on the activity-rest ratio number one starts after x seconds. For example see next page.
Duration exercise: 20 seconds  
Activity: Rest  1:5 (=100 second)  
Repetitions:  5

2 groups of 3 children:

<table>
<thead>
<tr>
<th></th>
<th>child is active (sec)</th>
<th>time in total (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>child 1 exercise</td>
<td>20 seconds</td>
</tr>
<tr>
<td></td>
<td>child 2 exercise</td>
<td>20 seconds</td>
</tr>
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**Important**

The children that are not SUPERactive, have to keep moving. They can be active in light aerobic exercise, such as:

- Ballgames,
- Walking
- Cycling
- Etc.

Make sure the children can get the equipment needed for this important active rest part of the training.
Lesson 25:          Month 4

1. **Introduction**  
Duration: ± 5 min  
Tell the children what is going to change. There are two training parts: Aerobic and anerobic. One part where the children are 3 x 3 minutes active and a part where the children have to be (SUPER)active for 20 seconds.

2. **Warming-up**  
Duration: ± 5 minutes  
Equipment:  
Wall  
Big balls  

The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90˚ ) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. **Fitness-part**

A.  
**Intensity:** heart rate minimal 70-80% of their maximum heart rate  
**Number of repetitions:** 3  
**Number of series:** 1  
**Activity / rest ratio:** 1:1 (active rest; walking)  
**Duration:** ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.  
**Purpose:** increase aerobic capacity.  
**Action:** circuit with 3 stations  
**Game:** The children help setting up the stations and form couples of two children.  
**Setting:** Whole gym.  
**Suggestions:**
- **Exercise F.**

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Distance mat 1: 2 metres  
Distance mat 2: 3 metres  
Distance mat 3: 5 metres  

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

- **Exercise G.**

**Equipment:**
- 2 sticks standing up  
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.
- **Exercise H.**

  **Equipment:**
  - 2 benches
  - 2 boxes/bins
  - approx. 25 balls/bags

  Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumpping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

  **B.**
  **Intensity:** maximum
  **Number of repetitions:** 5
  **Number of series:** 2
  **Activity / rest ratio:** 1:5 (actioovne rust; wandelen; steppen; treffen/mikken)
  **Duration:** ± 20 minutes. 10 x 120 seconds (each child is very active for 10 x 20 seconds and has 10 x 100 seconds active rest) and time to change between the exercises.
  **Purpose:** increasing anaerobic capacity
  **Action:** circuit with 2 stations
  **Game:** The children help setting up the stations.
  **Setting:** Whole gym.
  **Suggestion:**

  1. **Step-up exercise (forwards)**

     **Equipment:**
     - 1 Step or block

     Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)
     Turn around and go back, this time with the left leg first. Count the number of times you go over the step.
5. **Beanbag Walk**

*Equipment:*
- 4 mats
- 12 beanbags

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

- Push and Pull

Arrangement
- Whole gym
- Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. Fitness-part

A.
Intensity: heart rate minimal 70-80% of their maximum heart rate
Number of repetitions: 3
Number of series: 1
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 3 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:

- Exercise A.

Equipment:
10 blocks
1 bench
Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- Exercise B.

**Equipment:**
- 5 pylons
- 1 scoring area
- 1 ball

**Total distance = 10-12 metres**

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- Exercise C.

**Equipment:**
- 2 boxes
- beanbags/balls

Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

B. **Intensity:** maximum

**Number of repetitions:** 5

**Number of series:** 2

**Activity / rest ratio:** 1:5 (actionve rust; wandelen; steppen; treffen/mikken)

**Duration:** ± 20 minutes. 10 x 120 seconds (each child is very active for 10 x 20 seconds and has 10 x 100 seconds active rest) and time to change between the exercises.

**Purpose:** increasing anaerobic capacity

**Action:** circuit with 2 stations

**Game:** The children help setting up the stations

**Setting:** Whole gym.

**Suggestion:**

2. **Step-up-exercises (sideways)**

**Equipment:**
- 1 step or block

Stand next to the step, with your feet parallel to it.

Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.
6. **5 metre sprint**

**Equipment:**
- 2 strips of tape

Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.

[Diagram of 5m sprint with two lines 5 meters apart]

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 27:          Month 4

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
- Athletic start
  Equipment: 2 pylons
  Arrangement
  - Whole gym
  - Children in two rows, next to each other
  - Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.
  - Practice the same exercise with the other leg in front.
  - Let them find out which leg is their “best” leg. They have 4 trials.

3. Fitness-part
   A.
   Intensity: heart rate minimal 70-80% of their maximum heart rate
   Number of repetitions: 3
   Number of series: 1
   Activity / rest ratio: 1:1 (active rest; walking)
   Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.
   Purpose: increase aerobic capacity.
   Action: circuit with 3 stations
   Game: The children help setting up the stations and form couples of two children.
   Setting: Whole gym.
   Suggestions:
- **Exercise D.**

*Equipment:*  
2 boxes  
ca. 10 balls  
4 benches  
1 blue exercise mat  

Total distance = 8-10 metres

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

- **Exercise E.**

*Equipment:*  
5 pylons  
1 stick  
1 ring  
1 blue exercise mat  

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.
- **Exercise F.**

![Diagram of Exercise F.]

Distance mat 1: 2 metres  
Distance mat 2: 3 metres  
Distance mat 3: 5 metres  

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

B.  
**Intensity:** maximum  
**Number of repetitions:** 5  
**Number of series:** 2  
**Activity / rest ratio:** 1:5 (actionve rust; wandelen; steppen; treffen/mikken)  
**Duration:** ± 20 minutes. 10 x 120 seconds (each child is very active for 10 x 20 seconds and has 10 x 100 seconds active rest) and time to change between the exercises.  
**Purpose:** increasing anaerobic capacity  
**Action:** circuit with 2 stations  
**Game:** The children help setting up the stations.  
**Setting:** Whole gym.  
**Suggestion:**

3. **Obstacle course**

**Equipment:**  
1 hoop  
beanbags  
1 step  
1 hurdle  
1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.  
**Course:** hoop → step → hurdle → basket

Count the number of beanbags in the basket.
7. **Shuttle sprint**

**Equipment:**

5 strips of tape 1.5 metres apart (total 6 metres)

From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

![Diagram of shuttle sprint]

<table>
<thead>
<tr>
<th>Starting line</th>
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<th>2</th>
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4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 28:          Month 4

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
   - Walking/running/hopping
   Arrangement
   - Whole gym
   - Children in a row, next to each other.
   First suggestion: "We run to the other side and back."
   Second suggestion: "We hop to the other side and back two times."
   Third suggestion: "We sprint to the other side and back two times."
   Fourth suggestion: "We jog to the other side and back three times."

3. Fitness-part

A. Intensity: heart rate minimal 70-80% of their maximum heart rate
Number of repetitions: 3
Number of series: 1
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 3 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:

- Exercise G.
Equipment:
   2 sticks standing up
   10-15 rings
   4-5 metres
The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

- **Exercise H.**
  
  Equipment:
  
  - 2 benches
  - 2 boxes/bins
  - approx. 25 balls/bags

  ![Diagram](image1.png)

  8-10 metres

  Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumoping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise A.**
  
  Equipment:
  
  - 10 blocks
  - 1 bench

  ![Diagram](image2.png)

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
B.

**Intensity:** maximum
**Number of repetitions:** 5
**Number of series:** 2
**Activity / rest ratio:** 1:5 (actieve rust; wandelen; steppen; treffen/mikken)
**Duration:** ± 20 minutes. 10 x 120 seconds (each child is very active for 10 x 20 seconds and has 10 x 100 seconds active rest) and time to change between the exercises.
**Purpose:** increasing anaerobic capacity
**Action:** circuit with 2 stations
**Game:** The children help setting up the stations.
**Setting:** Whole gym.

**Suggestion:**

4. **Up and Down the Slope**

**Equipment:**
- 2 benches
- Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

8. **Ring hockey**

**Equipment:**
- 1 stick
- 5 rings

Start behind the line, holding the stick. Sprint to the other side and get a ring. Sprint back to the start, pushing the ring along the ground with the stick. Sprint to get the next ring and repeat. Count the number of rings collected.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 29:          Month 4

1. Introduction
Duration: ± 5 min

2. Warming-up
Warming-up
Duration: ± 5 minutes

  • Catch one……catch all

Arrangement
- Half of the gym.
The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.

3. Fitness-part

A.
Intensity: heart rate minimal 70-80% of their maximum heart rate
Number of repetitions: 3
Number of series: 1
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 3 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:

- Exercise B.

Equipment:
  5 pylons
  1 scoring area
  1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.
- **Exercise C.**

*Equipment:*
- 2 boxes
- beanbags/balls

Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**

*Equipment:*
- 2 boxes
- approx. 10 balls
- 4 benches
- 1 blue exercise mat

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

**B.**

**Intensity:** maximum  
**Number of repetitions:** 5  
**Number of series:** 2  
**Activity / rest ratio:** 1:5 (action: rust; wandelen; steppen; treffen/mikken)  
**Duration:** ± 20 minutes. 10 x 120 seconds (each child is very active for 10 x 20 seconds and has 10 x 100 seconds active rest) and time to change between the exercises.  
**Purpose:** increasing anaerobic capacity  
**Action:** circuit with 2 stations  
**Game:** The children help setting up the stations.  
**Setting:** Whole gym.  
**Suggestion:**
1. **Step-up exercise (forwards)**  
   Equipment:  
   2 Step or block  

Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)  
Turn around and go back, this time with the left leg first. Count the number of times you go over the step.  

![Diagram of step-up exercise]

5. **Beanbag Walk**  
   Equipment:  
   4 mats  
   12 beanbags  

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.  

![Diagram of beanbag walk]

4. **Closure**  
Children help cleaning up the gym and return their heart rate monitors and watches.  
Feed-back can be provided.
Lesson 30:  

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes

   - **Ballrace**

   **Equipment:**
   - Hoop
   - Balls
   - 4 pylons

   **Arrangement**
   - Half of the gym
   - Hoop and balls

   The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. **Fitness-part**

   A.
   **Intensity:** heart rate minimal 70-80% of their maximum heart rate  
   **Number of repetitions:** 3  
   **Number of series:** 1  
   **Activity / rest ratio:** 1:1 (active rest; walking)  
   **Duration:** ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.  
   **Purpose:** increase aerobic capacity.  
   **Action:** circuit with 3 stations  
   **Game:** The children help setting up the stations and form couples of two children.  
   **Setting:** Whole gym.  
   **Suggestions:**
- **Exercise E.**

  **Equipment:**
  - 5 pylons
  - 1 stick
  - 1 ring
  - 1 blue exercise mat

  Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- **Exercise F.**

  Distance mat 1: 2 metres
  Distance mat 2: 3 metres
  Distance mat 3: 5 metres

  The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.
-  **Exercise G.**

**Equipment:**
- 2 sticks standing up
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

**B.**

- **Intensity:** maximum
- **Number of repetitions:** 5
- **Number of series:** 2
- **Activity / rest ratio:** 1:5 (actionve rust; wandelen; steppen; treffen/mikken)
- **Duration:** ± 20 minutes. 10 x 120 seconds (each child is very active for 10 x 20 seconds and has 10 x 100 seconds active rest) and time to change between the exercises.
- **Purpose:** increasing anaerobic capacity
- **Action:** circuit with 2 stations
- **Game:** The children help setting up the stations.
- **Setting:** Whole gym.
- **Suggestion:**

2.  **Step-up-exercises (sideways)**

**Equipment:**
- 1 step or block

Stand next to the step, with your feet parallel to it. Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.
6. **5 metre sprint**

**Equipment:**
- 2 strips of tape

Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 31:  

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes  
   **Equipment:**  
   - Wall  
   - Big balls

   The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. **Fitness-part**

   A.  
   **Intensity:** heart rate minimal 70-80% of their maximum heart rate  
   **Number of repetitions:** 3  
   **Number of series:** 1  
   **Activity / rest ratio:** 1:1 (active rest; walking)  
   **Duration:** ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.  
   **Purpose:** increase aerobic capacity.  
   **Action:** circuit with 3 stations  
   **Game:** The children help setting up the stations and form couples of two children.  
   **Setting:** Whole gym.  
   **Suggestions:**
- **Exercise H.**  
  **Equipment:**  
  2 benches  
  2 boxes/bins  
  approx. 25 balls/bags  

  8-10 metres

  Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumoing over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise A.**  
  **Equipment:**  
  10 blocks  
  1 bench  

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- Exercise B.

**Equipment:**
- 5 pylons
- 1 scoring area
- 1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

**B.**

**Intensity:** maximum

**Number of repetitions:** 5

**Number of series:** 2

**Activity / rest ratio:** 1:5 (actienve rust; wandelen; steppen; treffen/mikken)

**Duration:** ± 20 minutes. 10 x 120 seconds (each child is very active for 10 x 20 seconds and has 10 x 100 seconds active rest) and time to change between the exercises.

**Purpose:** increasing anaerobic capacity

**Action:** circuit with 2 stations

**Game:** The children help setting up the stations

**Setting:** Whole gym.

**Suggestion:**

3. **Obstacle course**

**Equipment:**
- 1 hoop
- beanbags
- 1 step
- 1 hurdle
- 1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.

**Course:** hoop → step → hurdle → basket

Count the number of beanbags in the basket.
7. **Shuttle sprint**

**Equipment:**
5 strips of tape 1.5 metres apart (total 6 metres)

From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

Starting line 1 2 3 4

4. **Closure**
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 32:  

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes

   - **Push and Pull**

   **Arrangement**
   - Whole gym
   - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. **Fitness-part**

   - **Obstacle baseball**

   **Equipment:**
   - basket
   - bat
   - 6 benches (1 bench for the “batting team”; 1 bench for a obstacle 1 ; 2x2 benches for obstacle 2)
   - 1 blue exercise mat
   - 1 pylon with foamball
   - 4 mats (=4 bases)

   **Arrangement:**
   - Whole gym

There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways.

The batter is out when:

The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across
the “home-base” line) in three attempts.
The batter-runner is out when:
   She/he fails to reach a base before a fielder with a ball delivers it to the basket.

A player on the batting team can stop at any of the bases and hope to score on a teammate’s hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. **Closure**
Children help cleaning up the gym and return their heart rate monitors and watches. Feedback can be provided.
Lesson 33:  
Month 5

1. Introduction  
Duration: ± 5 min

2. Warming-up  
Duration: ± 5 minutes  
• Athletic start  

Equipment:  
2 pylons

Arrangement  
- Whole gym  
- Children in two rows, next to each other

- Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.  
- Practice the same exercise with the other leg in front.  
- Let them find out which leg is their “best” leg. They have 4 trials.

3. Fitness-part

A.  
Intensity: heart rate minimal 70-80% of their maximum heart rate  
Number of repetitions: 3  
Number of series: 1  
Activity / rest ratio: 1:1 (active rest; walking)  
Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.  
Purpose: increase aerobic capacity.  
Action: circuit with 3 stations  
Game: The children help setting up the stations and form couples of two children.  
Setting: Whole gym.  
Suggestions:
- **Exercise A.**

**Equipment:**
- 10 blocks
- 1 bench

Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

- **Exercise B.**

**Equipment:**
- 5 pylons
- 1 scoring area
- 1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

**Equipment:**
- 2 boxes
- Beanbags/balls

Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.
B.  
**Intensity**: maximum  
**Number of repetitions**: 5  
**Number of series**: 3  
**Activity / rest ratio**: 1:4 (active rest: e.g. walking, cycling, playing with a ball)  
**Duration**: ± 25 minutes. 15 x 120 seconds (each child is very active for 15 x 20 seconds and has 15 x 100 seconds active rest) and time to change between the exercises.  
**Purpose**: increasing anaerobic capacity  
**Action**: circuit with 3 stations  
**Game**: The children help setting up the stations.  
**Setting**: Whole gym.  
**Suggestion**:  

1. **Step-up exercise (forwards)**  
**Equipment**:  
  - Step or block  
  
Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)  
Turn around and go back, this time with the left leg first. Count the number of times you go over the step.  

![Step-up exercise diagram](image)

2. **Beanbag Walk**  
**Equipment**:  
  - 4 mats  
  - 12 beanbags  
  
Place 4 mats in a row, 1.5metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.  

![Beanbag Walk diagram](image)
8. **Ring hockey**

**Equipment:**
- 1 stick
- 5 rings

Start behind the line, holding the stick. Sprint to the other side and get a ring. Sprint back to the start, pushing the ring along the ground with the stick. Sprint to get the next ring and repeat. Count the number of rings collected.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feedback can be provided.
Lesson 34:          Month 5

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

   • Ballrace

   Equipment:
   - Hoop
   - Balls
   - 4 pylons

   Arrangement
   - Half of the gym
   - Hoop and balls

   The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. Fitness-part

   A.

   Intensity: heart rate minimal 70-80% of their maximum heart rate
   Number of repetitions: 3
   Number of series: 1
   Activity / rest ratio: 1:1 (active rest; walking)
   Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.
   Purpose: increase aerobic capacity.
   Action: circuit with 3 stations
   Game: The children help setting up the stations and form couples of two children.
   Setting: Whole gym.
   Suggestions:
- **Exercise D.**

  **Equipment:**
  - 2 boxes
  - approx. 10 balls
  - 4 benches
  - 1 blue exercise mat

  Total distance = 8-10 metres

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

- **Exercise E.**

  **Equipment:**
  - 5 pylons
  - 1 stick
  - 1 ring
  - 1 blue exercise mat

  Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.
Functionally based exercise program for children and adolescents with cerebral palsy. Olaf Verschuren, 2009

- Exercise F.

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

B.
Intensity: maximum
Number of repetitions: 5
Number of series: 3
Activity / rest ratio: 1:4 (active rest: e.g walking, cycling, playing with a ball)
Duration: ± 25 minutes. 15 x 120 seconds (each child is very active for 15 x 20 seconds and has 15 x 100 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

2. Step-up-exercises (sideways)
Equipment: 1 step or block
Stand next to the step, with your feet parallel to it.
Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

6 5 metre sprint
Equipment: 2 strips of tape
Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.
5. **Beanbag Walk**

**Equipment:**
- 4 mats
- 12 beanbags

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feedback can be provided.
Lesson 35:                    Month 5

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

   • Push and Pull

   Arrangement
   - Whole gym
   - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. Fitness-part

A.
Intensity: heart rate minimal 70-80% of their maximum heart rate
Number of repetitions: 3
Number of series:  1
Activity / rest ratio: 1:1 (active rest; walking)
Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.
Purpose: increase aerobic capacity.
Action: circuit with 3 stations
Game: The children help setting up the stations and form couples of two children.
Setting: Whole gym.
Suggestions:
- **Exercise G.**

**Equipment:**
- 2 sticks standing up
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

- **Exercise H.**

**Equipment:**
- 2 benches
- 2 boxes/bins
- approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumoping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.
Exercise A.

Equipment:
- 10 blocks
- 1 bench

Ren naar voren en stap over de bench. Tik een blokje om. Ren terug, stap over de bench en tik een blokje om. Tel het aantal blocks dat wordt omgegooid.
Het child dat niet actionf bezig is, zorgt dat de blocks weer rechtgezet worden.
Vul de score in op de scorekaart.

B.

Intensity: maximum
Number of repetitions: 5
Number of series: 3
Activity / rest ratio: 1:4 (active rest: e.g. walking, cycling, playing with a ball)
Duration: ± 25 minutes. 15 x 120 seconds (each child is very active for 15 x 20 seconds and has 15 x 100 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

3. Obstacle course

Equipment:
- 1 hoop
- beanbags
- 1 step
- 1 hurdle
- 1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.
Course: hoop → step → hurdle → basket

Count the number of beanbags in the basket.
7. Shuttle sprint

Equipment: 5 strips of tape 1.5 metres apart (total 6 metres)

From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

1. Step-up exercise (forwards)

Equipment: Step or block

Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)

Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

4. Closure

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 36:  

1. Introduction  
Duration: ± 5 min  

2. Warming-up  
Duration: ± 5 minutes  
Equipment:  
- Wall  
- Big balls  

The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. Fitness-part  

A.  
Intensity: heart rate minimal 70-80% of their maximum heart rate  
Number of repetitions: 3  
Number of series: 1  
Activity / rest ratio: 1:1 (active rest; walking)  
Duration: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.  
Purpose: increase aerobic capacity.  
Action: circuit with 3 stations  
Game: The children help setting up the stations and form couples of two children.  
Setting: Whole gym.  
Suggestions:
- **Exercise B.**  
  **Equipment:**  
  - 5 pylons  
  - 1 scoring area  
  - 1 ball  
  Total distance = 10-12 metres  

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**  
  **Equipment:**  
  - 2 boxes  
  - beanbags/balls  
  Total distance = 6-8 metres  

Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**  
  **Equipment:**  
  - 2 boxes  
  - approx. 10 balls  
  - 4 benches  
  - 1 blue exercise mat  
  Total distance = 8-10 metres  

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.
B.

Intensity: maximum
Number of repetitions: 5
Number of series: 3
Activity / rest ratio: 1:4 (active rest: e.g. walking, cycling, playing with a ball)
Duration: ± 25 minutes. 15 x 120 seconds (each child is very active for 15 x 20 seconds and has 15 x 100 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

4. Up and Down the Slope

Equipment:
2 benches
Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

8. Ring hockey

Equipment:
1 stick
5 rings

Start behind the line, holding the stick. Sprint to the other side and get a ring. Sprint back to the start, pushing the ring along the ground with the stick. Sprint to get the next ring and repeat. Count the number of rings collected.

2. Step-up-exercises (sideways)

Equipment:
1 step or block

Stand next to the step, with your feet parallel to it. Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

4. Closure

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 37:  
Month 5

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes  
- **Rawhide**

Equipment:  
- 2 benches  
- 2 ribbons

Arrangement:  
- Half of the gym.  
- Bench in the middle  
- Bench in a corner of the gym

There are two chasers (with ribbons) who must try to catch the other children as fast as possible. One of the two chasers has to sit on the bench with both legs on one side. When chaser number 1 sits on the bench, chaser number 2 can start running. All children can cross the bench by jumping/stepping over, except the chasers. When a child is tagged he/she sits on the bench in the corner. When the chasers make a mistake, and they are both standing, all children can join the game again. The game ends when all children are tagged.

3. **Fitness-part**

A.  
**Intensity:** heart rate minimal 70-80% of their maximum heart rate

**Number of repetitions:** 3

**Number of series:** 1

**Activity / rest ratio:** 1:1 (active rest; walking)

**Duration:** ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.

**Purpose:** increase aerobic capacity.

**Action:** circuit with 3 stations

**Game:** The children help setting up the stations and form couples of two children.

**Setting:** Whole gym.

**Suggestions:**
- **Exercise E.**

**Equipment:**
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- **Exercise F.**

Distance mat 1: 2 metres
Distance mat 2: 3 metres
Distance mat 3: 5 metres

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.
- **Exercise G.**

**Equipment:**
- 2 sticks standing up
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

**B.**

**Intensity:** maximum
**Number of repetitions:** 5
**Number of series:** 3
**Activity / rest ratio:** 1:4 (active rest: e.g. walking, cycling, playing with a ball)
**Duration:** ± 25 minutes. 15 x 120 seconds (each child is very active for 15 x 20 seconds and has 15 x 100 seconds active rest) and time to change between the exercises.
**Purpose:** increasing anaerobic capacity
**Action:** circuit with 3 stations
**Game:** The children help setting up the stations
**Setting:** Whole gym.
**Suggestion:**

1. **Step-up exercise (forwards)**

**Equipment:**
- Step or block

Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)
Turn around and go back, this time with the left leg first. Count the number of times you go over the step.
5. **Beanbag Walk**  
**Equipment:**  
- 4 mats  
- 12 beanbags

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

3. **Obstacle course**  
**Equipment:**  
- 1 hoop  
- beanbags  
- 1 step  
- 1 hurdle  
- 1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.

**Course:** hoop → step → hurdle → basket

Count the number of beanbags in the basket.

4. **Closure**  
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 38:          Month 5

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes
   - **Push and Pull**
     
     **Arrangement**
     - Whole gym
     - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. **Fitness-part**

   A.  
   **Intensity:** heart rate minimal 70-80% of their maximum heart rate  
   **Number of repetitions:** 3  
   **Number of series:** 1  
   **Activity / rest ratio:** 1:1 (active rest; walking)  
   **Duration:** ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.  
   **Purpose:** increase aerobic capacity.  
   **Action:** circuit with 3 stations  
   **Game:** The children help setting up the stations and form couples of two children.  
   **Setting:** Whole gym.  
   **Suggestions:**
- **Exercise H.**

  **Equipment:**
  - 2 benches
  - 2 boxes/bins
  - approx. 25 balls/bags

  Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumocusing over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise A.**

  **Equipment:**
  - 10 blocks
  - 1 bench

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- **Exercise B.**

  **Equipment:**
  - 5 pylons
  - 1 scoring area
  - 1 ball

  Total distance = 10-12 metres

  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

  **B.**
  **Intensity:** maximum
  **Number of repetitions:** 5
  **Number of series:** 3
  **Activity / rest ratio:** 1:4 (active rest: e.g. walking, cycling, playing with a ball)
  **Duration:** ± 25 minutes. 15 x 120 seconds (each child is very active for 15 x 20 seconds and has 15 x 100 seconds active rest) and time to change between the exercises.
  **Purpose:** increasing anaerobic capacity
  **Action:** circuit with 3 stations
  **Game:** The children help setting up the stations
  **Setting:** Whole gym.
  **Suggestion:**

  **2. Step-up-exercises (sideways)**

  **Equipment:**
  - 1 step or block

  Stand next to the step, with your feet parallel to it. Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

  **6 5 metre sprint**

  **Equipment:**
  - 2 strips of tape

  Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.
5. **Beanbag Walk**

**Equipment:**
- 4 mats
- 12 beanbags

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 39:  

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes

   - **Catch one…catch all**  
   
   *Arrangement*
   - Half of the gym.
   
   The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.

3. **Fitness-part**

   A.  
   
   **Intensity**: heart rate minimal 70-80% of their maximum heart rate  
   **Number of repetitions**: 3  
   **Number of series**: 1  
   **Activity / rest ratio**: 1:1 (active rest; walking)  
   **Duration**: ± 20 minutes. 3 x 6 minutes (each child is 3 x 3 minutes active and 3 x 3 minutes rest) and the time to change from working stations.  
   **Purpose**: increase aerobic capacity.  
   **Action**: circuit with 3 stations  
   **Game**: The children help setting up the stations and form couples of two children.  
   **Setting**: Whole gym.  
   **Suggestions**:  

   - **Exercise C.**  
   
   **Equipment**:  
   - 2 boxes  
   - beanbags/balls

   ![Diagram](image)

   Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.
- **Exercise D.**

  **Equipment:**
  - 2 boxes
  - approx. 10 balls
  - 4 benches
  - 1 blue exercise mat

  **Total distance = 8-10 metres**

  Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

- **Exercise E.**

  **Equipment:**
  - 5 pylons
  - 1 stick
  - 1 ring
  - 1 blue exercise mat

  Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.
B.
Intensity: maximum
Number of repetitions: 5
Number of series: 3
Activity / rest ratio: 1:4 (active rest: e.g walking, cycling, playing with a ball)
Duration: ±25 minutes. 15 x 120 seconds (each child is very active for 15 x 20 seconds and has 15 x 100 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

3. Obstacle course
Equipment:
1 hoop
beanbags
1 step
1 hurdle
1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.
Course: hoop → step → hurdle → basket

Count the number of beanbags in the basket.

7. Shuttle sprint
Equipment:
5 strips of tape 1.5 metres apart (total 6 metres)

From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

Starting line 1 2 3 4
1. **Step-up exercise (forwards)**

   **Equipment:**  
   Step or block

   Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)

   Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

   ![Diagram of step-up exercise](image)

   - Right leg first
   - Left leg first

4. **Closure**

   Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 40:          Month 5

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
   - Walking/running/hopping
   
   **Arrangement**
   - Whole gym
   - Children in a row, next to each other.
   First suggestion: "We run to the other side and back."
   Second suggestion: "We hop to the other side and back two times."
   Third suggestion: "We sprint to the other side and back two times."
   Fourth suggestion: "We jog to the other side and back three times."

3. Fitness-part
   • Obstacle baseball
   
   **Equipment:**
   - basket
   - bat
   - 6 benches (1 bench for the “batting team”; 1 bench for a obstacle 1; 2x2 benches for obstacle 2)
   - 1 blue exercise mat
   - 1 pylon with foamball
   - 4 mats (=4 bases)
   
   **Arrangement:**
   - Whole gym
   
   ![Diagram of Obstacle Baseball Setup](image)

   There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways.

   The batter is out when:
   - The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across the “home-base” line) in three attempts.

   The batter-runner is out when:
   - She/he fails to reach a base before a fielder with a ball delivers it to the basket.
A player on the batting team can stop at any of the bases and hope to score on a teammate's hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 41:  

1. **Introduction**
Duration: ± 5 min

2. **Warming-up**
Duration: ± 5 minutes
- **Athletic start**

   **Equipment:**
   - 2 pylons

   **Arrangement**
   - Whole gym
   - Children in two rows, next to each other

   - Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.
   - Practice the same exercise with the other leg in front.
   - Let them find out which leg is their “best” leg. They have 4 trials.

3. **Fitness-part**

   **A.**
   **Intensity:** heart rate minimal 70-80% of their maximum heart rate
   **Number of repetitions:** 2
   **Number of series:** 1
   **Activity / rest ratio:** 1:1 (active rest: walking)
   **Duration:** ± 15 minutes. 2 x 6 minutes (each child is 2 x 3 minutes active and 2 x 3 minutes rest) and the time to change from working stations.

   **Purpose:** increase aerobic capacity.

   **Action:** circuit with 3 stations. Pay attention: Not every exercise is being performed by the children!

   **Game:** The children help setting up the stations and form couples of two children.

   **Setting:** Whole gym.

   **Suggestions:**
- Exercise F.

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

- Exercise G.

Equipment:
- 2 sticks standing up
- 10-15 rings

The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.
- Exercise H.

**Equipment:**

- 2 benches
- 2 boxes/bins
- approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jummoing over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

**B.**

**Intensity:** maximum

**Number of repetitions:** 5

**Number of series:** 2

**Activity / rest ratio:** 1:3 (active rest: e.g walking, cycling, playing with a ball)

**Duration:** ± 20 minutes. 10 x 125 seconds (each child is very active for 10 x 25 seconds and has 10 x 75 seconds active rest) and time to change between the exercises.

**Purpose:** increasing anaerobic capacity

**Action:** circuit with 3 stations

**Game:** The children help setting up the stations

**Setting:** Whole gym.

**Suggestion:**

4. **Up and Down the Slope**

**Equipment:**

- 2 benches
- Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.
8. **Ring hockey**  
**Equipment:**  
- 1 stick  
- 5 rings  

Start behind the line, holding the stick. Sprint to the other side and get a ring. Sprint back to the start, pushing the ring along the ground with the stick. Sprint to get the next ring and repeat. Count the number of rings collected.

3. **Obstacle course**  
**Equipment:**  
- 1 hoop  
- beanbags  
- 1 step  
- 1 hurdle  
- 1 basket  

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.  
**Course:** hoop → step → hurdle → basket

Count the number of beanbags in the basket.

4. **Closure**  
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 42: 

1. Introduction  
Duration: ± 5 min  

2. Warming-up  
Duration: ± 5 minutes  
   - Push and Pull  
   **Arrangement**  
     - Whole gym  
     - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.  

3. Fitness-part  
   A.  
   **Intensity**: heart rate minimal 70-80% of their maximum heart rate  
   **Number of repetitions**: 2  
   **Number of series**: 1  
   **Activity / rest ratio**: 1:1 (active rest; walking)  
   **Duration**: ± 15 minutes. 2 x 6 minutes (each child is 2 x 3 minutes active and 2 x 3 minutes rest) and the time to change from working stations.  
   **Purpose**: increase aerobic capacity.  
   **Action**: circuit with 3 stations. Pay attention: Not every exercise is being performed by the children!  
   **Game**: The children help setting up the stations and form couples of two children.  
   **Setting**: Whole gym.  
   **Suggestions**:  
   - **Exercise A.**  
     **Equipment:**  
     - 10 blocks  
     - 1 bench  
     Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.
- **Exercise B.**

  **Equipment:**
  
  - 5 pylons
  - 1 scoring area
  - 1 ball

  Total distance = 10-12 metres

  Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

  **Equipment:**
  
  - 2 boxes
  - beanbags/balls

  Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

**B.**

**Intensity:** maximum

**Number of repetitions:** 5

**Number of series:** 2

**Activity / rest ratio:** 1:3 (active rest: e.g. walking, cycling, playing with a ball)

**Duration:** ± 20 minutes. 10 x 125 seconds (each child is very active for 10 x 25 seconds and has 10 x 75 seconds active rest) and time to change between the exercises.

**Purpose:** increasing anaerobic capacity

**Action:** circuit with 3 stations

**Game:** The children help setting up the stations

**Setting:** Whole gym.

**Suggestion:**
1. **Step-up exercise (forwards)**  
   **Equipment:**  
   Step or block  

   Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)  
   Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

   ![Step-up exercise diagram](image)

5. **Beanbag Walk**  
   **Equipment:**  
   4 mats  
   12 beanbags  

   Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

![Beanbag Walk diagram](image)

7. **Shuttle sprint**  
   **Equipment:**  
   5 strips of tape 1.5 metres apart (total 6 metres)  

   From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

![Shuttle sprint diagram](image)

4. **Closure**  
   Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 43:          Month 6

1. Introduction
   Duration: ≈ 5 min

2. Warming-up
   Duration: ≈ 5 minutes
   
   • Ballrace
      Equipment:
      - Hoop
      - Balls
      - 4 pylons
      
      Arrangement
      - Half of the gym
      - Hoop and balls
      
      The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group - 2; So, at a group of 6; 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. Fitness-part
   A.
   
   Intensity: heart rate minimal 70-80% of their maximum heart rate
   Number of repetitions: 2
   Number of series: 1
   Activity / rest ratio: 1:1 (active rest; walking)
   Duration: ± 15 minutes. 2 x 6 minutes (each child is 2 x 3 minutes active and 2 x 3 minutes rest) and the time to change from working stations.
   Purpose: increase aerobic capacity.
   Action: circuit with 3 stations. Pay attention: Not every exercise is being performed by the children!
   Game: The children help setting up the stations and form couples of two children.
   Setting: Whole gym.
   Suggestions:
- **Exercise D.**

**Equipment:**
- 2 boxes
- approx. 10 balls
- 4 benches
- 1 blue exercise mat

Total distance = 8-10 metres

Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.

- **Exercise E.**

**Equipment:**
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.
Functionally based exercise program for children and adolescents with cerebral palsy

Olaf Verschuren, 2009

- Exercise F.

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

B.

Intensity: maximum
Number of repetitions: 5
Number of series: 2
Activity / rest ratio: 1:3 (active rest: e.g. walking, cycling, playing with a ball)
Duration: ± 20 minutes. 10 x 125 seconds (each child is very active for 10 x 25 seconds and has 10 x 75 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

2. Step-up-exercises (sideways)

Equipment:
1 step or block
Stand next to the step, with your feet parallel to it.
Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

6 5 metre sprint

Equipment:
2 strips of tape
Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.
5. **Beanbag Walk**

**Equipment:**
- 4 mats
- 12 beanbags

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

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4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 44:  
Month 6

1. Introduction  
Duration: ± 5 min

2. Warming-up  
Duration: ± 5 minutes  
Equipment:  
- Wall  
- Big balls

The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. Fitness-part

A.  
Intensity: heart rate minimal 70-80% of their maximum heart rate  
Number of repetitions: 2  
Number of series: 1  
Activity / rest ratio: 1:1 (active rest; walking)  
Duration: ± 15 minutes. 2 x 6 minutes (each child is 2 x 3 minutes active and 2 x 3 minutes rest) and the time to change from working stations.  
Purpose: increase aerobic capacity.  
Action: circuit with 3 stations. Pay attention: Not every exercise is being performed by the children!  
Game: The children help setting up the stations and form couples of two children.  
Setting: Whole gym.  
Suggestions:
- Exercise G.
  Equipment:
  2 sticks standing up
  10-15 rings

  The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter it on the circuit scoreboard.

- Exercise H.
  Equipment:
  2 benches
  2 boxes/bins
  approx. 25 balls/bags

  Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scoreboard.
- **Exercise A.**

  **Equipment:**
  - 10 blocks
  - 1 bench

  Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

B.

**Intensity:** maximum  
**Number of repetitions:** 5  
**Number of series:** 2  
**Activity / rest ratio:** 1:3 (active rest: e.g. walking, cycling, playing with a ball)  
**Duration:** ± 20 minutes. 10 x 125 seconds (each child is very active for 10 x 25 seconds and has 10 x 75 seconds active rest) and time to change between the exercises.  
**Purpose:** increasing anaerobic capacity  
**Action:** circuit with 3 stations  
**Game:** The children help setting up the stations  
**Setting:** Whole gym.  
**Suggestion:**

3. **Obstacle course**

  **Equipment:**
  - 1 hoop  
  - beanbags  
  - 1 step  
  - 1 hurdle  
  - 1 basket

  Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.  
  **Course:** hoop → step → hurdle → basket

  Count the number of beanbags in the basket.
7. **Shuttle sprint**

**Equipment:**
- 5 strips of tape 1.5 metres apart (total 6 metres)

From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

![Diagram of shuttle sprint]

2. **Step-up-exercises (sideways)**

**Equipment:**
- 1 step or block

Stand next to the step, with your feet parallel to it. Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 45:  

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes
   - **Push and Pull**
     
     *Arrangement*
     - Whole gym
     - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. **Fitness-part**
   
   A. **Intensity:** heart rate minimal 70-80% of their maximum heart rate  
   **Number of repetitions:** 2  
   **Number of series:** 1  
   **Activity / rest ratio:** 1:1 (active rest; walking)  
   **Duration:** ± 15 minutes. 2 x 6 minutes (each child is 2 x 3 minutes active and 2 x 3 minutes rest) and the time to change from working stations.  
   **Purpose:** increase aerobic capacity.  
   **Action:** circuit with 3 stations. **Pay attention:** Not every exercise is being performed by the children!  
   **Game:** The children help setting up the stations and form couples of two children.  
   **Setting:** Whole gym.  
   **Suggestions:**
- **Exercise B.**

   Equipment:
   5 pylons
   1 scoring area
   1 ball

   Total distance = 10-12 metres

   Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.

- **Exercise C.**

   Equipment:
   2 boxes
   beanbags/balls

   6-8 metres

   Start near a bin filled with balls/beanbags. Take a ball/beanbag and run in a straight line to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- **Exercise D.**

   Equipment:
   2 boxes
   approx. 10 balls
   4 benches
   1 blue exercise mat

   Total distance = 8-10 metres

   Start near a bin filled with balls/beanbags. Take a ball/beanbag out of the bin then move as fast as possible to the second bin via the tunnel (2 benches with a mat over them). Run back along the outside of the tunnel to the first bin. Another child can make sure the mat stays in place and enter the number of balls/beanbag on the circuit scorecard.
B.

Intensity: maximum
Number of repetitions: 5
Number of series: 2
Activity / rest ratio: 1:3 (active rest: e.g. walking, cycling, playing with a ball)
Duration: ± 20 minutes. 10 x 125 seconds (each child is very active for 10 x 25 seconds and
has 10 x 75 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

4. Up and Down the Slope

Equipment:
- 2 benches
- Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang
a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast
as possible. Repeat. Count the number of times the target is touched.

8. Ring hockey

Equipment:
- 1 stick
- 5 rings

Start behind the line, holding the stick. Sprint to the other side and get a ring.
Sprint back to the start, pushing the ring along the ground with the stick. Sprint to get the
next ring and repeat. Count the number of rings collected.

6. 5 metre sprint

Equipment:
- 2 strips of tape

Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two
lines. One foot must be over the line before turning. Count the number of sprints.

4. Closure

Children help cleaning up the gym and return their heart rate monitors and watches.
Feed-back can be provided.
Lesson 46:  

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes
   - **Catch one........catch all**

   **Arrangement**
   - Half of the gym.
   The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.

3. **Fitness-part**

   **A.**
   - **Intensity**: heart rate minimal 70-80% of their maximum heart rate
   - **Number of repetitions**: 2
   - **Number of series**: 1
   - **Activity / rest ratio**: 1:1 (active rest; walking)
   - **Duration**: ± 15 minutes. 2 x 6 minutes (each child is 2 x 3 minutes active and 2 x 3 minutes rest) and the time to change from working stations.
   - **Purpose**: increase aerobic capacity.
   - **Action**: circuit with 3 stations. Pay attention: Not every exercise is being performed by the children!
   - **Game**: The children help setting up the stations and form couples of two children.
   - **Setting**: Whole gym.
   - **Suggestions**: 
- Exercise E.

**Equipment:**
- 5 pylons
- 1 stick
- 1 ring
- 1 blue exercise mat

Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard.

- Exercise F.

Distance mat 1: 2 metres
Distance mat 2: 3 metres
Distance mat 3: 5 metres

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.

- Exercise G.

**Equipment:**
- 2 sticks standing up
- 10-15 rings

The child starts on the “start mat” and sprints to one of the 3 other mats, stands on the mat and then sprints back to the start. Mat 1 (2 metres) scores 1 point; Mat 2 (3 metres) scores 2 points and Mat 3 (5 metres) scores 3 points. Count the total number of points and enter on the circuit scorecard.
The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard.

B.
Intensity: maximum
Number of repetitions: 5
Number of series: 2
Activity / rest ratio: 1:3 (active rest: e.g. walking, cycling, playing with a ball)
Duration: ± 20 minutes. 10 x 125 seconds (each child is very active for 10 x 25 seconds and has 10 x 75 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

1. Step-up exercise (forwards)
   Equipment: Step or block
   Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)
   Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

2. Beanbag Walk
   Equipment: 4 mats 12 beanbags
   Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.
7. **Shuttle sprint**

**Equipment:**
- 5 strips of tape 1.5 metres apart (total 6 metres)

From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

```
Starting line 1 2 3 4
```

4. **Closure**

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 47: Month 6

1. **Introduction**
   Duration: ± 5 min

2. **Warming-up**
   Duration: ± 5 minutes
   **Equipment:**
   - Wall
   - Big balls

   The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. **Fitness-part**

   A.
   - **Intensity:** heart rate minimal 70-80% of their maximum heart rate
   - **Number of repetitions:** 2
   - **Number of series:** 1
   - **Activity / rest ratio:** 1:1 (active rest; walking)
   - **Duration:** ± 15 minutes. 2 x 6 minutes (each child is 2 x 3 minutes active and 2 x 3 minutes rest) and the time to change from working stations.
   - **Purpose:** increase aerobic capacity.
   - **Action:** circuit with 3 stations. **Pay attention:** Not every exercise is being performed by the children!
   - **Game:** The children help setting up the stations and form couples of two children.
   - **Setting:** Whole gym.
   - **Suggestions:**
- Exercise H.

**Equipment:**
2 benches  
2 boxes/bins  
approx. 25 balls/bags

Start at the bin/box with balls/bags. Take a ball/beanbag and run in a straight line, while stepping/jumping over the two benches, to the second bin and drop in the ball/beanbag. Run back to the starting point and repeat. Count the number of balls moved and enter it on the circuit scorecard.

- Exercise A.

**Equipment:**
10 blocks  
1 bench

Run forward stepping over the step. Knock over a cylinder/cone. Run back, stepping over the bench again and knock over another cylinder/cone. Another child can put them back up. Enter the number knocked over on the circuit scorecard.

- Exercise B.

**Equipment:**
5 pylons  
1 scoring area  
1 ball

Total distance = 10-12 metres

Starting at the first cylinder/cone, run between the others to the ball at the end. Kick the ball to the goal. Another child can be the keeper who guards the goal and tries to catch the ball. The keeper then puts the ball back in place. Repeat the process. Count the number of times that the ball is kicked (not just goals scored) and enter on the circuit scorecard.
B.

Intensity: maximum
Number of repetitions: 5
Number of series: 2
Activity / rest ratio: 1:3 (active rest: e.g walking, cycling, playing with a ball)
Duration: ± 20 minutes. 10 x 125 seconds (each child is very active for 10 x 25 seconds and has 10 x 75 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.

Suggestion:

2. Step-up-exercises (sideways)

Equipment:
1 step or block
Stand next to the step, with your feet parallel to it.
Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

6. 5 metre sprint

Equipment:
2 strips of tape
Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.

3. Obstacle course

Equipment:
1 hoop
beanbags
1 step
1 hurdle
1 basket
Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.
Course: hoop → step → hurdle → basket
Count the number of beanbags in the basket.

4. Closure

Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
Lesson 48: Month 6

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
   - Walking/running/hopping
   **Arrangement**
   - Whole gym
   - Children in a row, next to each other.
   First suggestion: "We run to the other side and back."
   Second suggestion: "We hop to the other side and back two times."
   Third suggestion: "We sprint to the other side and back two times."
   Fourth suggestion: "We jog to the other side and back three times."

3. Fitness-part
   - **Obstacle baseball**
   **Equipment:**
   - basket
   - bat
   - 6 benches (1 bench for the “batting team”; 1 bench for obstacle 1; 2x2 benches for obstacle 2)
   - 1 blue exercise mat
   - 1 pylon with foamball
   - 4 mats (=4 bases)
   **Arrangement:**
   - Whole gym

There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways.

The batter is out when:
   - The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across the “home-base” line) in three attempts.

The batter-runner is out when:
She/he fails to reach a base before a fielder with a ball delivers it to the basket.

A player on the batting team can stop at any of the bases and hope to score on a teammate’s hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. Closure
Children help cleaning up the gym and return their heart rate monitors and watches. Feed-back can be provided.
1. **Introduction**  
Duration: ± 5 min  
The program is changing! The next two months will be focussed on anaerobic training. There is no need to wear heart rate monitors anymore. The children have to perform at maximal capacity!

2. **Warming-up**  
Duration: ± 5 minutes  
- **Push and Pull**

*Arrangement*  
- Whole gym  
- Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. **Fitness-part**  
*Intensit*y: maximum  
*Number of repetitions:* 5  
*Number of series:* 3  
*Activity / rest ratio:* 1:3 (active rest: e.g. walking, cycling, playing with a ball)  
*Duration:* ± 30 minutes. 15 x 100 seconds (each child is very active for 15 x 25 seconds and has 15 x 75 seconds active rest) and time to change between the exercises.  
*Purpose:* increasing anaerobic capacity  
*Action:* circuit with 3 stations  
*Game:* The children help setting up the stations  
*Setting:* Whole gym.  
*Suggestion:*  

3. **Obstacle course**  
*Equipment:*  
- 1 hoop  
- beanbags  
- 1 step  
- 1 hurdle  
- 1 basket  
Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.  
*Course:* hoop → step → hurdle → basket  

Count the number of beanbags in the basket.
4. **Up and Down the Slope**

**Equipment:**
- 2 benches
- Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

5. **Beanbag Walk**

**Equipment:**
- 4 mats
- 12 beanbags

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

4. **Closure**

Children help cleaning up the gym.
Feed-back can be provided.
Lesson 50:  
Month 7

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
   - Walking/running/hopping

Arrangement
- Whole gym
- Children in a row, next to eachother.
First suggestion:
"We run to the other side and back."
Second suggestion:
"We hop to the other side and back two times."
Third suggestion:
"We sprint to the other side and back two times."
Fourth suggestion:
"We jog to the other side and back three times."

3. Fitness-part
   Intensity: maximum
   Number of repetitions: 5
   Number of series: 3
   Activity / rest ratio: 1:3 (active rest: e.g walking, cycling, playing with a ball)
   Duration: ± 30 minutes. 15 x 100 seconds (each child is very active for 15 x 25 seconds and has 15 x 75 seconds active rest) and time to change between the exercises.
   Purpose: increasing anaerobic capacity
   Action: circuit with 3 stations
   Game: The children help setting up the stations
   Setting: Whole gym.
   Suggestion:

6. 5 metre sprint
Equipment:
   2 strips of tape
Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.

![5m sprint diagram]
7. **Shuttle sprint**

   **Equipment:**
   - 5 strips of tape 1.5 metres apart (total 6 metres)

   From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

   ![Diagram of shuttle sprint]

<table>
<thead>
<tr>
<th>Starting line</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **Step-up exercise (forwards)**

   **Equipment:**
   - Step or block

   Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)
   Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

   ![Diagram of step-up exercise]

<table>
<thead>
<tr>
<th>Right leg first</th>
<th>Left leg first</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. **Closure**

   Children help cleaning up the gym.
   Feed-back can be provided.
Lesson 51:  

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes  
- **Rawhide**

**Equipment:**  
- 2 benches  
- 2 ribbons

**Arrangement:**  
- Half of the gym.  
- Bench in the middle  
- Bench in a corner of the gym

There are two chasers (with ribbons) who must try to catch the other children as fast as possible. One of the two chasers has to sit on the bench with both legs on one side. When chaser number 1 sits on the bench, chaser number 2 can start running. All children can cross the bench by jumping/stepping over, except the chasers. When a child is tagged he/she sits on the bench in the corner. When the chasers make a mistake, and they are both standing, all children can join the game again. The game ends when all children are tagged.

3. **Fitness-part**

**Intensity:** maximum  
**Number of repetitions:** 5  
**Number of series:** 3  
**Activity / rest ratio:** 1:3 (active rest: e.g walking, cycling, playing with a ball)  
**Duration:** ± 30 minutes. 15 x 100 seconds (each child is very active for 15 x 25 seconds and has 15 x 75 seconds active rest) and time to change between the exercises.  
**Purpose:** increasing anaerobic capacity  
**Action:** circuit with 3 stations  
**Game:** The children help setting up the stations  
**Setting:** Whole gym.  
**Suggestion:**
2. **Step-up-exercises (sideways)**

   **Equipment:**
   
   1 step or block

   Stand next to the step, with your feet parallel to it.
   Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

3. **Obstacle course**

   **Equipment:**
   
   1 hoop
   beanbags
   1 step
   1 hurdle
   1 basket

   Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.
   
   Course: hoop \(\rightarrow\) step \(\rightarrow\) hurdle \(\rightarrow\) basket

   Count the number of beanbags in the basket.

4. **Up and Down the Slope**

   **Equipment:**
   
   2 benches
   Wall bars / ladder

   Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

4. **Closure**

   Children help cleaning up the gym.
   Feed-back can be provided.
Lesson 52:          Month 7

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

   - Ballrace

**Equipment:**
- Hoop
- Balls
- 4 pylons

**Arrangement**
- Half of the gym
- Hoop and balls

The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.

3. Fitness-part

   **Intensity:** maximum
   **Number of repetitions:** 5
   **Number of series:** 3
   **Activity / rest ratio:** 1:3 (active rest: e.g walking, cycling, playing with a ball)
   **Duration:** ± 30 minutes. 15 x 100 seconds (each child is very active for 15 x 25 seconds and has 15 x 75 seconds active rest) and time to change between the exercises.
   **Purpose:** increasing anaerobic capacity
   **Action:** circuit with 3 stations
   **Game:** The children help setting up the stations
   **Setting:** Whole gym.
   **Suggestion:**

*Functionally based exercise program for children and adolescents with cerebral palsy.* Olaf Verschuren, 2009
5. **Beanbag Walk**

*Equipment:*
- 4 mats
- 12 beanbags

Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

6. **5 metre sprint**

*Equipment:*
- 2 strips of tape

Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.

1. **Step-up exercise (forwards)**

*Equipment:*
- Step or block

Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary) Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

4. **Closure**

Children help cleaning up the gym. Feed-back can be provided.
Lesson 53:  

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes  
   **Equipment:**  
   - Wall  
   - Big balls

   The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. **Fitness-part**  
   **Intensity:** maximum  
   **Number of repetitions:** 5  
   **Number of series:** 3  
   **Activity / rest ratio:** 1:3 (active rest: e.g walking, cycling, playing with a ball)  
   **Duration:** ± 30 minutes. 15 x 100 seconds (each child is very active for 15 x 25 seconds and has 15 x 75 seconds active rest) and time to change between the exercises.  
   **Purpose:** increasing anaerobic capacity  
   **Action:** circuit with 3 stations  
   **Game:** The children help setting up the stations  
   **Setting:** Whole gym  
   **Suggestion:**

2. **Step-up-exercises (sideways)**  
   **Equipment:**  
   - 1 step or block

   Stand next to the step, with your feet parallel to it.  
   Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.
3. **Obstacle course**

**Equipment:**
- 1 hoop
- beanbags
- 1 step
- 1 hurdle
- 1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.

Course: hoop → step → hurdle → basket

Count the number of beanbags in the basket.

4. **Up and Down the Slope**

**Equipment:**
- 2 benches
- Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

4. **Closure**

Children help cleaning up the gym.

Feed-back can be provided.
Lesson 54:  

Month 7

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes  
- **Walking/running/hopping**
  
  **Arrangement**  
  - Whole gym  
  - Children in a row, next to each other.  
  First suggestion: "We run to the other side and back."  
  Second suggestion: "We hop to the other side and back two times."  
  Third suggestion: "We sprint to the other side and back two times."  
  Fourth suggestion: "We jog to the other side and back three times."

3. **Fitness-part**  
**Intensity:** maximum  
**Number of repetitions:** 5  
**Number of series:** 3  
**Activity / rest ratio:** 1:3 (active rest: e.g. walking, cycling, playing with a ball)  
**Duration:** ± 30 minutes. 15 x 100 seconds (each child is very active for 15 x 25 seconds and has 15 x 75 seconds active rest) and time to change between the exercises.  
**Purpose:** increasing anaerobic capacity  
**Action:** circuit with 3 stations  
**Game:** The children help setting up the stations  
**Setting:** Whole gym.  
**Suggestion:**

4. **Shuttle sprint**  
**Equipment:** 5 strips of tape 1.5 metres apart (total 6 metres)  
From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

[Diagram of shuttle sprint with lines 1 to 4 and arrows indicating direction]
8. **Ring hockey**  
**Equipment:**  
1 stick  
5 rings  

Start behind the line, holding the stick. Sprint to the other side and get a ring.  
Sprint back to the start, pushing the ring along the ground with the stick.  
Sprint to get the next ring and repeat. Count the number of rings collected.

1. **Step-up exercise (forwards)**  
**Equipment:**  
Step or block  

Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)  
Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

4. **Closure**  
Children help cleaning up the gym.  
Feed-back can be provided.
Lesson 55:          Month 7

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

   • Catch one……..catch all

Arrangement
- Half of the gym.
The game is generally played in the field with all participants. One person in the group is "it". The first person s/he tags is *also* "it". Now, the two chase the others, and so on, until the last person is caught. The last person caught is "it" for the subsequent round of play. There is no real winner, per se, but there are bragging rights for the last caught.

3. Fitness-part
Intensity: maximum
Number of repetitions: 5
Number of series: 3
Activity / rest ratio: 1:3 (active rest: e.g walking, cycling, playing with a ball)
Duration: ± 30 minutes. 15 x 100 seconds (each child is very active for 15 x 25 seconds and has 15 x 75 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

2. Step-up-exercises (sideways)
Equipment:
   1 step or block
Stand next to the step, with your feet parallel to it.
Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

3. Obstacle course
Equipment:
   1 hoop
   beanbags
   1 step
   1 hurdle
   1 basket
Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.
Course: hoop → step → hurdle → basket

Count the number of beanbags in the basket.
4. **Up and Down the Slope**

**Equipment:**
- 2 benches
- Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

4. **Closure**

Children help cleaning up the gym. Feed-back can be provided.
Lesson 56:          Month 7

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

- Ballrace

Equipment:
- Hoop
- Balls
- 4 pylons

Arrangement
- Half of the gym
- Hoop and balls

The children jog in a square/circle around a hoop with a number of balls (number of balls = size of the group -2; So, at a group of 6: 6-2 = 4 balls). On the signal (e.g. whistle) of the coach the children must get a ball out of the hoop as soon as possible. The children with a ball receive a point. Afterwards the balls are put back into the hoop, and the children have to jog again and wait for the signal to run to the balls. The children can keep track of their score.
3. **Fitness-part**
   - **Obstacle baseball**

   **Equipment:**
   - basket
   - bat
   - 6 benches (1 bench for the “batting team”; 1 bench for a obstacle 1; 2x2 benches for obstacle 2)
   - 1 blue exercise mat
   - 1 pylon with foamball
   - 4 mats (=4 bases)

   **Arrangement:**
   - Whole gym

   ![Diagram of the gym setup]

   There are two teams (the batting team and the fielding team). Players on one team (the batting team) take turns hitting against the foam ball that lies on the pylon. The fielding team tries to stop them from scoring runs by getting hitters out in any of several ways.

   The batter is out when:
   - The strike is caught in flight, or she/he doesn’t hit the ball in the right direction (across the “home-base” line) in three attempts.

   The batter-runner is out when:
   - She/he fails to reach a base before a fielder with a ball delivers it to the basket.

   A player on the batting team can stop at any of the bases and hope to score on a teammate’s hit. The teams switch between batting and fielding whenever the fielding team gets three outs. One turn at bat for each team constitutes an inning. Every player from the batting team that crosses the “home-base” line scores one point for their team. The team with the most runs at the end of the game wins.

4. **Closure**
   Children help cleaning up the gym.
   Feed-back can be provided.
Lesson 57:          Month 8

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes

   • Push and Pull

   *Arrangement*
   - Whole gym
   - Children in couples (similar height/weight if possible) start at the middle of the gym and hold each other by the shoulders. At the starting signal they try to push each other to the end of the gym (line). They perform this game three times.

3. Fitness-part
   *Intensity*: maximum
   *Number of repetitions*: 5
   *Number of series*: 3
   *Activity / rest ratio*: 1:3 (active rest: e.g walking, cycling, playing with a ball)
   *Duration*: ± 35 minutes. 15 x 120 seconds (each child is very active for 15 x 30 seconds and has 15 x 90 seconds active rest) and time to change between the exercises.
   *Purpose*: increasing anaerobic capacity
   *Action*: circuit with 3 stations
   *Game*: The children help setting up the stations
   *Setting*: Whole gym.
   *Suggestion*:

   1. Step-up exercise (forwards)
   *Equipment*:
      - Step or block

   Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)
   Turn around and go back, this time with the left leg first. Count the number of times you go over the step.
3. **Obstacle course**

**Equipment:**
- 1 hoop
- beanbags
- 1 step
- 1 hurdle
- 1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.

Course: hoop → step → hurdle → basket

Count the number of beanbags in the basket.

4. **Up and Down the Slope**

**Equipment:**
- 2 benches
- Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

4. **Closure**

Children help cleaning up the gym.

Feed-back can be provided.
Lesson 58:          Month 8

1. **Introduction**  
Duration: ± 5 min

2. **Warming-up**  
Duration: ± 5 minutes  
   - **Athletic start**  
   
   **Equipment:**  
   2 pylons

   **Arrangement**  
   - Whole gym  
   - Children in two rows, next to each other

   - Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.
   - Practice the same exercise with the other leg in front.
   - Let them find out which leg is their “best” leg. They have 4 trials.

3. **Fitness-part**  
   **Intensity:** maximum  
   **Number of repetitions:** 5  
   **Number of series:** 3  
   **Activity / rest ratio:** 1:3 (active rest: e.g walking, cycling, playing with a ball)  
   **Duration:** ± 35 minutes. 15 x 120 seconds (each child is very active for 15 x 30 seconds and has 15 x 90 seconds active rest) and time to change between the exercises.  
   **Purpose:** increasing anaerobic capacity  
   **Action:** circuit with 3 stations  
   **Game:** The children help setting up the stations  
   **Setting:** Whole gym.  
   **Suggestion:**
2.  **Step-up-exercises (sideways)**

   **Equipment:**
   
   1 step or block

   Stand next to the step, with your feet parallel to it. Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

5.  **Beanbag Walk**

   **Equipment:**
   
   4 mats
   12 beanbags

   Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

6.  **5 metre sprint**

   **Equipment:**
   
   2 strips of tape

   Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.

4.  **Closure**

   Children help cleaning up the gym. Feed-back can be provided.
Lesson 59:  

1. Introduction  
Duration: ± 5 min  

2. Warming-up  
Duration: ± 5 minutes  
Equipment:  
- Wall  
- Big balls  

The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.  

3. Fitness-part  
Intensity: maximum  
Number of repetitions: 5  
Number of series: 3  
Activity / rest ratio: 1:3 (active rest: e.g walking, cycling, playing with a ball)  
Duration: ± 35 minutes. 15 x 120 seconds (each child is very active for 15 x 30 seconds and has 15 x 90 seconds active rest) and time to change between the exercises.  
Purpose: increasing anaerobic capacity  
Action: circuit with 3 stations  
Game: The children help setting up the stations  
Setting: Whole gym.  
Suggestion:  

1. Step-up exercise (forwards)  
Equipment:  
- Step or block  

Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)  
Turn around and go back, this time with the left leg first. Count the number of times you go over the step.
7. **Shuttle sprint**

**Equipment:**
- 5 strips of tape 1.5 metres apart (total 6 metres)

From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

![Shuttle sprint diagram]

<table>
<thead>
<tr>
<th>Starting line</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

8. **Ring hockey**

**Equipment:**
- 1 stick
- 5 rings

Start behind the line, holding the stick. Sprint to the other side and get a ring. Sprint back to the start, pushing the ring along the ground with the stick. Sprint to get the next ring and repeat. Count the number of rings collected.

![Ring hockey diagram]

4. **Closure**

Children help cleaning up the gym.
Feed-back can be provided.
Lesson 60: Month 8

1. **Introduction**  
   Duration: ± 5 min

2. **Warming-up**  
   Duration: ± 5 minutes  
   - **Rawhide**

   **Equipment:**  
   - 2 benches  
   - 2 ribbons

   **Arrangement:**  
   - Half of the gym.  
   - Bench in the middle  
   - Bench in a corner of the gym

   There are two chasers (with ribbons) who must try to catch the other children as fast as possible. One of the two chasers has to sit on the bench with both legs on one side. When chaser number 1 sits on the bench, chaser number 2 can start running. All children can cross the bench by jumping/stepping over, except the chasers. When a child is tagged he/she sits on the bench in the corner. When the chasers make a mistake, and they are both standing, all children can join the game again. The game ends when all children are tagged.

3. **Fitness-part**

   **Intensity:** maximum  
   **Number of repetitions:** 5  
   **Number of series:** 3  
   **Activity / rest ratio:** 1:3 (active rest: e.g walking, cycling, playing with a ball)  
   **Duration:** ± 35 minutes. 15 x 120 seconds (each child is very active for 15 x 30 seconds and has 15 x 90 seconds active rest) and time to change between the exercises.  
   **Purpose:** increasing anaerobic capacity  
   **Action:** circuit with 3 stations  
   **Game:** The children help setting up the stations  
   **Setting:** Whole gym.  
   **Suggestion:**
2. **Step-up-exercises (sideways)**

   Equipment:
   - 1 step or block

   Stand next to the step, with your feet parallel to it.
   Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

3. **Obstacle course**

   Equipment:
   - 1 hoop
   - beanbags
   - 1 step
   - 1 hurdle
   - 1 basket

   Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.
   
   Course: hoop → step → hurdle → basket
   
   Count the number of beanbags in the basket.

4. **Up and Down the Slope**

   Equipment:
   - 2 benches
   - Wall bars / ladder

   Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

4. **Closure**

   Children help cleaning up the gym.
   Feed-back can be provided.
Lesson 61:          Month 8

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
- **Athletic start**

   **Equipment:**
   - 2 pylons

   **Arrangement**
   - Whole gym
   - Children in two rows, next to each other

- Two groups in a row at a line. The first child in line kneels down (half kneel) and starts running at the signal “ready, set, go!” and runs to the pylon. When crossing the pylon the speed can be reduced and the child return to the group.
- Practice the same exercise with the other leg in front.
- Let them find out which leg is their “best” leg. They have 4 trials.

3. Fitness-part

   **Intensity:** maximum
   **Number of repetitions:** 5
   **Number of series:** 3
   **Activity / rest ratio:** 1:3 (active rest: e.g walking, cycling, playing with a ball)
   **Duration:** ± 35 minutes. 15 x 120 seconds (each child is very active for 15 x 30 seconds and has 15 x 90 seconds active rest) and time to change between the exercises.

   **Purpose:** increasing anaerobic capacity
   **Action:** circuit with 3 stations
   **Game:** The children help setting up the stations
   **Setting:** Whole gym.
   **Suggestion:**
1. **Step-up exercise (forwards)**
   
   **Equipment:**
   - Step or block
   
   Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)
   
   Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

   ![Diagram of step-up exercise](image)

   - Right leg first
   - Left leg first

5. **Beanbag Walk**
   
   **Equipment:**
   - 4 mats
   - 12 beanbags
   
   Place 4 mats in a row, 1.5 metres apart. Put 4 beanbags on each of the first 3 mats. Take a beanbag from mat 1 to mat 2. Now take a beanbag from mat 2 to mat 3, then one from mat 3 to mat 4. Run back to the first mat and start again. Count the beanbags that have been moved and fill in the score card.

   ![Diagram of beanbag walk](image)

6. **5 metre sprint**
   
   **Equipment:**
   - 2 strips of tape
   
   Place 2 strips of tape 5 metres apart. Sprint as fast as possible back and forth between the two lines. One foot must be over the line before turning. Count the number of sprints.

   ![Diagram of 5 metre sprint](image)

4. **Closure**
   
   Children help cleaning up the gym.
   
   Feed-back can be provided.
Lesson 62:                Month 8

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
- Walking dodgeball

   Equipment:
   - 2 blue exercise mats
   - 1 soft foam ball
   - Ribbons

   Arrangement:
   - Whole gym.
   - 2 mats in the middle of each side of the gym

   Divide into even teams (or evenly matched!) and show them their own mat. Teams then take
   turns to throw a soft ball at the other team. They are not allowed to walk when having the
   ball. Players when hit below the knee have to go their one mat. From this position they can
   continue to attack the opposite team. When they hit a player from the other team they can join
   the game again. Winners are the first team to knock all the opposing team players on their
   mat.

3. Fitness-part
   Intensity: maximum
   Number of repetitions: 5
   Number of series: 3
   Activity / rest ratio: 1:3 (active rest: e.g. walking, cycling, playing with a ball)
   Duration: ± 35 minutes. 15 x 120 seconds (each child is very active for 15 x 30 seconds and
   has 15 x 90 seconds active rest) and time to change between the exercises.
   Purpose: increasing anaerobic capacity
   Action: circuit with 3 stations
   Game: The children help setting up the stations
   Setting: Whole gym.
   Suggestion:
2. Step-up-exercises (sideways)
   Equipment:
   1 step or block
   Stand next to the step, with your feet parallel to it.
   Step up with your right foot, then your left. Step off to the other side. Go back, starting with your left leg first. Count the number of times you have stepped over the bench.

7. Shuttle sprint
   Equipment:
   5 strips of tape 1.5 metres apart (total 6 metres)
   From the starting line, sprint to line 1. Touch the line and sprint back to the start. Now sprint to line 2, touch the line and sprint back to the start. Repeat for lines 3 and 4. Count the number of times you touch the lines and fill this in on the score card.

8. Ring hockey
   Equipment:
   1 stick
   5 rings
   Start behind the line, holding the stick. Sprint to the other side and get a ring. Sprint back to the start, pushing the ring along the ground with the stick. Sprint to get the next ring and repeat. Count the number of rings collected.

4. Closure
   Children help cleaning up the gym.
   Feed-back can be provided.
Lesson 63: Month 8

1. Introduction
Duration: ± 5 min

2. Warming-up
Duration: ± 5 minutes
Equipment:
- Wall
- Big balls

The child sits with its back against a big ball and the wall. The ball guides the movement. The child must move from sitting (knees 90°) to standing position (knees in extension) and back to sitting. The child repeats this exercise 10 times. In total the child has to perform 3 set of 10 repetitions in total.

3. Fitness-part
Intensity: maximum
Number of repetitions: 5
Number of series: 3
Activity / rest ratio: 1:3 (active rest: e.g. walking, cycling, playing with a ball)
Duration: ± 35 minutes. 15 x 120 seconds (each child is very active for 15 x 30 seconds and has 15 x 90 seconds active rest) and time to change between the exercises.
Purpose: increasing anaerobic capacity
Action: circuit with 3 stations
Game: The children help setting up the stations
Setting: Whole gym.
Suggestion:

1. Step-up exercise (forwards)
Equipment:
- Step or block

Stand in front of the step. Step up with the right leg then step off to the other side (you may side step if necessary)
Turn around and go back, this time with the left leg first. Count the number of times you go over the step.

- Right leg first
- Left leg first
3. Obstacle course

Equipment:
1 hoop
beanbags
1 step
1 hurdle
1 basket

Start near the hoop. Take a beanbag and walk through the obstacle course (over the bench, under the hurdle) and put the beanbag in the basket.
Course: hoop → step → hurdle → basket

Count the number of beanbags in the basket.

4. Up and Down the Slope

Equipment:
2 benches
Wall bars / ladder

Hook two benches over one of the ladder rungs to create a slope of approx 15 degrees. Hang a target on a higher rung. Go up the slope, touch the target, and go back down. Do this as fast as possible. Repeat. Count the number of times the target is touched.

4. Closure
Children help cleaning up the gym.
Feed-back can be provided.
Lesson 64:          Month 8

1. **Introduction**
   Duration: ± 5 min
   Last lesson !!

2. **Warming-up**
   Duration: ± 5 minutes

3. **Fitness-part**

   ENDGAME !!!!

Free choice