Canadian Assessment of **Physical Literacy**

# Manual for **Test Administration**

Healthy Active Living and Obesity Research Group

**Second Edition - 2017**

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**Please note:**
*The views expressed within this manual are the views of the Healthy Active Living and Obesity Research Group and do not necessarily reflect the views of the listed organizations.*



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# Background and Information

The term *physical literacy* has been defined as "the motivation, confidence, physical competence, knowledge and understanding that individuals develop in order to maintain physical activity at an appropriate level throughout their life" (Whitehead, 2010, p. 5). In the same way that reading, writing, listening and speaking combine to formulate language literacy enabling a lifetime of reading and communication, physical literacy is a progressive journey in which different components (i.e., physical competence, daily behaviour, knowledge & understanding, motivation & confidence) interact holistically to facilitate a lifetime of participation and enjoyment in physical activity. A physically literate child is able to move capably and confidently in a range of physically challenging situations, is able to read the physical environment, anticipating possible movement needs, and is able to respond intelligently and imaginatively (Whitehead, 2001). In contrast, a child who has not yet developed a high level of physical literacy will seek to avoid physical activity wherever possible, have minimal confidence in their physical ability, and will not be motivated to participate in structured physical activity (Whitehead, 2010).

# What is the **Canadian Assessment of Physical Literacy - Second Edition?**

The Canadian Assessment of Physical Literacy - Second Edition (CAPL-2) is a comprehensive protocol that can accurately and reliably assess a broad spectrum of skills and abilities that contribute to and characterize the physical literacy level of a participating child (Longmuir et al., 2015). Physical literacy moves beyond just fitness, motor skill or motivation in isolation. The CAPL-2 is unique in that it can assess multiple aspects of physical literacy. Information about the CAPL-2 and an online database for recording and summarizing assessment results is available at **www.capl-eclp.ca**.

The Healthy Active Living and Obesity Research Group (HALO) has been responsible for the systematic development of the CAPL since 2008.
CAPL-2 is the second version of this assessment, and is revised based on the assessment of over 10,000 Canadian children. The goal of these changes is to ensure that the outcomes from this assessment accurately and reliably reflect a child's current physical literacy level. This second version represents the culmination of HALO's test development efforts, with input from well over 100 researchers and practitioners within related fields of study.

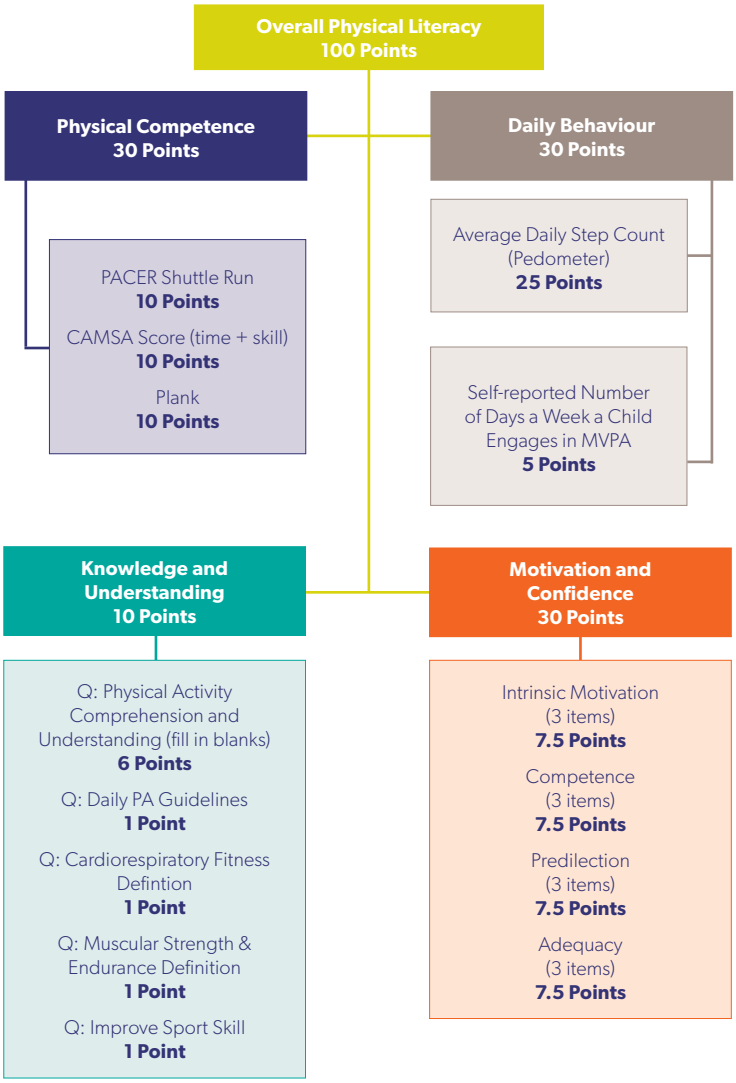
The CAPL-2 is conceptualized as consisting of 4 domains, and is visualized using the model illustrated in **Figure 1**. Each domain consists of different test elements designed to assess a child's motivation and confidence, knowledge and understanding and physical competence towards physical activity, with the daily behaviour domain considered as the behavioural outcome of the other 3 domains. This model reflects HALO's belief that it would be very difficult for an inactive child to exhibit a high level of physical literacy.
A child who possesses adequate knowledge, understanding, motivation, confidence and physical competence would be more likely to lead an active, healthy lifestyle. Figure 1 also demonstrates that the domains overlap, highlighting the fact that physical literacy is the result of an interaction between multiple factors. The scores on test items from one domain may be influenced by the scores in another domain (e.g., a child's performance on the 15m/20m PACER may be influenced by their motivation for physical activity).

**Figure 1:** The Core Domains of Physical Literacy

# Whose **Physical Literacy** Can Be Assessed?

The CAPL-2 is designed for children 8 to 12 years of age. Most children in this age range can successfully perform the assessment activities. Although children with disabilities may not be able to complete all of the tests, all children 8 to 12 years of age are encouraged to participate if they are able to do so without compromising their health. Each test item is demonstrated and explained, maximizing the opportunity for successful test completion independent of language or learning difficulties. Test items within the CAPL-2 can be administered, scored and interpreted independently to provide an assessment of each attribute of physical literacy. The test items can also be combined to provide comprehensive scores for each CAPL-2 domain (see **Figure 2**). The scoring system also allows the calculation of an overall physical literacy score for all children, with suggested interpretations by age and gender. A panel of 19 research scientists in the field of childhood physical activity contributed their expertise to the structure of the CAPL-2 scoring system. The raw scores were initially created by the HALO group based on feedback from these scientists who decided which elements were more important to a child's overall physical literacy. Subsequently, the scoring system was revised from data on over 10,000 Canadian children.

**Figure 2:** Comprehensive Scoring System




* CAMSA; Canadian Agility and Movement Skill Assessment
* MVPA; Moderate-to-Vigorous Physical Activity
* PACER; Progressive Aerobic Cardiovascular Endurance Run

# **How Long** Does the Test Take?

For the administration of one child being tested individually, the CAPL-2 can be completed in approximately 30-40 minutes. If multiple appraisers are available, children can be evaluated in groups. A group of 25 children can be assessed by a team of 3 appraisers in 90 minutes. Estimated test duration does not include the time (7 full days) that the pedometer is worn to measure daily physical activity behaviour. Testing can be completed in 1 session, or divided between multiple assessment days. The length of time required for individual assessment components of the CAPL-2 varies, from approximately 1 minute for the plank to up to 20 minutes for the knowledge questionnaire (depending on age and reading literacy of the child).

Appraisers who will be administering the test by themselves (e.g., teachers, coaches, etc.) will want to structure the assessment differently. Individual protocols could be done by a group of 25 children in approximately 10-15 minutes, allowing for 2 protocols per day if 30-45 minutes is available for testing. Examples of how the assessment periods could be structured are provided in detail in the following section.

# How is the **Test Session Organized**?

## Organizing the participants

Children can be tested alone or in groups. All participating children can complete the testing together if sufficient staff are available. To enhance confidentiality of the assessment results, children can be assigned an identification number and the number can be used to record the child's scores. Large groups of children can be separated into smaller groups depending on the number of assessment stations scheduled for each testing day.

## Organizing the testing stations

**Testing sessions with 5 Appraisers:**
The testing session can be modified to fit your specific site. Most of the sessions held during initial CAPL development were designed around 2 days of testing with 4 appraisers on each day. On the first day of testing, children completed the Canadian Agility and Movement Skill Assessment (CAMSA), plank and questionnaire assessments as follows:

Station 1: CAMSA – 2 appraisers
Station 2: Plank – 1 appraiser
Station 3: Questionnaire – 1 appraisers

At the end of the first day of testing, each child is given a pedometer along with instructions on how to wear it. Eight days later, the pedometer data and log sheet were collected during the 2nd day of testing, which also includes the 15m/20m Progressive Aerobic Cardiovascular Endurance Run (PACER) and cognitive questionnaire assessments.

The number of children that can be tested simultaneously depends on the number of staff available, their experience and available space. The questionnaires can be completed outside of the gymnasium setting to reduce distractions and optimize the space available for the active components. The questionnaires can also be completed online if computers, lap-tops or smart-pads are available.

**Testing sessions with 1-2 Appraisers:**
If the appraiser is alone or working with 1 other appraiser to implement the CAPL-2 with a group of 25-30 children, the motivation of child participants can be optimized by conducting the assessment over a series of lessons or days. Here is an example of how the CAPL-2 can be assessed in a series of 30-40 minute lessons over 4 days.

| | |
|---|---|
| **Day 1 (MONDAY):** | **Questionnaires – 20 minutes**<br>Hand out Pedometers – 10 minutes<br>***no gym space required, classroom (desk and chairs) or computer lab setting is preferred** |
| **Day 2 (WEDNESDAY):** | **CAMSA – 20 minutes**<br>***gym space and 2 appraisers required** |
| **Day 3 (FRIDAY):** | **PACER Test - 30 minutes**<br>***gym space and 2 appraisers required** |
| **Day 4 (Following TUESDAY):** | **Plank – 20 minutes**<br>Collect Pedometers - 5 minutes<br>***gym space and 1 appraiser required** |

# Who Can **Be an Appraiser?**

It is recommended that for individual testing sessions, an appraiser from each gender should be present. During the initial development of the CAPL, the assessments were implemented by trained research assistants. The research assistants had post-secondary education in physical activity science (e.g., kinesiology, exercise physiology). Physical activity professionals typically have the expertise and training needed to administer the CAPL-2 with no or only minimal additional training. With appropriate training (see below), parents, teachers, public health practitioners, coaches and recreation leaders may also be a CAPL-2 appraiser.

# Appraiser **Training**

Each appraiser must be thoroughly trained on all aspects of the CAPL-2 protocols that will be administered. Reviewing this Training Manual and the corresponding CAPL-2 Training Videos should provide the information and opportunities for practice that are required. Based on the experience-to-date, appraisers should practice each assessment until they feel competent to administer the test. It is recommended that CAPL-2 appraisers have valid First Aid, Cardiopulmonary Resuscitation (CPR) training and a valid Criminal Records Check. Each organization administering the CAPL-2 is responsible for ensuring that the appraisers are appropriately trained. Appraisers should be assigned, prior to the testing date, to a specific testing procedure.

# Privacy & **Confidentiality**

## Privacy requirements and legislation

Privacy requirements and legislation will depend on the appraisers conducting the assessment. In general, data collected with the CAPL-2 are subject to all privacy and data storage regulations applicable to the organization conducting the assessment. The identity of the child should remain confidential at all times. It is recommended that CAPL-2 appraisers use group averages if discussing CAPL-2 results with a group of children. Organizational policies should be followed regarding the dissemination of the assessment results.

Participation in the CAPL-2 assessments is always voluntary. If children do not wish to participate in 1 or more of the tests, they should not be required to do so. Children's willingness to participate in any testing is completely voluntary even if parents/guardians have given permission for their participation. Check out the High Five video on the CAPL-2 website (www.capl-eclp.ca) for tips on how to make the CAPL-2 a fun and positive experience.

Participation in research requires informed consent from the parent/guardian and the assent of the child. An example of a parent consent form can be found in Appendix A. An example of a child assent form can be found in Appendix B. These documents can be used as templates to develop the consent/assent forms required by the research ethics board of your own organization.

## Research use of CAPL-2 assessment results

If you choose to enter the assessment results into the CAPL-2 on-line reporting system, you will be notified that the data you are entering can be used for research purposes. All identifiable information will be removed and the de-identified data will be transferred to the CAPL-2 research database maintained by the HALO Research Group at the Children's Hospital of Eastern Ontario (CHEO) Research Institute. The HALO research database is utilized by scientists to increase knowledge about the physical literacy of children in Canada and around the world. The CAPL-2 database and the studies accessing the de-identified information are reviewed and approved by the CHEO Research Ethics Board (REB). The CHEO REB is a committee that includes individuals from different professional backgrounds. The CHEO REB reviews all research connected to the hospital (CHEO) or CHEO Research Institute that involves people. The goal of the CHEO REB is to ensure the protection of the rights and welfare of people participating in research. The CHEO REB's work is not intended to replace a parent or child's judgment about what decisions and choices are best for them. Representatives of the CHEO REB could review the CAPL-2 database in fulfilling the Board's roles and responsibilities for research oversight. Additional information about the research use of CAPL-2 data may be obtained from Dr. Mark Tremblay, Director, HALO Research Group (613-737-7600 ext. 4114; mtremblay@cheo.on.ca) or the Chair of the CHEO REB (613-737-7600 ext. 3272).

# **Safety & Adverse Events** (SAE)

It is the responsibility of the appraiser and the host organization to decide which components of the CAPL-2 will be used, and whether or not each protocol is appropriate. Physical literacy scores can be calculated even if one measure is not included (see section on missing data). All of the protocols included in the CAPL-2 are linked directly to health and physical literacy outcomes, daily physical activity and motor skill.

During the initial development of the CAPL, participating children needed to verbally indicate their approval for participating in the study. Project staff documented their agreement to participate on a child assent form. Children were also instructed at each station that it was always their choice whether or not to participate in each of the activities. Data from the >10,000 children indicate very few children were noted by the research staff to decline participation in the following measures:

- PACER (n=22)
- Plank (n=12)
- Pedometer (n=20)
- CAMSA (n=9)
- Questionnaire (n=1)

While very few children have declined to participate in any one measurement, children should always be asked whether or not they wish to participate in each activity and be reassured that if they do not participate in one activity, they may still participate in others.

## Individual capacity for physical activity

Prior to completing the CAPL-2 assessments it is recommended that information about the child's ability to participate in vigorous physical activity be obtained from a parent/guardian. The CHEO REB has recommended that, at a minimum, a parent / guardian respond to the following question: *Has a doctor or other healthcare provider told you that there are some types of physical activity that your child should not do?*

An example of a form that parents could be asked to complete to provide the essential background information about their children's ability to complete the CAPL-2 can be found in (Appendix C). Answering yes to this question suggests that there may be items within the CAPL-2 that the child should not perform. Additional information should be obtained from parents in order to determine whether each component of the CAPL-2 assessment is suitable for the child. Regardless of physical activity restrictions, all children should be able to partake in the CAPL-2 questionnaires and have their physical activity behaviour measured with pedometers. Children should also participate in any activities that are not connected to the required restriction(s).

## Physical environment

Appraisers should visit the gymnasium or assessment site on a date prior to the CAPL-2 testing to ensure the safety and suitability of the available space. Wherever possible the 20m PACER protocol should be used. However, an additional 1.5m of clear space must be provided at each end of the 15m/20m PACER to ensure the safety of the child as they reverse direction or after they complete the test. If there is not enough space available, the 15m PACER protocol should be used.

## Social environment

The social environment of the CAPL-2 assessment can have a significant impact on the confidence and enjoyment of participating children. The appraiser's verbal and non-verbal communication, and the format and structure of the activities play an important role in creating a positive and inclusive social environment that engages and supports the participating children. All protocols should be performed in a way that fosters a welcoming and inclusive environment for children of various sizes, skills and abilities.

CAPL-2 appraisers should set clear expectations for all children regarding appropriate communication during the assessment procedures. Observing children should provide positive, enthusiastic comments to their peers to encourage optimal test performance. Appraisers are expected to use their own discretion when it comes to providing a safe and inclusive environment for participating children. Sensitive, professional behaviour by all appraisers is expected at all times.

## Responding to an adverse event

The CAPL-2 measurements can occur in a wide variety of locations. Appraisers administering the CAPL-2 are not associated with CHEO or the CHEO Research Institute except when they are explicitly employed by those organizations. The policies and procedures of the organization hosting and administering the CAPL-2 must be followed when addressing and documenting adverse events. Each appraiser is responsible for the safety of children participating in the CAPL-2 testing.

## Monitoring of adverse events during CAPL-2 assessments

In the unlikely situation where an adverse event occurs during CAPL-2 testing, appraisers are requested to provide the HALO Research Group with a summary of the event. Information that could potentially identify the children involved in the event should **not** be included. The report should indicate the group(s) of individuals involved (appraiser, child, etc.), describe what transpired before/during/after the event, indicate the extent of any injuries, and provide recommendations to prevent similar situations in the future. A template for reporting adverse events is provided in Appendix D. Adverse event reports will be regularly reviewed by HALO to ensure the CAPL-2 remains a safe measurement tool.

# CAPL-2 Scoring

Numerical CAPL-2 scores are assigned to 1 of 4 categories: Beginning, Progressing, Achieving and Excelling. Beginning and Progressing scores are children who have not yet achieved the optimal level of physical literacy. The Achieving category identifies children who have achieved a score associated with sufficient physical literacy. Excelling scores demonstrate a high level of physical literacy.

Interpretive comments and general recommendations are provided for 3 groups of individuals who may be interested in the child's results: a) the child, b) parents/guardians/caregivers, and c) leaders who administered the CAPL-2 evaluation. The comments and recommendations are designed to provide direction and support towards an improvement in the score. No matter which category is assigned to the score, there is always room for improvement, as physical literacy is a lifelong journey.

**Results from the CAPL-2 provide only a single snapshot in time of a participating child's physical literacy journey, and most of the assessment protocols rely on the child's cooperation and motivation/effort. With this in mind, the assessment outcomes should be interpreted cautiously. The reliability and validity data apply only to population-level assessments (e.g., groups of children), meaning that on an individual level there can be much more variation.**

# Classifications of **Physical Literacy Messaging**

| | |
|---|---|
| **Excelling**<br>Exceeds minimum level recommended | Children who are excelling in their physical literacy journey have the physical competence, knowledge, motivation or daily behaviours that are associated with substantial health benefits. Encouragement and support will enable them to continue to excel as they grow and develop. |
| **Achieving**<br>Meets minimum level recommended | Children who are achieving physical literacy have the physical competence, knowledge, motivation or daily behaviours that are usually associated with the health benefits of a physically active lifestyle. Encouragement and support will enable them to continue their physical literacy journey towards excellence. |
| **Progressing**<br>Similar to typical performance of same-age peers | Children who are progressing in their physical literacy journey have the physical competence, knowledge, motivation or daily behaviours that are typical for children of the same age. Their progress towards greater physical literacy will enhance the health benefits that they are likely to achieve. |
| **Beginning**<br>Limited physical literacy compared to same-age peers | Children who are beginning their physical literacy journey are just starting to acquire the physical competence, knowledge, motivation or daily behaviours needed for a physically active lifestyle. Their progress towards greater physical literacy will likely require significant support and encouragement. |

# Physical Literacy **Scoring**

## CAPL-2 total score

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Daily Behaviour (30 points) | + | Physical Competence (30 points) | + | Motivation and Confidence (30 points) | + | Knowledge and Understanding (10 points) | = | Total CAPL-2 Score (100 points) |

The CAPL-2 provides the option to score each assessment protocol individually or to aggregate scores to evaluate more global domains that influence a child's physical literacy. The level of feedback given to each child is at the discretion of the CAPL-2 appraiser, depending upon the purpose of the assessment. For example, sometimes it may be the child's overall physical literacy which is of interest. At other times, the goal may be to test only the child's knowledge and understanding of physical literacy or the child's core body strength. Each of these assessment options can be achieved using the CAPL-2 protocols and the flexible scoring system.

**The scoring options available are:**

1. Individual test items (e.g. the 15m/20m PACER score, plank score, number of daily steps, etc.)
2. Domain scores (daily behaviour, physical competence, knowledge and understanding, motivation and confidence)
3. Sub domain scores (physical fitness, motor competence)
4. Overall Physical Literacy score (sum of the 4 domain scores)

Information is also provided to enable the calculation of aggregate scores if 1 assessment item or whole domain score is missing. This allows the CAPL-2 assessment results to be calculated and interpreted if a child is unable to participate in specific assessment protocols or does not wish to complete specific assessments.

These scoring options were developed through a Delphi consultation with international experts in childhood physical literacy and physical activity (Francis et al., 2016). Guidance on how to interpret the scores for each test item, domain and overall score are provided to assist appraisers in giving feedback and advice to children about how to increase their physical literacy. Each score has a numeric value, informed by age and sex specific cut-points, allowing progress to be tracked over time. Each numeric score is also assigned to an interpretive category, which indicates the child's progression toward the physical literacy required to achieve optimal health benefits. CAPL-2 scores are assigned to one of the four interpretive categories for physical literacy messaging: beginning, progressing, achieving, excelling (see previous page), so that both the child and the appraiser are better able to understand the meaning of the child's score.

After collecting data on over 10,000 Canadian children, the CAPL-2 scoring system was updated using Generalized Additive Models for Location, Scale and Shape (GAMLSS). Each of the four interpretative categories were assigned a percentile range, with age and sex specific scores generated for each protocol, domain and overall CAPL-2 score:

Beginning = <17th percentile
Progressing = 17th to 65th percentiles
Achieving = >65th to 85th percentiles
Excelling = >85th percentile

# **Missing** Data

A statistical approach is used to randomly insert missing pedometer data from among step counts that the same child acquired on other days (see page 34 – Missing days). In this way, children who wear the pedometer for less than the minimum of 4 days, or less than the minimum of 10 hours of wear time on certain days, can still obtain CAPL-2 scores and feedback on their current level of physical literacy.

A total CAPL-2 score can be calculated without having completed all protocols. A maximum of 1 protocol can be totally missed and still have a score calculated.

For all other situations the following procedures are used to replace Missing Data:

1. A fraction is calculated by adding the points for the protocols that were completed and then dividing by the maximum number of points that could have been achieved from all of the protocols that were actually performed. **Example:** If the child has missed the plank test (scored out of 10) then the physical competence domain score would be out of a total of 20 instead of the full 30. If the sum of the child's scores for the physical competence domain protocols actually performed was 16, the fraction would be calculated as: **16/20 = 0.80**.

2. The fraction is then multiplied by the maximum points available if all assessments were performed. **Example:** The maximum points available for the physical competence domain are 30. The child's overall physical competence score would be calculated as follows: **0.80*30 = 24**

3. The child's performance in the physical competence domain would be interpreted based on a score of 24 points.

4. **Note:** these missing data procedures do **not** apply to the Daily Behaviour domain. The Daily Behaviour domain score is not computed unless data have been collected for both Daily Behaviour component scores (pedometer steps and weekly time spent in MVPA). Several factors led to this decision: (a) there are only two protocols in the Daily Behaviour domain in CAPL-2; (b) a missing data analysis of the CAPL-1 dataset (Delisle Nyström et al., 2018) revealed an unacceptably high level of missing pedometer data (33.8%); and (c) this missing data analysis also showed that the Daily Behaviour domain scores of participants with complete data were 1.6-1.7 units lower on average than the domain scores of participants who did not wear the pedometer.

# Overall Score **in Girls**

Interpretation of Child's Overall Score and Domain Scores:

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Physical Literacy Overall (max 100)** | | | | |
| **Girls 8 years of age** | < 49.6 | 49.6 to 64.8 | 64.9 to 71.7 | > 71.7 |
| **Girls 9 years of age** | < 50.6 | 50.6 to 66.1 | 66.2 to 73.1 | > 73.1 |
| **Girls 10 years of age** | < 51.2 | 51.2 to 66.8 | 66.9 to 73.9 | > 73.9 |
| **Girls 11 years of age** | < 51.3 | 51.3 to 67.0 | 67.1 to 77.1 | > 74.1 |
| **Girls 12 years of age** | < 52.1 | 52.1 to 68.1 | 68.2 to 75.3 | > 75.3 |
| **Physical Competence (max 30)** | | | | |
| **Girls 8 years of age** | < 13.2 | 13.2 to 18.0 | 18.1 to 20.3 | > 20.3 |
| **Girls 9 years of age** | < 13.7 | 13.7 to 18.6 | 18.7 to 20.9 | > 20.9 |
| **Girls 10 years of age** | < 14.1 | 14.1 to 19.1 | 19.2 to 21.6 | > 21.6 |
| **Girls 11 years of age** | < 14.5 | 14.5 to 19.8 | 19.9 to 22.3 | > 22.3 |
| **Girls 12 years of age** | < 15.2 | 15.2 to 20.7 | 20.8 to 23.3 | > 23.3 |
| **Daily Behaviour (max 30)** | | | | |
| **Girls 8 years of age** | < 10.8 | 10.8 to 21.6 | 21.7 to 26.2 | > 26.2 |
| **Girls 9 years of age** | < 10.7 | 10.7 to 21.5 | 21.6 to 26.1 | > 26.1 |
| **Girls 10 years of age** | < 10.5 | 10.5 to 21.1 | 21.2 to 25.7 | > 25.7 |
| **Girls 11 years of age** | < 10.1 | 10.1 to 20.4 | 20.5 to 24.8 | > 24.8 |
| **Girls 12 years of age** | < 10.1 | 10.1 to 20.3 | 20.4 to 24.7 | > 24.7 |
| **Knowledge and Understanding (max 10)** | | | | |
| **Girls 8 years of age** | < 4.8 | 4.8 to 6.6 | 6.7 to 7.3 | > 7.3 |
| **Girls 9 years of age** | < 5.0 | 5.0 to 6.9 | 7.0 to 7.7 | > 7.7 |
| **Girls 10 years of age** | < 5.3 | 5.3 to 7.3 | 7.4 to 8.1 | > 8.1 |
| **Girls 11 years of age** | < 5.5 | 5.5 to 7.6 | 7.7 to 8.4 | > 8.4 |
| **Girls 12 years of age** | < 5.6 | 5.6 to 7.8 | 7.9 to 8.6 | > 8.6 |
| **Motivation and Confidence (max 30)** | | | | |
| **Girls 8 years of age** | < 16.2 | 16.2 to 22.3 | 22.4 to 24.8 | > 24.8 |
| **Girls 9 years of age** | < 16.2 | 16.2 to 22.5 | 22.6 to 24.8 | > 24.8 |
| **Girls 10 years of age** | < 16.2 | 16.2 to 22.5 | 22.6 to 24.8 | > 24.8 |
| **Girls 11 years of age** | < 16.2 | 16.2 to 22.5 | 22.6 to 25.0 | > 25.0 |
| **Girls 12 years of age** | < 16.3 | 16.3 to 22.5 | 22.6 to 25.0 | > 25.0 |

# Overall Score **in Boys**

Interpretation of Child's Overall Score and Domain Scores:

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Physical Literacy Overall (max 100)** | | | | |
| **Boys 8 years of age** | < 47.3 | 47.3 to 65.3 | 65.4 to 72.7 | > 72.7 |
| **Boys 9 years of age** | < 48.8 | 48.8 to 67.4 | 67.5 to 75.0 | > 75.0 |
| **Boys 10 years of age** | < 49.8 | 49.8 to 68.7 | 68.8 to 76.4 | > 76.4 |
| **Boys 11 years of age** | < 50.2 | 50.2 to 69.3 | 69.4 to 77.1 | > 77.1 |
| **Boys 12 years of age** | < 51.6 | 51.6 to 71.1 | 71.2 to 79.1 | > 79.1 |
| **Physical Competence (max 30)** | | | | |
| **Boys 8 years of age** | < 13.4 | 13.4 to 19.4 | 19.5 to 22.0 | > 22.0 |
| **Boys 9 years of age** | < 13.7 | 13.7 to 19.9 | 20.0 to 22.5 | > 22.5 |
| **Boys 10 years of age** | < 14.0 | 14.0 to 20.3 | 20.4 to 23.0 | > 23.0 |
| **Boys 11 years of age** | < 14.3 | 14.3 to 20.8 | 20.9 to 23.6 | > 23.6 |
| **Boys 12 years of age** | < 14.9 | 14.9 to 21.6 | 21.7 to 24.5 | > 24.5 |
| **Daily Behaviour (max 30)** | | | | |
| **Boys 8 years of age** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **Boys 9 years of age** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **Boys 10 years of age** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **Boys 11 years of age** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **Boys 12 years of age** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **Knowledge and Understanding (max 10)** | | | | |
| **Boys 8 years of age** | < 4.4 | 4.4 to 6.4 | 6.5 to 7.2 | > 7.2 |
| **Boys 9 years of age** | < 4.7 | 4.7 to 6.8 | 6.9 to 7.6 | > 7.6 |
| **Boys 10 years of age** | < 5.0 | 5.0 to 7.2 | 7.3 to 8.1 | > 8.1 |
| **Boys 11 years of age** | < 5.2 | 5.2 to 7.5 | 7.6 to 8.4 | > 8.4 |
| **Boys 12 years of age** | < 5.3 | 5.3 to 7.6 | 7.7 to 8.5 | > 8.5 |
| **Motivation and Confidence (max 30)** | | | | |
| **Boys 8 years of age** | < 16.3 | 16.3 to 23.0 | 23.1 to 25.3 | > 25.3 |
| **Boys 9 years of age** | < 16.7 | 16.7 to 23.3 | 23.4 to 25.7 | > 25.7 |
| **Boys 10 years of age** | < 16.8 | 16.8 to 23.5 | 23.6 to 26.0 | > 26.0 |
| **Boys 11 years of age** | < 16.8 | 16.8 to 23.7 | 23.8 to 26.0 | > 26.0 |
| **Boys 12 years of age** | < 16.8 | 16.8 to 23.7 | 23.8 to 26.2 | > 26.2 |

# **Messaging Appropriate** to Each Interpretive Category

| | Child | *Parent | Appraiser |
|---|---|---|---|
| Beginning | You are just beginning your physical literacy journey and are starting to acquire the skills that you will need. Ask your Mom or Dad or another adult how you can move better, stretch further, get stronger, learn more, and have more fun through a physically active lifestyle. | Your child is beginning their physical literacy journey and is just starting to acquire the physical competence, knowledge, motivation or daily behaviours needed for a physically active lifestyle. Their progress towards greater physical literacy will likely require significant support and encouragement. | Children who are beginning their physical literacy journey are just starting to acquire the physical competence, knowledge, motivation or daily behaviours needed for a physically active lifestyle. Their progress towards greater physical literacy will likely require significant support and encouragement. |
| Progressing | You are progressing on your physical literacy journey. You can move, stretch, use your muscles, understand, and enjoy physical activity just like other children your age. | Your child is progressing on their physical literacy journey and they have the physical competence, knowledge, motivation or daily behaviours that are typical for children of the same age. Progressing towards greater physical literacy will enhance the health benefits that they are likely to achieve. | Children who are progressing in their physical literacy journey have the physical competence, knowledge, motivation or daily behaviours that are typical for children of the same age. Progressing towards greater physical literacy will enhance the health benefits that they are likely to achieve. |
| Achieving | You are achieving the recommended level of physical literacy. You can move, stretch, use your muscles, understand, and enjoy physical activity in a way that should give you some of the health benefits of a physically active lifestyle. | Your child is achieving physical literacy and he/she has the physical competence, knowledge, motivation or daily behaviours that are usually associated with the health benefits of a physically active lifestyle. Encouragement and support will enable your child to continue their physical literacy journey towards excellence. | Children who are achieving physical literacy have the physical competence, knowledge, motivation or daily behaviours that are usually associated with the health benefits of a physically active lifestyle. Encouragement and support will enable them to continue their physical literacy journey towards excellence. |
| Excelling | You are excelling on your physical literacy journey. You can move, stretch, use your muscles, understand, and enjoy physical activity in a way that should give you a lot of health benefits. | Your child is excelling in their physical literacy journey and he/she has the physical competence, knowledge, motivation or daily behaviours that are associated with substantial health benefits. Encouragement and support will enable your child to continue to excel as they grow and develop. | Children who are excelling in their physical literacy journey have the physical competence, knowledge, motivation or daily behaviours that are associated with substantial health benefits. Encouragement and support will enable them to continue to excel as they grow and develop. |

* As a parent, you have the greatest influence on your child's attitude and activity choices. Children whose parents strongly support an active lifestyle are more likely to be active themselves. Childhood activity level tracks into adulthood so you have a great opportunity to help your child make positive life choices. You can help your child be active by being active with them, providing transport to sports team practices/activities, watching them while they participate in sports/activities and encouraging them to be active every day.

# Ideas for Building Physical Literacy
## by Interpretive Category

**Beginning & Progressing**

| Child | Parent | Appraiser |
|---|---|---|
| **Before school:** Walk, bike, rollerblade or skateboard to school. If you live far away, get dropped off further from the school and walk the rest of the way.<br>**At school:** Play tag during recess, skip rope games at lunch, and participate actively in all your gym classes. Play as many different sports as you can at school, during physical education classes, intra-murals or on school teams.<br>**After school:** If you have free time after school, go to a playground or park and play Frisbee, soccer or tag. Put on your favourite song and dance around your living room. Play sports in the backyard with friends or your family. Play road hockey with your neighbours. Take a dog for a walk.<br>**On weekends:** Go to the park. Go tobogganing or snow-shoeing, build a snowman or igloo, and make snow angels in the winter. Go puddle-hopping on a rainy day. Run or wheel to your friend's house or the mall instead of getting a ride. | **Before school:** Encourage your child to walk, bike, rollerblade or skateboard to school. Organise a walking bus with other parents or campaign for one at your child's school. If you live too far away to walk, park the car/ arrange to have the bus park a bit further away from school and have your child walk the rest of the way.<br>**After school:** Encourage your child to go outside rather than staying inside and watching TV or playing computer games. Organise a rotating schedule with other parents who will offer to supervise a group of kids while playing road hockey. Encourage free play at the park or in your yard, or play with your children. While cooking dinner, put music on and dance with your child. Sign your child up for a sport team.<br>**On weekends:** Go outside! Do activities together as a family and go: to the park, for a walk or bike ride, to the swimming pool, fruit picking, tobogganing or snow-shoeing, puddle-hopping on a rainy day. | Use the time that this child is in your care to get him/her moving as much as possible to increase their physical literacy. Try to reduce the time they spend sitting down while you are explaining a task.<br>Allocate time for free play so they can participate in activities that they enjoy.<br>Emphasize that there are many ways to increase one's daily activity.<br>Group children with different levels of physical literacy together for activities.<br>Be active with the children in your programme, choosing activities that they enjoy and are good at to facilitate their motivation for enhancing their physical literacy. |

| | Child | Parent | Appraiser |
|---|---|---|---|
| Excelling & Achieving | Being active for at least 60 minutes daily can help you: improve your health, do better in school, improve your fitness, grow stronger, have fun playing with friends, feel happier, maintain a healthy body weight, and learn new skills.<br>**Try to do** activities that make you **breathe hard** 3 days a week like: running, swimming, cross-country skiing and bicycling.<br>**Try to do** activities that **strengthen your muscles** 3 days a week like: jumping, hopscotch, tug-of-war, climbing trees or monkey bars, or skipping. | Ensure that you always encourage your child to be as active as possible, emphasizing that more physical activity is associated with greater health benefits.<br>Ensure your child is maintaining least 60 minutes of moderate-vigorous physical activity EVERY day. Activities such as running, swimming, cross-country skiing and bicycling are great for this.<br>Encourage your child to do activities that build strong muscles and bones at least 3 days a week. Jumping, hopscotch, tug-of-war, climbing trees or monkey bars, or skipping is great options.<br>Look for opportunities to try new physically active pursuits, which will build new skills and develop a wider range of interests and opportunities. | Encourage the child to be as active as possible, emphasizing that more physical activity is associated with greater health benefits. Pair the more active child up with a less active child as a positive role model to encourage children to help each other. Emphasize that children need to participate in at least 60 minutes of moderate-vigorous physical activity EVERY day.<br>Look for opportunities to incorporate bone and muscle strengthening exercises into your time with the child such as jumping, skipping and climbing. If possible, try and ensure there is some vigorous intensity activity in your sessions such as running, sprinting or games. Bone and muscle strengthening activities and vigorous intensity activities are recommended at least 3 days per week. |

**Results from the CAPL-2 provide only a single snapshot in time of a participating child's physical literacy journey and most of the assessment protocols rely on the child's cooperation and motivation/effort.**

# Daily Behaviour Domain

The assessment of daily behaviour encompasses the child's physical activity levels, assessed both objectively and subjectively. Physical activity is directly measured using pedometers and indirectly assessed through the last question on the physical literacy questionnaire (i.e., number of days a week that a child engages in activities that make them breathe harder and their heart beat fast).

# **Calculating** the Daily Behaviour Domain Score

The component scores for the physical activity behaviour, measured with pedometer step counts and the self-reported activity, are summed. Physical activity step values are assigned a heavier weight than the weekly physical activity question, because the direct measurement of activity over 7 days by pedometer is a more objective measure than the self-report questionnaire measures.

The daily behaviour domain score (30 points) is calculated from the number of steps recorded by the pedometer (see pg. 35 for details).

| | | | | |
|---|---|---|---|---|
| Pedometer steps component score (range 0 to 25) | + | Weekly time spent in MVPA component score (range 0 to 5) | = | Daily behaviour (range 0 to 30) |

*It is recommended that children should perform at least 12,000 steps per day in order to achieve optimal health benefits from a physically active lifestyle (Colley et al., 2012).

# **Interpreting** the Daily Behaviour Domain Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls** | | | | |
| **8 years** | < 10.8 | 10.8 to 21.6 | 21.7 to 26.2 | > 26.2 |
| **9 years** | < 10.7 | 10.7 to 21.5 | 21.6 to 26.1 | > 26.1 |
| **10 years** | < 10.5 | 10.5 to 21.1 | 21.2 to 25.7 | > 25.7 |
| **11 years** | < 10.1 | 10.1 to 20.4 | 20.5 to 24.8 | > 24.8 |
| **12 years** | < 10.1 | 10.1 to 20.3 | 20.4 to 24.7 | > 24.7 |
| **Boys** | | | | |
| **8 years** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **9 years** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **10 years** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **11 years** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |
| **12 years** | < 8.8 | 8.8 to 22.3 | 22.4 to 26.9 | > 26.9 |

**Based on data collected on >10,000 Canadian children

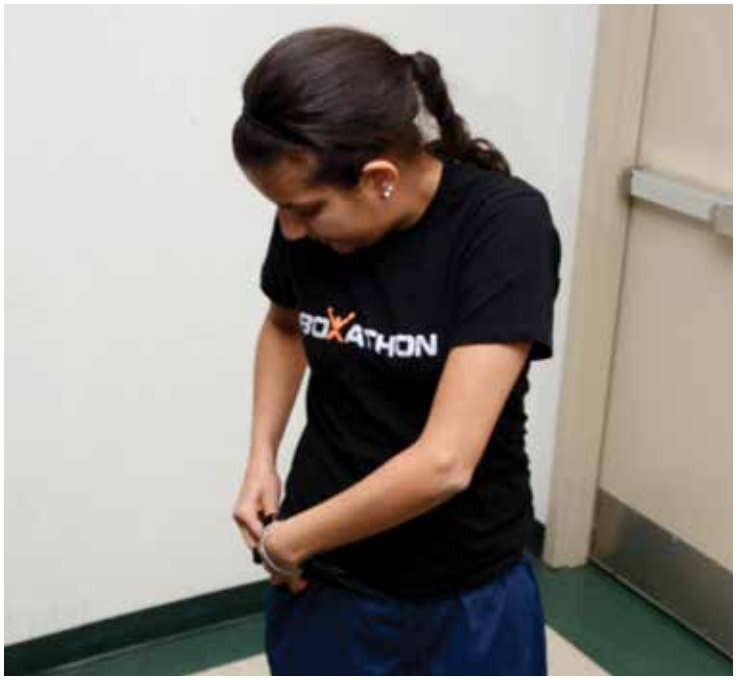
# **Messaging** the Daily Behaviour Domain Score

**Beginning:** You are beginning your journey towards acquiring the Daily Behaviour needed for a physically active lifestyle. Have more fun and be healthier by trying to increase the physical activity you do each day and by decreasing your screen time and the time you are sitting still.

**Progressing:** You are progressing towards the guidelines for Daily Behaviour. Your Daily Behaviour score is similar to other children your age. Have more fun and be healthier by trying to increase the physical activity you do each day and by limiting your screen time and the time you are sitting still.

**Achieving:** You are achieving the recommended levels for Daily Behaviour. That means you are gaining health benefits from your physically active lifestyle. Keep up the great work by trying to be even more physically active and spending less time sitting still or watching screens.

**Excelling:** Congratulations, you are doing a great job at being active every day. That means you are getting a lot of health benefits from your physically active lifestyle. Keep up the great work!



# Direct Assessment of **Daily Behaviour**

## Objective:
To assess daily behaviour by counting the number of steps taken each day

## Rationale:
Knowing how much children move over the entire day is an important element of physical literacy

## How to prepare for the test

**Equipment/Space Required:**

- Pedometer with a unique identification number for each child
- Log sheet for each child
- Info sheet for each child

**Preparation:**

- Make copies of the log sheet
- Make copies of the information sheet
- Record child's identification numbers and corresponding pedometer ID number
- Ensure pedometer is functioning properly (i.e., take a few steps and make sure the

## How to administer the test

Each child will receive a pedometer, a log sheet and an information sheet. The pedometers should be distributed on the first testing day and collected after 7 complete days of wear (typically on the second testing day).

A presentation that explains how to wear the pedometers and how to record the results should be done after each child has been given their own pedometer. Children should put the pedometer on as they follow each step of the demonstration. Demonstrate how to put the pedometer on the waist band or belt so that it is positioned over the hip bone on the right hand side of the body. Emphasize that it should be worn in the same location each day. Once all children are wearing their pedometers, demonstrate how the case is opened and the reset button is used to return the step count to zero. Have the children enter the time of day that the pedometer is reset into the "Practice Day" line of the pedometer log. Have children close the pedometer and emphasize that it will not record steps if the case is open. Provide the children with the complete instructions for pedometer use and answer any questions that may arise.

# **Instructions** for the Participant

**Instruct each child who will wear the pedometer to:**

1. Wear the pedometer for 7 full days in a row, counting the day after you receive the pedometer as Day 1 (the day that you receive and start to wear the pedometer is the "Practice Day").
2. At the end of each day when you go to bed write down how many steps you took.
3. Take the pedometer off when you get into bed at night and place it on your bedside table. Put it back on as soon as you get out of bed in the morning.
4. Reset the pedometer to 0 every morning when you wake up.
5. Do not push the reset button any other time.
6. Never wear the pedometer in water (bath, shower, swimming pool, etc.).
7. You can wear the pedometer during sports team practices or games if your coach says it is ok for you to do so.
8. If you have to wear tight fitting clothes, like a gymnastics leotard, then you can put on a pair of shorts over the top, or wear a belt and attach the pedometer to that instead.
9. If you take the pedometer off for any reason, record the length of time that you were not wearing the pedometer on your log sheet, alongside the reason why you took it off.
10. Contact the appraiser if you have any questions.

# Proper Form – Do's and Do Not's for **Wearing the Pedometer**

**DO**
Attach the pedometer directly to your shorts or pants, and the security strap to your pocket

**DO NOT**
Attach the pedometer to a pocket or belt loop

**DO NOT**
Hang the pedometer from the safety strap

# Pedometer Instructions
## for Parent/Guardian

### Dear Parent/Guardian,

**Re: Pedometer Instructions for Parent/Guardian**

Your child was given a pedometer today to measure their physical activity behaviour as part of their participation in the Canadian Assessment of Physical Literacy. We have provided this instruction sheet as well as a step log for your child to fill out. Please help your child to complete the step log each day, and then return the log sheet along with the pedometer after the pedometer has been worn for 7 full days.

**Step 1:** Please have your child wear the pedometer for 7 days in a row; starting tomorrow when your child gets up in the morning (the day that your child received the pedometer is a practice day).

- To open the pedometer, pull the latch up and out.
- Please have your child open the pedometer and set it to zero each morning (before your child puts the pedometer on for the day) clear any steps from the previous day.
- Please ensure that the pedometer does not get wet as it is not water resistant.
- If your child needs to take off the pedometer at any time (i.e., swimming or to take a shower), please record the length of time that the pedometer was off on your child's log sheet. Put the pedometer back on as soon as your child is out of the water.
- The pedometer will not hurt your child and won't affect their play during sports.
  Your child should be able to wear it during practices and games. Ask the coach, instructor or the referee for permission to wear the pedometer this 1 week. If the coach, instructor or referee insists that the pedometer should not be worn, record the time that your child was not wearing the pedometer, the reason that it was not worn, and the activities that your child did while the pedometer was off on your child's log sheet.

**Step 2:** Please write down the number of daily steps every day at bedtime on the Step Log.

- Record the time of day when the pedometer was put on, the time it was removed and record the number of steps taken in the columns provided.
- Ask your child to leave the pedometer closed all day. The pedometer will only work when the lid is closed.
- **Please ask your child NOT to push the reset button at any time** other than before the pedometer is put on when getting out of bed in the morning. Pushing the reset button at any another time will clear the readings and make that day invalid. If this happens accidentally, please make a note of it on the log form and have your child wear the pedometer for 1 additional week day or weekend day (to replace the lost day).

**Step 3:** As soon as the 7 days are completed please return the completed Step Log and pedometer(s) immediately.

If you have any difficulties, please call [**number**] or [**email**]

# **Common** Questions

| Question | Response |
|---|---|
| Can I wear the pedometer when playing a hockey/ soccer match (or other contact sports) | We want you to wear the pedometer as often as you can so try and wear it during all of your sport team practices and games. If your coach asks you to take the pedometer off, explain that you are participating in a physical literacy test and you are supposed to wear it as much as possible. But if your coach says you have to take it off, take the pedometer off and just record the time it was off and what you did while it was off on your log sheet. |
| Can I wear the pedometer when swimming? | The pedometer is not waterproof, so do not wear it if you are going to get it wet. Take it off just before you take a shower, a bath, or go swimming and then put it back on immediately after you get out of the water. Record how long the pedometer was off and what you did while it was off on your log sheet. |
| What if I press the reset button accidentally? | To avoid this happening, only open the pedometer at night just before you go to bed when you write down your steps. If you don't open the pedometer during the day there is no chance of you accidentally pushing the reset button and losing your steps for that day. If for some reason you do reset the pedometer to zero, write this on your log sheet, alongside how long you had worn the pedometer that day and any activities that you participated in. Please wear the pedometer an extra day to replace the missing information. |
| What if I have to wear dance/ gymnastics clothes and there is nowhere to put the pedometer? | You can put the pedometer on a belt or shorts that you wear over your dance/gymnastics clothes. Make sure that it is positioned in the right place (over your right hip) and that the belt is on tightly. |
| Will the pedometer hurt me? | The pedometer will not hurt you and will not break if you fall on it. |
| What if I forget to put the pedometer on in the morning? Can I put it on half way through the day? | Make sure you place the pedometer by your bedside at night so it is the first thing that you see when you get up in the morning. If you do forget to put it on first thing, put it on as soon as you remember and then record on your log sheet how long the pedometer was off for. |

# How to **Record the Pedometer Score**

- Pedometer data will be recorded on the participant log sheet.
- For each day indicate whether or not the pedometer was worn for the full day, and the number of steps taken.
- If the pedometer was taken off during the day, please tell us how long it was off for.

# Pedometer **Tracking Log**

| **Practice day!** | **Time on:** **am/pm** | **Time off:** **am/pm** | **# of steps taken:** | **Was the pedometer worn all day?** □ Yes, I never took it off □ No, how many hours missing:_____ |
|---|---|---|---|---|

| **Day** | **Date** | **Wake up time in the morning** | **Bed time in the evening** | **# of steps taken** | **Was the pedometer worn all day?** |
|---|---|---|---|---|---|
| **1** | | | | | □ Yes, I never took it off □ No, how many hours missing:_____ |
| **2** | | | | | □ Yes, I never took it off □ No, how many hours missing:_____ |
| **3** | | | | | □ Yes, I never took it off □ No, how many hours missing:_____ |
| **4** | | | | | □ Yes, I never took it off □ No, how many hours missing:_____ |
| **5** | | | | | □ Yes, I never took it off □ No, how many hours missing:_____ |
| **6** | | | | | □ Yes, I never took it off □ No, how many hours missing:_____ |
| **7** | | | | | □ Yes, I never took it off □ No, how many hours missing:_____ |

# **Calculating** the Daily Physical Activity Behaviour Score

The scoring of the pedometer data (i.e., daily step counts) follows published conventions (Larouche et al., 2011). The pedometer log is reviewed and the total number of steps performed each day is recorded. Days are identified as being a weekday (Monday to Friday) or weekend (Saturday/Sunday).

The pedometer step counts are reviewed to identify missing or erroneous data. A valid day of pedometer data meets the following criteria:

1. Between 1,000 and 30,000 steps per day (Pabayo et al., 2010; Tudor-Locke et al., 2009),

2. At least 10 hours of wear time per day according to the time recorded on the log sheet that the pedometer was put on and taken off (Colley et al., 2010; Eisenmann et al., 2007),

3. At least 3 valid days of pedometer measurements is required (Tudor-Locke et al., 2009).

## Missing days

At least 4 days of pedometer step counts are required to calculate an average daily step count for the pedometer portion of the Daily Behaviour domain score. If there are 4 or more valid days of pedometer wear time, calculate the average daily step count using the available information.
If there are only 3 days with valid data, the step value for one additional day is randomly drawn from the 3 days. For example, Day 1 is equal to the number of steps on the first valid day. Day 2 is equal to the number of steps on the second valid day. Day 3 is equal to the number of steps on the third valid day. To determine the number of steps for the first day that is missing a valid step count, use a computer to choose a random number between 1 and 3. If a computer is not available, role a die until the first number between 1 and 3 is shown on the die. If the randomly selected number is "2", for example, enter the number of steps taken on Day 2 into the missing day (Day 2 and Day 4 will now have the same number of steps).

| Number of steps | Numerical value | Number of steps | Numerical value |
|---|---|---|---|
| 1,000 - 1,999 | 0 | 10,000 - 10,499 | 13 |
| 2,000 - 2,999 | 1 | 10,500 - 10,999 | 14 |
| 3,000 - 3,999 | 2 | 11,000 - 11,499 | 15 |
| 4,000 - 4,999 | 3 | 11,500 - 11,999 | 16 |
| 5,000 - 5,999 | 4 | 12,000 - 12,499 | 17 |
| 6,000 - 6,499 | 5 | 12,500 - 12,999 | 18 |
| 6,500 - 6,999 | 6 | 13,000 - 13,499 | 19 |
| 7,000 - 7,499 | 7 | 13,500 - 13,999 | 20 |
| 7,500 - 7,999 | 8 | 14,000 - 14,999 | 21 |
| 8,000 - 8,499 | 9 | 15,000 - 15,999 | 22 |
| 8,500 - 8,999 | 10 | 16,000 - 16,999 | 23 |
| 9,000 - 9,499 | 11 | 17,000 - 17,999 | 24 |
| 9,500 - 9,999 | 12 | 18,000 - 30,000 | 25 |

The self-reported number of days when the child is active for at least 60 minutes is taken from the child's response to the last question in the CAPL-2 questionnaire. Points are awarded as follows for the number of days the child reports:

| Number of days | Numerical value |
|---|---|
| 0 or 1 Day | 0 |
| 2 Days | 1 |
| 3 Days | 2 |
| 4 Days | 3 |
| 5 Days | 4 |
| 6 or 7 Days | 5 |

# **Interpreting** the Physical Activity Behaviour Score

Current physical activity guidelines for children 5-17 years of age recommend that at least 60 minutes of moderate-to-vigorous intensity physical activity (MVPA) should be accumulated every day. Colley et al. (2012) suggest that 12,000 steps per day is equivalent to at least 60 min of MVPA.

While HALO has chosen to proceed using these criteria, there are other published guidelines for targeting steps: the President's Council on Physical Fitness and Sports (2005) recommends 13,000 steps for boys and 11,000 steps for girls; Tudor-Locke et al. (2004) recommends 12,000 steps for girls and 15,000 steps for boys. HALO continues to monitor physical activity levels of children 8 to 12 years of age and will adjust the scoring system in the future, if required.

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls (measured in number of daily steps)** | | | | |
| **8 years** | < 8,059 | 8,059 to 11,999 | 12,000 to 15,643 | > 15,643 |
| **9 years** | < 7,814 | 7,814 to 11,999 | 12,000 to 15,168 | > 15,168 |
| **10 years** | < 7,569 | 7,569 to 11,999 | 12,000 to 14,692 | > 14,692 |
| **11 years** | < 7,324 | 7,324 to 11,999 | 12,000 to 14,217 | > 14,217 |
| **12 years** | < 7,079 | 7,079 to 11,999 | 12,000 to 13,742 | > 13,742 |
| **Boys (measured in number of daily steps)** | | | | |
| **8 years** | < 8,892 | 8,892 to 11,999 | 12,000 to 17,980 | > 17,980 |
| **9 years** | < 8,655 | 8,655 to 11,999 | 12,000 to 17,500 | > 17,500 |
| **10 years** | < 8,417 | 8,417 to 11,999 | 12,000 to 17,020 | > 17,020 |
| **11 years** | < 8,180 | 8,180 to 11,999 | 12,000 to 16,539 | > 16,539 |
| **12 years** | < 7,942 | 7,942 to 11,999 | 12,000 to 16,059 | > 16,059 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the Physical Activity Behaviour Score

**Beginning:** You are beginning the journey towards acquiring the daily physical activity behaviour needed to live a physically active lifestyle. Have more fun and be healthier by trying to increase your physical activity as much as possible. The more you move the better.

**Progressing:** You are progressing towards the daily physical activity behaviour needed to live a physically active lifestyle. Your daily physical activity behaviour score is similar to other children your age. Have more fun and be healthier by trying to increase your physical activity as much as possible.

**Achieving:** You have the daily physical activity behaviour needed to live a physically active lifestyle. That means you are gaining the health benefits from leading an active lifestyle. Keep up the great work by trying to be even more physically active. The more you move the better!

**Excelling:** Congratulations, you are doing a great job at being active every day. That means you are getting a lot of health benefits from your physically active lifestyle. Excellent work! Keep it up!

# Self-Perceived **Moderate-to-Vigorous Physical Activity**

## Objective:

To assess children's perceptions of their own engagement in at least 60 minutes of moderate-to-vigorous physical activity daily

## Rationale:

It is recommended that children engage in at least 60 minutes of moderate-to-vigorous intensity physical activity every day to increase the likelihood of obtaining the health benefits of an active lifestyle

## How to prepare for the test

## How to administer the test

See questionnaire section. Children need to complete the last question of the CAPL-2 Questionnaire.

As stated above, current physical activity guidelines recommend that children 5 to 17 years of age should accumulate an average of 60 minutes of MVPA each day. The last question on the CAPL-2 questionnaire asks children to indicate how often they achieve at least 60 minutes of physical activity per day. This self-reported perception of daily activity can then be compared to the pedometer data, to enhance our understanding of the child's perceptions of their own physical activity level.

# **Calculating** the Self-Perceived Moderate-to-Vigorous Physical Activity Score

| Boys and Girls (measures in # of days) | |
|---|---|
| **Number of days child reports at least 60 minutes of physical activity** | **Component score** |
| 0 or 1 Day | 0 |
| 2 Days | 1 |
| 3 Days | 2 |
| 4 Days | 3 |
| 5 Days | 4 |
| 6 or 7 Days | 5 |

# **Interpreting** the Self-Perceived Moderate-to-Vigorous Physical Activity Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls (measured in # of self-reported days)** | | | | |
| **8 years** | < 4 | 4 | 5 to 6 | > 6 |
| **9 years** | < 3 | 3 to 4 | 5 to 6 | > 6 |
| **10 years** | < 3 | 3 to 4 | 5 to 6 | > 6 |
| **11 years** | < 3 | 3 to 4 | 5 to 6 | > 6 |
| **12 years** | < 3 | 3 to 4 | 5 to 6 | > 6 |
| **Boys (measured in # of self-reported days)** | | | | |
| **8 years** | < 4 | 4 | 5 to 6 | > 6 |
| **9 years** | < 4 | 4 | 5 to 6 | > 6 |
| **10 years** | < 4 | 4 | 5 to 6 | > 6 |
| **11 years** | < 4 | 4 | 5 to 6 | > 6 |
| **12 years** | < 4 | 4 | 5 to 6 | > 6 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the Self-Perceived Moderate-to-Vigorous Physical Activity Score

**Beginning:** You are beginning your journey towards achieving at least 60 minutes of physical activity every day. Have more fun and be healthier by trying to get at least 60 minutes of physical activity every second day.

**Progressing:** You are progressing towards getting at least 60 minutes of physical activity every day. Your score is similar to other children your age. Have more fun and be healthier by trying to increase the amount you are physically active every week by 1-2 times a week.

**Achieving:** You are achieving at least 60 minutes of physical activity most days of the week. That means you are meeting the recommended guidelines for physical activity which are related to health benefits. Keep up the great work by trying to increase your activity each day so that you are achieving at least 60 minutes of activity each and every day.

**Excelling:** Congratulations, you are doing a great job at getting at least 60 minutes of physical activity every day! That means you are getting a lot of health benefits from your physically active lifestyle. Keep up the great work!

**Current physical activity guidelines for children 5-17 years of age recommend that an average of 60 minutes of moderate-to-vigorous intensity physical activity should be accumulated every day.**

# Physical Competence Domain

The physical competence domain assesses a child's physical ability to engage in physical activities. The physical competence domain incorporates measures of physical fitness and motor performance. Physical fitness is assessed through measures of aerobic fitness and musculoskeletal endurance. Motor performance is assessed via the skills performed, and the time to complete, an agility movement skill course.

# **Calculating** the Physical Competence Domain Score

The aggregate physical competence domain score is calculated as follows:

| | | | | | | |
|---|---|---|---|---|---|---|
| Plank score (10 points) | + | PACER score (10 points) | + | CAMSA score (10 points) | = | Physical competence (range 0 to 30) |

# Physical Competence
# **Individual Scoring Sheet**

**Unique Child Identifier:** _____

**Test Date:** _____

**Test Location:** _____

| | | | |
|---|---|---|---|
| **Child's Age**<br>_____(years) | **Child's Gender**<br>male / female (circle) | | |
| **PACER Shuttle Run Distance**<br>15m **OR** 20m | **PACER Shuttle Run Laps**<br>_____(laps) | | |
| **Plank Time**<br>_____(s) | | | |
| **CAMSA Time 1**<br>_____(s) | **CAMSA Course Score 1**<br>_____ | **CAMSA Time 2**<br>_____(s) | **CAMSA Course Score 2**<br>_____ |

# **Interpreting** the Physical Competence Domain Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls** | | | | |
| **8 years** | < 13.2 | 13.2 to 18.0 | 18.1 to 20.3 | > 20.3 |
| **9 years** | < 13.7 | 13.7 to 18.6 | 18.7 to 20.9 | > 20.9 |
| **10 years** | < 14.1 | 14.1 to 19.1 | 19.2 to 21.6 | > 21.6 |
| **11 years** | < 14.5 | 14.5 to 19.8 | 19.9 to 22.3 | > 22.3 |
| **12 years** | < 15.2 | 15.2 to 20.7 | 20.8 to 23.3 | > 23.3 |
| **Boys** | | | | |
| **8 years** | < 13.4 | 13.4 to 19.4 | 19.5 to 22.0 | > 22.0 |
| **9 years** | < 13.7 | 13.7 to 19.9 | 20.0 to 22.5 | > 22.5 |
| **10 years** | < 14.0 | 14.0 to 20.3 | 20.4 to 23.0 | > 23.0 |
| **11 years** | < 14.3 | 14.3 to 20.8 | 20.9 to 23.6 | > 23.6 |
| **12 years** | < 14.9 | 14.9 to 21.6 | 21.7 to 24.5 | > 24.5 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the Physical Competence Domain Score

**Beginning:** You are beginning on the journey of the Physical Competence needed to for a physically active lifestyle. Have more fun and be healthier by practicing the skills involved in the physical tests like: running, jumping, catching, throwing, pushing up, and holding the plank.

**Progressing:** You are progressing on the journey of having the Physical Competence that is related to health benefits. Your Physical Competence scores are similar to other children your age. Have more fun and be healthier by practicing the skills by running while jumping, catching, throwing and kicking and also try running for longer periods of time, and holding the plank a little longer.

**Achieving:** You are achieving the recommended levels of Physical Competence. That means your scores are related to health benefits. Keep up the great work by improving the areas that you find more challenging. If it's the plank, follow the steps to improve your plank score.

**Excelling:** Congratulations, you are doing a great job of being Physically Competent. That means your score is related to a lot of health benefits. Keep up the great work!

# **Motor** Competence

## Objective:

To assess the fundamental motor skills required for participation in physically active peer play in a format that simulates typical movement and skill variation

## Rationale:

Measuring fundamental movement skills contributes towards a child's physical competence to take part in active play

## How to prepare for the test

**Equipment/Space Required:**

- Open space (15 m x 5 m) with flat floor that is safe for running and changing direction
- Gym floor tape
- 6 Hula hoops (63 cm wide) *If hoops are not available you may tape circles on the floor that are 63cm in diameter
- 6 Cones (20-30 cm tall)
- 1 Soccer ball
- 1 Squellet ball or soft ball (70 mm)
- 1 cardboard wall target (61 cm wide x 46 cm high or 24" wide x 18" high)

## How to administer the test

**Overview of Administration**

- Before attempting the Canadian Agility and Movement Skill Assessment (CAMSA), children should watch two demonstrations. During the first demonstration of the CAMSA the appraiser moves slowly through the entire course, performing each skill perfectly so that each criterion is demonstrated. During the demonstration a verbal description of each skill is provided, emphasizing the cue words (see following pages). For the second demonstration, the appraiser completes the CAMSA at full speed while maintaining skill accuracy.
- Explain that each child will have 2 practice trials followed by 2 timed and scored trials. Emphasize that the best score will be retained if they complete the course as fast as they can while doing their best skills.
- Have each child complete 2 practice trials. Provide verbal prompts, as required by the test protocol, and immediate verbal corrections for any mistakes made.
- Have each child complete 2 timed/scored trials. Verbal cues should be provided as described in the test protocol.

# **Overview** of Administration

## Description of protocol

1. Appraiser #1 times the child and stands at the opposite end of the throwing line from cone #2.
2. The squellet ball and soccer ball are at hand. Appraiser #1 starts each trial by saying "ready, set, go".
3. Timing starts when the appraiser says "go" and stops when the child's foot kicks the soccer ball.
4. Appraiser #1 throws the squellet ball when the child is ready to catch after touching cone #1 and places the soccer ball on the line after the child has gone around cone #3.
5. Appraiser #2 scores the child's performance of each skill.
6. One point is awarded for each skill performed correctly.
7. It is very important that Appraiser #1 provides consistent, clear verbal prompts for each skill during performance of the CAMSA.
8. Accurate and effective prompting is essential to ensure that the score and time reflect the child's motor skill, rather than memory.

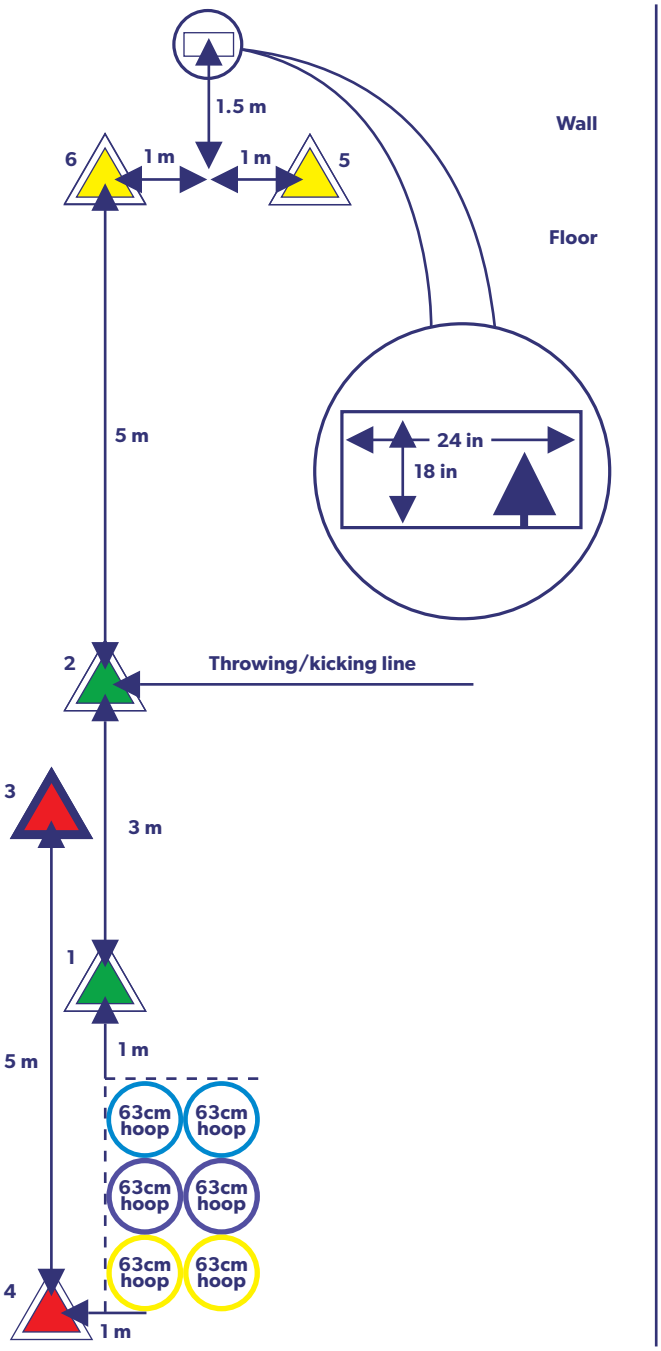
## Preparation

**Measure and position the CAMSA by following these steps:**

1. Mount the target on the wall so that the top of the target is 1.5m above the floor (see diagram on following page).
2. Find the centre of the target. Measure 1m to the left and right of the target centre and mark these positions on the floor. Position cone #5 and #6 on top of these marks.
3. Measure perpendicular to the target wall a distance of 5m from cone #6. Mark this position and place cone #2 on this mark. Mark the throwing/kicking line (2m in length) on the floor so that it runs parallel to the wall target (it should cover the same distance as the space between cones #5 and #6).
4. From cone #2, continue to measure perpendicular to the target wall for an additional distance of 3m. Mark this position on the floor and position cone #1 on this mark.
5. Measure 1m from cone #1 (continuing the line that is perpendicular to the target wall) and mark this spot on the floor.
6. Align the left edge of the blue hula hoop with the line from the target wall (in line with cone #1, cone #2 and cone #6), ensuring that the front of the hula hoop is level with the marker (drawing an imaginary perpendicular line, running parallel with the wall target).
7. Place the remaining hula hoops in 3 rows of 2. To minimize changes to the hoop position and tripping hazards, join all of the hoops together and then securely fasten the hoops to the floor.
8. Measure 1m from centre of the left yellow hoop out towards the left of the hoop, parallel to the target wall. Mark this spot and place cone #4 on this mark.
9. Measure 5m from cone #4 back towards and perpendicular to the target wall. Mark this position and place cone #3 on this mark.

*Fasten all hoops securely to the floor to maintain their position during impacts and minimize tripping hazards.*

# CAMSA **Layout**



# **Instructions** for the Participant

## Script & actions for demonstrations

| | Actions | Scripts |
|---|---|---|
| **1.** | Begin standing stationary in front of the right hand side **yellow hoop**. | *"When you are ready to go, I will say ready, set, go."* |
| **2.** | Complete three 2-foot jumps (in the illustration the jumps would be from the **right yellow hoop** to the **right purple hoop** to the **right blue hoop** and then out past the **blue hoop**). Run to cone #1 and then turn sideways to face appraiser #1. | *"When I say "go" you jump on both feet together through the hoops."* |
| **3.** | Slide sideways to cone #2 and touch the cone. Then reverse direction (remain facing the appraiser) to slide back to cone #1 and touch that cone. | *"The next part is sliding sideways. You should be facing this side so you can see the appraiser."*<br><br>*"Slide sideways and touch the **green cone**, then slide back, still facing the same way, and touch the other **green cone**."* |
| **4.** | Start to run toward the throwing line, catch the ball as it is thrown by the appraiser, and throw it at the target at any point before the line. | *"After you finish sliding, I will throw the ball to you. Catch it and run up to the line and then throw it at the target before you cross the line."* |
| **5.** | Run across the line and around cone #2 to reach the outside of cone #3. Skip from cone #3 to cone #4 before running around cone #4 and going back to the hoops. | *"After you throw you go around the **green cone** and run to the outside of the **red cone**. When you come to the **red cone** skip all the way to the second **red cone**. Do your best athletic skipping. Skip around the **red cone** and then run back to the hoops."* |
| **6.** | After reaching cone #4 and making sure you go around it, you come to the hula hoops and begin 1-foot hopping in each hula hoop. | *"This time you have to land in all of the hoops by hopping on 1-foot. You can do the hoops in any order, but you have to land on the same foot in each hoop."* |
| **7.** | After landing in the last hoop, run to the kicking line and kick the ball toward the target. | *"After you land on 1-foot in the last hoop just run to the soccer ball and kick it between the 2 **yellow cones**. You don't need to aim the ball at the target on the wall, which is just for the throwing. Once you kick the ball you are done."* |

## Instructions & keys

| Cueing instructions given by appraiser #1 during a child's assessment | | |
|---|---|---|
| **1.** | When child is standing in front of the right yellow hoop, ready to go | *"Ready, set, go"* |
| **2.** | Immediately after saying "go" | *"2-foot jumps"* |
| **3.** | As third jump is initiated | *"Slide, touch the cone"* |
| **4.** | As they approach cone #2 | *"Slide, touch the cone"* |
| **5.** | As they approach cone #1 | *"Catch the ball"* |
| **6.** | After you have thrown the ball | *"Run up to the line and throw the ball at the target"* |
| **7.** | Once the child has prepared to throw | *"Round the cone"* |
| **8.** | Once the child has gone over the throwing line and is heading for cone #2 | *"Skip"* |
| **9.** | Once the child is halfway between cone #3 and #4 | *"Round the cone"* |
| **10.** | When the child is going around cone #4 | *"1-foot hops in each hoop"* |
| **11.** | As the final hop is completed | *"Run and kick the ball between the cones"* |

## Proper **Form**

1. Ensure that children are wearing appropriate footwear and shoe laces are tied.
2. Ensure that children waiting to perform the CAMSA do not interfere with the child being assessed (i.e., standing well back from the course, etc.).
3. Research indicates that at least 2 practice trials followed by two timed trials are necessary to ensure that a child's score most accurately and reliably reflect motor competence during both timed/scored trials. If it is not possible to complete 4 trials per child (2 practices, 2 timed/scored) the motor performance score can be estimated from the second timed/scored trial (1 practice, 2 timed/scored).
4. Do not use the first timed/scored trial after only 1 practice trial as there is a significant learning effect on the CAMSA score when the child has completed the course fewer than 3 times.

## **How to Record** the CAMSA Score

1. The time is recorded to the nearest 0.1 second by appraiser #1.
2. Motor skill performance score is recorded by appraiser #2 using the checklist.
3. 1 point is awarded for each skill performance criterion (total skill score is out of 14).
4. Where a criterion is not met, put an "X" in the corresponding box on the score sheet.
5. If the child's performance of the CAMSA is affected by an outside influence (e.g., someone gets in the way, the appraiser's throw is off target), the trial is not scored and a new trial is completed.

# **Key Evaluation Criteria** for the CAMSA Score

Each skill performed during the CAMSA is evaluated using 1 or more criteria. Each skill criteria is scored as either performed (1 point), or not correctly performed (0 points). No partial points are provided.

**2-foot Jumping (2 points)**

1. 3 consecutive jumps on 2-feet (1 point):
   Take off and land on both feet at the same time.
2. Both feet land together in each hoop and do not touch hoops (1 point):
   Only 1 jump in each hoop (no extra small jumps upon landing),
   Clean jump from 1 hoop to the next without touching the hoops.

**Sliding (3 points)**

1. Body and feet aligned sideways when sliding in one direction (1 point):
   It does not matter which direction child travels in first,
   Leading foot steps sideways, trailing foot brought to meet leading foot (side-stepping),
   Shoulders, hips and feet all aligned, facing 90 degrees to direction of travel,
   Only 1 point is awarded if the child slides in the same direction both times (i.e., turns 180 degrees and faces opposite way when reversing the sliding direction).
2. Body and feet aligned sideways when sliding in the opposite direction (1 point):
   The child travels back to the first cone while facing the same direction as the initial side slide,
   Same scoring criteria apply as for #1 above.
3. Touches cone with low centre of gravity and athletic position (1 point):
   Knees bent,
   Feet apart,
   Whole body (i.e., centre of gravity) lowers to touch cone, not just hand, so that time is not lost by standing up or changing the sliding position,
   If the child demonstrates low centre of gravity and athletic stance, but misses touching the cone, the point can still be awarded,
   If presence of the motor skill is demonstrate once then point can be awarded (i.e., do not have to touch both cones with athletic stance to obtain the point),
   Point is NOT awarded: If the child touches the cone without an athletic stance (e.g., bends at the waist to touch cone but legs stay straight).

**Catch (1 point)**

1. Catches ball without trapping against the body (1 point):
   Ball caught cleanly with either 1 or 2 hands,
   No use of body to prevent ball from falling to the floor,
   If ball is dropped under any circumstances, the point is still lost (e.g., even if the child drops the ball due to not anticipating the throw).
   **EXCEPTION:** If the appraiser's throw was inaccurate and was the sole cause of the ball being dropped, the attempt is voided and the child should start the CAMSA again from the beginning.

**Throw (2 points)**

1. Uses overhand throw to hit target (1 point):
   Ball hits target,
   Arm comes from behind and hand goes over the shoulder,
   Using a side arm throw would still obtain the point (e.g., baseball or cricket pitch-style throws).
2. Transfer weight and rotates body to assist throw (1 point):
   Arm and shoulders follow the path of the ball once ball has been released,
   Body rotates at the hips and shoulders,
   Legs slightly apart, and weight is transferred from hind leg to leading leg to assist throw,
   Whole body remains under control and well balanced.

**Skip (2 points)**

1. Correct foot pattern of hop-step-hop-step (1 point):
   Leading leg alternates.
2. Uses arms appropriately (1 point):
   Alternates arms and legs,
   Arm position contributes to balance.

**1-Foot Hop (2 points)**

1. Lands on only 1-foot in each hoop (1 point):
   Same foot in each hoop.
2. Hops only once in each hoop and does not touch hoops (1 point):
   Does not touch any of the hoops,
   No extra little hops to maintain balance between hoops.

**Kick (2 points)**

1. Smooth approach to kick the ball between the cones (1 point):
   Ball kicked between the cones or ball hits one of the cones,
   Continuous running pattern, well-judged timing of kick,
   Rapid and smooth approach does not have to be interrupted in order to make contact with the ball.
2. Elongated stride on last stride before impact (1 point):
   Non-kicking foot is deliberately planted to aid the accuracy of the kick,
   Stride length of final step before the foot is planted is longer than previous steps during the approach to ball.

# CAMSA **Score Sheet**

**Test Location:**_____

**Test Date:**_____

**Appraiser #1:**_____

**Appraiser #2:**_____

| ID Number: | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Time(s) | | | | | | | | | |
| **Two foot jumping** | 3 two-foot jumps in and out of the yellow/ purple/blue hoops | | | | | | | | |
| | No extra jumps and no touching of hoops | | | | | | | | |
| **Sliding** | Body and feet are aligned sideways when sliding in one direction | | | | | | | | |
| | Body and feet are aligned sideways when sliding in opposite direction | | | | | | | | |
| | Touch cone with low centre of gravity and athletic position | | | | | | | | |
| **Catching** | Catches ball (no dropping or trapping) | | | | | | | | |
| **Throwing** | Uses overhand throw to hit target | | | | | | | | |
| | Transfers weight and rotates body | | | | | | | | |
| **Skipping** | Correct hop-step pattern | | | | | | | | |
| | Uses arms appropriately (alternates arms and legs, arm swinging for balance) | | | | | | | | |
| **One foot hopping** | Land on one foot in each hoop | | | | | | | | |
| | Hops once in each hoop (no touching of hoops) | | | | | | | | |
| **Kicking** | Smooth approach to kick ball and hit target | | | | | | | | |
| | Elongated stride on last stride before impact | | | | | | | | |
| **Total** | | | | | | | | | |

# **Scoring** the CAMSA

Motor competence is assessed through performance on the CAMSA. Both a time score to complete the CAMSA (range 1 to 14) and a criterion-referenced assessment of skill performance (range 0 to 14) are assessed. The time and the skill score are assigned equal weighting, as the more physically literate child will be able to find the optimal balance between speed and accuracy. The CAMSA score is calculated in the same way for every child, regardless of the child's age. However, the interpretation and category that the child's score is subsequently aligned varies with the child's age. Older children are expected to perform better than younger children, so a child's raw score is expected to increase with age. As a result, older children must achieve a higher score to stay within the same interpretation category.

## CAMSA skill score

The point distribution between skills performed is as follows:

1. 2-foot Jump (range 0 to 2)
2. Sliding (range 0 to 3)
3. Catching (range 0 to 1)
4. Throwing (range 0 to 2)
5. Skipping (range 0 to 2)
6. 1-foot Hop (range 0 to 2)
7. Kicking (range 0 to 2)

The skill score is simply the total number of skills that were correctly performed, so the skill score will range from 0 to 14.

## CAMSA time score

Using previously collected CAPL-2 data, time norms for the CAMSA performance time were calculated and then divided into 14 categories, each of which are assigned a numerical value. Faster times are assigned a higher value.

| Time (sec) | Score |
|---|---|
| < 14 | 14 |
| 14 < 15 | 13 |
| 15 < 16 | 12 |
| 16 < 17 | 11 |
| 17 < 18 | 10 |
| 18 < 19 | 9 |
| 19 < 20 | 8 |
| 20 < 21 | 7 |
| 21 < 22 | 6 |
| 22 < 24 | 5 |
| 24 < 26 | 4 |
| 26 < 28 | 3 |
| 28 < 30 | 2 |
| ≥ 30 | 1 |

**Based on data collected on >10,000 Canadian children

When calculating the overall CAMSA score, the time and skill score from the **SAME** trial should be used. The CAMSA total score is calculated as follows:

# **Calculating** the Overall CAMSA Score

| Time Score (range 1 to 14) | + | Skill Score (range 0 to 14) | = | Total CAMSA Score (range 1 to 28) | = | Best Score from Trial 1 or Trial 2 /2.8 (10 points) |
|---|---|---|---|---|---|---|

**The highest overall CAMSA score, from either Trial 1 or Trial 2, should be used to interpret the child's motor competence or to calculate a physical competence score.

# **Interpreting** the CAMSA Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls (combined time and skill score)** | | | | |
| **8 years** | < 15 | 15 to 20 | 21 | > 21 |
| **9 years** | < 16 | 16 to 21 | 22 | > 22 |
| **10 years** | < 17 | 17 to 22 | 23 | > 23 |
| **11 years** | < 17 | 17 to 22 | 23 to 24 | > 24 |
| **12 years** | < 18 | 18 to 23 | 24 to 25 | > 25 |
| **Boys (combined time and skill score)** | | | | |
| **8 years** | < 16 | 16 to 21 | 22 to 23 | > 23 |
| **9 years** | < 17 | 17 to 22 | 23 | > 23 |
| **10 years** | < 17 | 17 to 22 | 23 to 24 | > 24 |
| **11 years** | < 18 | 18 to 23 | 24 to 25 | > 25 |
| **12 years** | < 18 | 18 to 24 | 25 to 26 | > 26 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the CAMSA Score

**Beginning:** You are beginning the journey towards achieving all the movement skills needed for a physically active lifestyle. Have more fun and be healthier by practicing skills one at a time like running, jumping, sliding, catching, throwing, skipping, hopping and kicking.

**Progressing:** You are progressing towards achieving all the movement skills needed for a physically active lifestyle. Your movement skill score is similar to other children your age. Have more fun and be healthier by practicing the following skills one at a time while running: jumping, sliding, catching, throwing, skipping, hopping and kicking.

**Achieving:** You are achieving the recommended guidelines for movement skills. That means your movement skill score is related to health benefits. Keep up the great work by practicing the following skills one after the other while running: jumping, sliding, catching, throwing, skipping, hopping and kicking.

**Excelling:** Congratulations, you are doing a great job at performing movement skills. That means your movement skill score is related to a lot of health benefits. Keep up the great work!

# Aerobic Fitness: Fitnessgram 15 m/20m PACER (Progressive Aerobic Cardiovascular Endurance Run) (Meredith & Welk, 2010)

## Objective:
To assess cardiorespiratory endurance

## Rationale:
Cardiorespiratory fitness contributes to knowing whether or not children have the necessary endurance to part take in active games

## How to prepare for the test

**Equipment/Space Required:**

- Tape measure
- Gym floor tape
- Gym space (15 m or 20 m marked course plus space [1.5 m] for turning at each end)
- Stereo with CD player
- Fitnessgram PACER CD
- 20 cones

## How to administer the test

**Explain the test to the child as follows:** "Please make sure that your shoelaces are tied up tightly. At this station we are asking you to run as long as you possibly can. There will be a CD playing that will beep. Once you hear the first beep you may leave this side and you must get to the other side before the next beep. As soon as you hear the next beep you run back to this side. Every time you hear a beep you run the other way. If you get to the line before the beep, you must wait until you hear the next beep before running back. The beeps will gradually get faster so you have to run faster to keep up. We want you to keep going as long as you can get to the other side before you hear the next beep. You need to pace yourself so that you do not get too tired too fast. The first level is easy so you do not run really fast at the start. If you run too fast at the start you will get tired too quickly and not reach the best level that you possibly can.

# **Instructions** for the Participant

1. Stand in a running position and make sure that you are behind the start line.
2. At the sound of the first beep you should take off as soon as possible to ensure that you cross over the line at the other side before the sound of the next beep.
3. Once you get there, turn around and wait for the next beep.
4. As soon as you hear the next beep start running again to get back to the other side. Each minute the beeps will get faster and faster.
5. When you hear a triple beep, this tells you that you have completed a level and the beeps are about to get a bit faster.
6. Do NOT stop running when you hear this triple beep-keep running!
7. Continue to run back and forth until you're not able to make it over the line before the next beep.
8. We will give you a warning the first time that you don't get across the line in time.
9. When we warn you that you need to go faster, immediately turn around and run back to the next line.
10. The second time that you do not make it over the line before the beep you are finished.
11. Remember you want to keep going for as long as possible so take it easy for the first couple of speeds. Do not try to run really fast during the first level.

# Proper **Form**

Demonstrate the test to the child by playing the recording and performing 3 or 4 runs.

1. Children run across the 15 m / 20 m distance at a pace that increases.
2. 1-foot must cross the line by the time the beep sounds.
3. Children must wait for the beep before running in the other direction.
4. The first time that a child does not reach line before the beep, he/she should stop and immediately turn around and continue running.
5. Children stop as soon as they fail to reach the line a second time.
6. Once children have completed the PACER, ensure they cool down by walking around. If a 2nd appraiser is available they should monitor the children to ensure they cool down properly.

* The PACER is an elimination activity. Document the lap # of the child when they have missed 2 beeps. When assessing a group of children, allowing children to continue running after they have missed 2 beeps makes the differences in performance less obvious to the participants. This may contribute to a more supportive social environment for the assessment.

# How to **Record the Score**

1. The run from one end to the other (15 m or 20 m distance) is 1 lap
2. **Record the number of laps completed by the child**
3. Count the first lap not completed before the beep but not the 2nd
4. Body doesn't need to make the line as long as the foot is on the line

# 15m/20m PACER **Score Sheet**

**Test Date:**_____

**Test Location:**_____

**Test Length (circle):** 15 m 20 m

| ID # | Appraiser | Lane | Laps Completed |
|---|---|---|---|
| | | | |
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# **Calculating** the Cardiorespiratory Endurance Score

Cardiorespiratory endurance is measured through the 15 m/20 m PACER (beep) test. If the PACER test was conducted over 15 m, then scores can be converted to the 20 m score using the chart in Appendix E. The component score is then determined from the table below.

| 20m PACER (laps) | Composite score | 20m PACER (laps) | Composite score |
|---|---|---|---|
| < 5 laps | 0 points | 30 - 34 laps | 6 points |
| 5 - 9 laps | 1 point | 35 - 39 laps | 7 points |
| 10 - 14 laps | 2 points | 40 - 44 laps | 8 points |
| 15 - 19 laps | 3 points | 45 - 49 laps | 9 points |
| 20 - 24 laps | 4 points | > 49 laps | 10 points |
| 25 - 29 laps | 5 points | | |

**Based on data collected on >10,000 Canadian children

# **Interpreting** the Cardiorespiratory Endurance Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls (measured in 20 m laps)** | | | | |
| **8 years** | < 9 | 9 to 19 | 20 to 27 | > 27 |
| **9 years** | < 10 | 10 to 21 | 22 to 29 | > 29 |
| **10 years** | < 10 | 10 to 21 | 22 to 30 | > 30 |
| **11 years** | < 11 | 11 to 23 | 24 to 32 | > 32 |
| **12 years** | < 12 | 12 to 26 | 27 to 36 | > 36 |

**Based on data collected on >10,000 Canadian children

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Boys (measured in 20 m laps)** | | | | |
| **8 years** | < 10 | 10 to 25 | 26 to 37 | > 37 |
| **9 years** | < 10 | 10 to 27 | 28 to 39 | > 39 |
| **10 years** | < 11 | 11 to 28 | 29 to 41 | > 41 |
| **11 years** | < 11 | 11 to 30 | 31 to 43 | > 43 |
| **12 years** | < 13 | 13 to 33 | 34 to 48 | > 48 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the Cardiorespiratory Endurance Score

**Beginning:** You are beginning the journey towards achieving the number of PACER laps needed for a physically active lifestyle. Have more fun and be healthier by trying to increase the time you walk and run as much as possible. The more you move the better.

**Progressing:** You are progressing towards reaching number of PACER laps recommended. Your PACER score is similar to other children your age. Have more fun and be healthier by increasing the amount of time you run as much as possible.

**Achieving:** You are achieving the recommended levels of PACER laps. That means your PACER lap score is related to health benefits. Keep up the great work by running for longer periods of time.

**Excelling:** Congratulations, you have done a great job on the PACER. Your score is related to a lot of health benefits. Keep up the great work!

# **Plank Assessment** of Torso Strength (Boyer et al., 2013)

## Objective:
To assess torso muscular endurance

## Rationale:
Torso endurance and strength are related to back health, the ability to stabilize the body, and the function of both the upper and lower limbs

## How to prepare for the test

**Equipment/Space Required:**

- Mat that is longer than the child's body
- Stopwatch that measures to 1 second intervals

**Preparation:**

- Place the mat flat on the floor
- Children should be in clothing that enables the position of the trunk and legs to be accurately evaluated. Tucking in shirts and wearing shorts or tights rather than baggy pants are recommended.

## How to administer the test

**Demonstrate the test procedure while providing the following explanation:** "Tuck in your shirt so that I can see where your back and body are during the test. Start down on your hands and knees. Then go from your hands onto your elbows so that your elbows are straight under your shoulders. Touch your elbows with the fingertips of the opposite hand. Then unfold your arms and hold your hands together against the floor. When your elbows and hands are in the proper position, lift your knees and straighten your legs so that only your toes are on the floor. Curl your toes under your feet and keep your feet together. Look at your hands and make a perfectly straight line with your body. Once your body is straight and off the floor from your toes to your elbows the time will start. We want you to hold this position for as long as you can. Try your best to not let your hips or shoulders sag down or lift your hips way up in the air. Make sure your elbows and toes stay on the mat. You will get one short practice so that you know the position you have to maintain. After that we will time you. If your body bends we will give you one hint so that you can straighten up again, but the second time you bend we will stop timing."

# **Instrutions** for the Participant

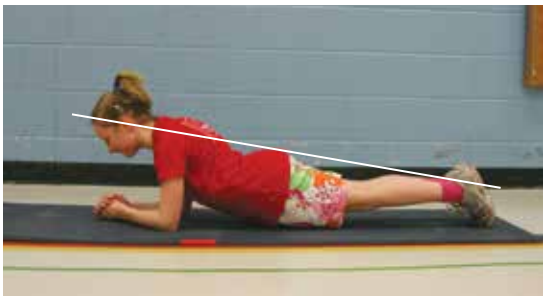
1. Start on your hands and knees.
2. Lean on your elbows and fold your arms so that your fingertips touch your elbows.
   - **When correct elbow spacing is achieved, shoulders should be directly above the elbows.**
3. Fold your hands together against the floor and move your toes back so that you can straighten your legs.
4. Look at your hands and make a perfectly straight line from your head, through your shoulders and hips to your ankles.
   - **Correct body position as required.**
5. Do you feel how your body is straight from your ankles to your head?
6. You can relax, but remember how that straight body position felt.
   - **The trial attempt to perform the correct body position should not exceed 30 seconds. The actual assessment should occur only after an adequate rest period that is at least 4 times as long required to achieve and hold the correct position during the trial attempt.**
7. This time I am going to time how long you can keep your body perfectly straight. Lean on your elbows and fold your arms so that your fingertips touch your elbows.
8. Fold your hands together against the floor and straighten your legs.
9. Look at your hands and make a perfectly straight line with your body.
   - **Provide feedback on any changes to body position and encouragement to continue.**

# **Improper** form

What to look for during the test:

**Hips too high**

**Hips too low**



**Feet apart**

**Shirt un-tucked**

# How to **Record the Score**

1. Start timing once the child is in the correct position.
2. Track the amount of time held in the correct position.
3. Give one warning to the child if there is any break from a neutral spine (either hips too high or too low), if the head moves out of alignment, if the shoulders are in front or behind the elbows or if the knees bend.
4. Timing continues to elapse while the child corrects body position.
5. A second break from the required position terminates the test. The test is also terminated if the child does not resume the correct position within 10 seconds.
6. Child holds position for as long as possible (no time limit).

# Plank Torso Strength **Score Sheet**

**Test Date:**_____

**Test Location:**_____

| ID # | Appraiser | Score (0.1 sec) |
|---|---|---|
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# **Calculating** the Plank Torso Strength Score

Total time that the plank position could be maintained is used for calculating the plank component score time.

| Plank Time (sec) | Composite Score | Plank Time (sec) | Composite Score |
|---|---|---|---|
| < 20 seconds | 0 points | 70 - 79 seconds | 6 points |
| 20 - 29 seconds | 1 point | 80 - 89 seconds | 7 points |
| 30 - 39 seconds | 2 points | 90 - 99 seconds | 8 points |
| 40 - 49 seconds | 3 points | 100 - 109 seconds | 9 points |
| 50 - 59 seconds | 4 points | > 110 seconds | 10 points |
| 60 - 69 seconds | 5 points | | |

**Based on data collected on >10,000 Canadian children

# **Interpreting** the Plank Torso Strength Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls (measured in seconds)** | | | | |
| **8 years** | < 24.4 | 24.4 to 59.4 | 59.5 to 89.3 | > 89.3 |
| **9 years** | < 25.2 | 25.2 to 61.4 | 61.5 to 92.2 | > 92.2 |
| **10 years** | < 26.0 | 26.0 to 63.4 | 63.5 to 95.2 | > 95.2 |
| **11 years** | < 26.8 | 26.8 to 65.3 | 65.4 to 98.2 | > 98.2 |
| **12 years** | < 27.6 | 27.6 to 67.3 | 67.4 to 101.2 | > 101.2 |
| **Boys (measured in seconds)** | | | | |
| **8 years** | < 12.4 | 12.4 to 72.0 | 72.1 to 101.0 | > 101.0 |
| **9 years** | < 15.2 | 15.2 to 74.9 | 75.0 to 103.8 | > 103.8 |
| **10 years** | < 18.1 | 18.1 to 77.7 | 77.8 to 106.7 | > 106.7 |
| **11 years** | < 20.9 | 20.9 to 80.6 | 80.7 to 109.5 | > 109.5 |
| **12 years** | < 23.8 | 23.8 to 83.4 | 83.5 to 112.4 | > 112.4 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the Plank Torso Strength Score

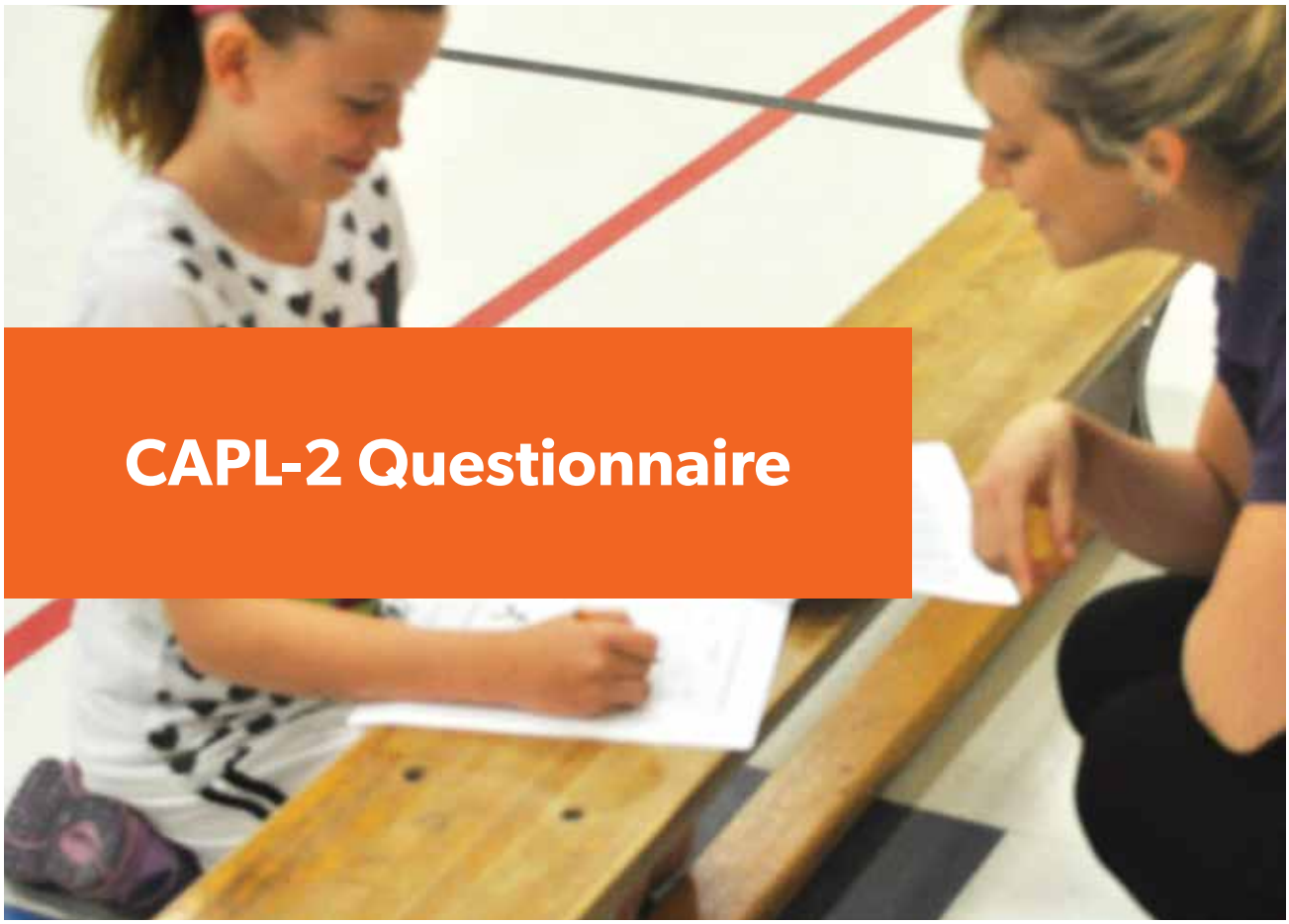
**Beginning:** You are beginning on the journey towards having the body strength necessary for a physically active lifestyle. Have more fun and be healthier by practicing the plank from your knees a few times per week.

**Progressing:** You are progressing on the journey towards having the body strength that is related to health benefits. Your plank score is similar to other children your age. Have more fun and be healthier by trying to practice the plank from your toes for 1 minute a few times per week.

**Achieving:** You are achieving the recommended level for body strength. That means your score is related to health benefits. Keep up the great work by practicing the plank a few times a week, holding for as long as you can.

**Excelling:** Congratulations, you did a great job on the plank test. That means your score is related to a lot of health benefits. Keep up the great work!

**The physical competence domain assesses a child's physical ability to engage in physical activities. The physical competence domain incorporates measures of physical fitness and motor performance.**



# CAPL-2 Questionnaire

The knowledge and understanding domain assesses a child's physical literacy knowledge. The motivation and confidence domain assesses a child's confidence in their ability to be physically active, and their motivation to participate in physical activity. The CAPL-2 questionnaire contains both of these assessments. The CAPL-2 questionnaire can be administered either using a paper and pencil format or online. In our experience to date, children have a strong preference for completing the questionnaires using the online format so it is recommended whenever available. The online version decreases time and errors when re-entering data and ensures that a response is provided for all questions. The online tool also allows children to quickly and accurately complete the questionnaire through decreased writing time and prompts for incomplete responses. It is best to familiarize yourself with the CAPL-2 Questionnaire before reviewing the related Training Material (vist "Training Materials" tab on the CAPL-2 website: **www.capl-eclp.ca)**.

# **Clarifying** Questions

Children will often ask questions about the meaning of certain words or to clarify what the question is asking. Below is a list of common questions that children ask, and guidance about how to respond without giving away the answer.

## General guidance

1. For questions with multiple choice answers, tell children to work out which answers they know are incorrect and see what they are left with and then have them give their best guess.
2. If you are asked about all of the different scenarios children encounter over the course of a year (e.g., seasonal, at different houses), tell them to think about what they did last week.
3. If you are unsure how to respond, remind children that we only want to know what they think, and to give what they think is the best answer.

| Question | Clarification question | Possible responses |
|---|---|---|
| **Why are you active?** | "I don't understand what I have to do" | -Often reading through the first option with the child will increase the understanding of the response required:<br><br>-Re-phrase the question to be direct to the child: "Some children say they are active because being active is fun. Do you agree or disagree with that reason?" |
| **How do you feel about being active?** | See Question Above | |
| **2** | "I don't know what cardiorespiratory means" | -Cardiorespiratory fitness means the same as aerobic fitness or endurance fitness…have you heard of either of the words aerobic or endurance before?<br>-Work out which answer you know that it IS NOT and see what you are left with.<br>-Choose the answer that you think is best – don't worry, we only want to know what you think. |
| **5** | "I don't know what all the words mean" | -Fill in the words that you do know and see what words that you are left with.<br>-Choose the answer that you think is best – don't worry, this is one of the hard questions for older children –<br>remember we only want to know what you think. |
| **6** | "If I do small amounts of exercise can I add them up?" | -Yes, the question is asking on how many days you are physically active for a TOTAL of at least 60 minutes so you could exercise for 30 minutes twice in 1 day, or 4 times for 15 minutes, etc. they would all count as 60 minutes on that day. |
| **What's most like me?** | Sometimes in the paper version children answer both sides of the same question | -Look at the 2 statements and decide which statement is most like you.<br>-Circle the statement which is most like you and then ignore the other statement.<br>-When you have decided which statement is most like you, you then need to decide if the statement is really true for you or sort of true for you.<br>-You should only tick one box on each horizontal line. |

* CSAPPA = Children's Self-Perceptions of Adequacy in and Predilection for Physical Activity (Hay, 1992)

# **Paper** Questionnaire

## Objective:

To measure knowledge and motivation towards physical activity

## Rationale:

Children use their knowledge of physical activity to make choices about how they will achieve a healthy, active lifestyle. Children also need to be motivated to act on their knowledge and physical skills

## How to prepare for the test

**Equipment/Space Required:**

- Table or desk for each child
- Copy of questionnaire for each child
- Pencil or pen for questionnaire responses for each child

**Preparation:**

- Make copies of the questionnaires
- Ensure all children have a unique identification code (ID) matched to their name

## How to administer the test

The questionnaire is administered by a CAPL-2 appraiser. It can take place while in a classroom setting or while children are waiting to participate in an activity in the gym. Children are each given their own copy of the questionnaires, and they complete the questionnaires independently and at their own pace. It is important to emphasize to the children that they are to give their own opinion for each answer, there are not "right" or "wrong" answers, and that some questions are intended for older students so if they don't know how to answer a question they should make their best guess. Appraisers can help clarify questions as required as long as the clarifications do not lead children toward specific answers.

It is very important when using the paper questionnaire that the leader and group of children review the first two pages together. The leader should guide the children to respond to the sample questions on the second page. It is important that children clearly understand that each answer box requires two steps: 1) circle the statement that is most like them; and 2) check one box to indicate whether the circled statement is really true or sort of true. The online format of the questionnaire will require the children to complete this two-step response, but children using the paper format must be clearly instructed on what is required. On the last page of the paper questionnaire children may be confused by the question asking what grade they are in if the testing occurs when children are not going to school (i.e., summer vacation). If that is the case, children should be instructed to indicate the grade that they will be in on the day they return to school.

# **Online** Questionnaire

## How to prepare for the test

**Equipment/Space Required:**

- Computer, tablet or any other hand held device capable of supporting this online tool

**Preparation:**

- Verify that the computer is logged in and running correctly
- Ensure there is a connection to the internet and that the website is not blocked by the host organization

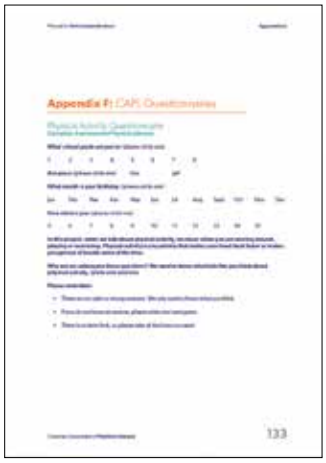
## How to administer the test

The questionnaire is administered by a CAPL-2 appraiser. It can take place while in a classroom setting or while children are waiting to participate in an activity in the gym. Children are each given their own copy of the questionnaires, and they complete the questionnaires independently and at their own pace. It is important to emphasize to the child that they are to give their own opinion for each answer, there are not "right" or "wrong" answers, and that some questions are intended for older students so if they don't know how to answer a question they should make their best guess. Appraisers can help clarify questions as required as long as the clarifications do not lead children toward specific answers.

# **Instructions** for the Participant

1. Answer questions to the best of your abilities. We want to know what you think is best and there isn't necessarily a right or wrong answer.
2. Ask appraisers if you do not understand a question.
3. Take as much time as you need to complete the questionnaire.

Ensure the child's ID number is on the questionnaire form. Ensure all questions are complete. Also ensure that children are instructed to report the gender with which they self-identify. Without knowing the child's gender, appropriate scoring will not be possible because the scoring system for individual children is based on gender specific performance standards.



# **Scoring** Knowledge and Understanding

Each question has specific scoring criteria as follows:

**Q1: How many minutes each day should you and other children do physical activities that make your heart beat faster and make you breathe faster, like walking fast or running? Count the time you should be active at school and also when you are at home or in your neighbourhood.**

Correct answer = c : at least 60 minutes or 1 hour
1 = correct answer, 0 = incorrect answer

**Q2: There are many different kinds of fitness. One type is called endurance fitness or aerobic fitness or cardiorespiratory fitness. Cardiorespiratory fitness means**

Correct answer = b: how well the heart can pump blood and the lungs can provide oxygen
1 = correct answer, 0 = incorrect answer

**Q3: Muscular strength or muscular endurance means…**

Correct answer = a: how well the muscles can push, pull or stretch
1 = correct answer, 0 = incorrect answer

**Q4: If you wanted to GET BETTER AT A SPORT SKILL, like kicking or catching a ball, what would be the best thing to do?**

Correct answer = d: watch a video, take a lesson or have a coach teach you how to kick and catch
1 = correct answer, 0 = incorrect answer

**Q5: Fill in the missing words**

1 point for each correctly placed word (maximum of 6)
- 1st gap = 'fun'
- 2nd gap = 'good'
- 3rd gap = 'endurance'
- 4th gap = 'strength'
- 5th gap = 'stretches'
- 6th gap = 'pulse'

# **Calculating** the Knowledge and Understanding Domain Score

The score for each of these 5 questions is summed to give a possible maximum total score of 10 for the knowledge and understanding domain.

| Q1 range 0 to 1 | + | Q2 range 0 to 1 | + | Q3 range 0 to 1 | + | Q4 range 0 to 1 | + | Q5 range 0 to 6 |
|---|---|---|---|---|---|---|---|---|

**= Knowledge and Understanding domain score (10 points)**

# **Interpreting** the Knowledge and Understanding Domain Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls** | | | | |
| **8 years** | < 4.8 | 4.8 to 6.6 | 6.7 to 7.3 | > 7.3 |
| **9 years** | < 5.0 | 5.0 to 6.9 | 7.0 to 7.7 | > 7.7 |
| **10 years** | < 5.3 | 5.3 to 7.3 | 7.4 to 8.1 | > 8.1 |
| **11 years** | < 5.5 | 5.5 to 7.6 | 7.7 to 8.4 | > 8.4 |
| **12 years** | < 5.6 | 5.6 to 7.8 | 7.9 to 8.6 | > 8.6 |
| **Boys** | | | | |
| **8 years** | < 4.4 | 4.4 to 6.4 | 6.5 to 7.2 | > 7.2 |
| **9 years** | < 4.7 | 4.7 to 6.8 | 6.9 to 7.6 | > 7.6 |
| **10 years** | < 5.0 | 5.0 to 7.2 | 7.3 to 8.1 | > 8.1 |
| **11 years** | < 5.2 | 5.2 to 7.5 | 7.6 to 8.4 | > 8.4 |
| **12 years** | < 5.3 | 5.3 to 7.6 | 7.7 to 8.5 | > 8.5 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the Knowledge and Understanding Domain Score

**Beginning:** You are beginning your journey to have the knowledge and understanding of physical activity that you need for a physically active lifestyle. Have more fun and be healthier by trying to learn a bit more about physical activity. Talking more about physical activity with your teacher/coach, a family member or a friend may help you learn more about physical activity. Reading a book about physical activity may also help.

**Progressing:** You are progressing on your journey to gain knowledge about physical activity. Your scores are similar to other children your age. Have more fun and be healthier by increasing your knowledge and understanding of physical activity as much as possible. Some ways you can increase your knowledge is by talking about physical activity with your teacher/coach, a family member or a friend. You can also try reading a book about physical activity that may help you understand a bit more.

**Achieving:** You are achieving the recommended level of physical activity knowledge. That means your score is related to health benefits. Keep up the great work by increasing your knowledge of physical activity by asking questions of your teacher/coach, family members, or friends. You could also try reading a bit more about physical activity.

**Excelling:** Congratulations, you did a great job on the knowledge of physical activity test. This means that your score is related to substantial health benefits. Keep up the great work!

# **Scoring** Motivation and Confidence

The motivation and confidence domain assigns 7.5 points to each 3-item component of the assessment (2.5 points/item). The maximum possible score is 30 points.

**Intrinsic Motivation (from,** *Why are you active?)*

For all items, the scoring breakdown is:

- Not true for me = 0.5 points
- Not really true for me = 1.0 point
- Sometimes true for me = 1.5 points
- Often true for me = 2.0 points
- Very true for me = 2.5 points

**Physical Activity Competence (from,** *How do you feel about being active?)*

For all items, the scoring breakdown is:

- Not like me at all = 0.5 points
- Not really like me = 1.0 point
- Sometimes like me = 1.5 points
- Quite a lot like me = 2.0 points
- Really like me = 2.5 points

### Scoring "Predilection" and "Adequacy" from the "What's most like me?" items:

- Predilection score: The predilection score for physical activity is determined based on the response to the following 3 questions:

| | **Really true for me** | **Sort of true for me** | **Really true for me** | **Sort of true for me** | |
|---|---|---|---|---|---|
| Some don't like playing active games | 0.6 | 1.2 | 2.5 | 1.8 | Other kids really like playing active games |
| Some kids don't have much fun playing sports | 0.6 | 1.2 | 2.5 | 1.8 | Other kids have a good time playing sports |
| Some kids don't like playing sports | 0.6 | 1.2 | 2.5 | 1.8 | Other kids really enjoy playing sports |
| **Total Predilection score (sum of questions)** | | | | | |

Predilection score (range 1.8 to 7.5) = sum of scores for the above questions

- Adequacy score: The self-competence score for physical activity is determined by the responses to the following 3 questions:

| | **Really true for me** | **Sort of true for me** | **Really true for me** | **Sort of true for me** | |
|---|---|---|---|---|---|
| Some kids are good at active games | 2.5 | 1.8 | 0.6 | 1.2 | Other kids find active games hard to play |
| Some kids do well in most sports | 2.5 | 1.8 | 0.6 | 1.2 | Other kids feel they aren't good at sports |
| Some kids learn to play active games easily | 2.5 | 1.8 | 0.6 | 1.2 | Other kids find it hard learning to play active games |
| **Total Adequacy score (sum of questions)** | | | | | |

Adequacy score (range 1.8 to 7.5) = sum of scores for the above questions

# **Calculating** the Motivation and Confidence Domain Score

| Predilection range 1.8 to 7.5 | + | Adequacy range 1.8 to 7.5 | + | Intrinsic Motivation range 1.5 to 7.5 | + | Competence range 1.5 to 7.5 |
|---|---|---|---|---|---|---|

**= Motivation and Confidence domain score (30 points)**

# **Interpreting** the Motivation and Confidence Domain Score

| | Beginning | Progressing | Achieving | Excelling |
|---|---|---|---|---|
| **Girls** | | | | |
| **8 years** | <16.2 | 16.2 to 22.3 | 22.4 to 24.8 | > 24.8 |
| **9 years** | <16.2 | 16.2 to 22.5 | 22.6 to 24.8 | > 24.8 |
| **10 years** | <16.2 | 16.2 to 22.5 | 22.6 to 24.8 | > 24.8 |
| **11 years** | <16.2 | 16.2 to 22.5 | 22.6 to 25.0 | > 25.0 |
| **12 years** | < 16.3 | 16.3 to 22.5 | 22.6 to 25.0 | > 25.0 |
| **Boys** | | | | |
| **8 years** | < 16.3 | 16.3 to 23.0 | 23.1 to 25.3 | > 25.3 |
| **9 years** | < 16.7 | 16.7 to 23.3 | 23.4 to 25.7 | > 25.7 |
| **10 years** | < 16.8 | 16.8 to 23.5 | 23.6 to 26.0 | > 26.0 |
| **11 years** | < 16.8 | 16.8 to 23.7 | 23.8 to 26.0 | > 26.0 |
| **12 years** | < 16.8 | 16.8 to 23.7 | 23.8 to 26.2 | > 26.2 |

**Based on data collected on >10,000 Canadian children

# **Messaging** the Motivation and Confidence Domain Score

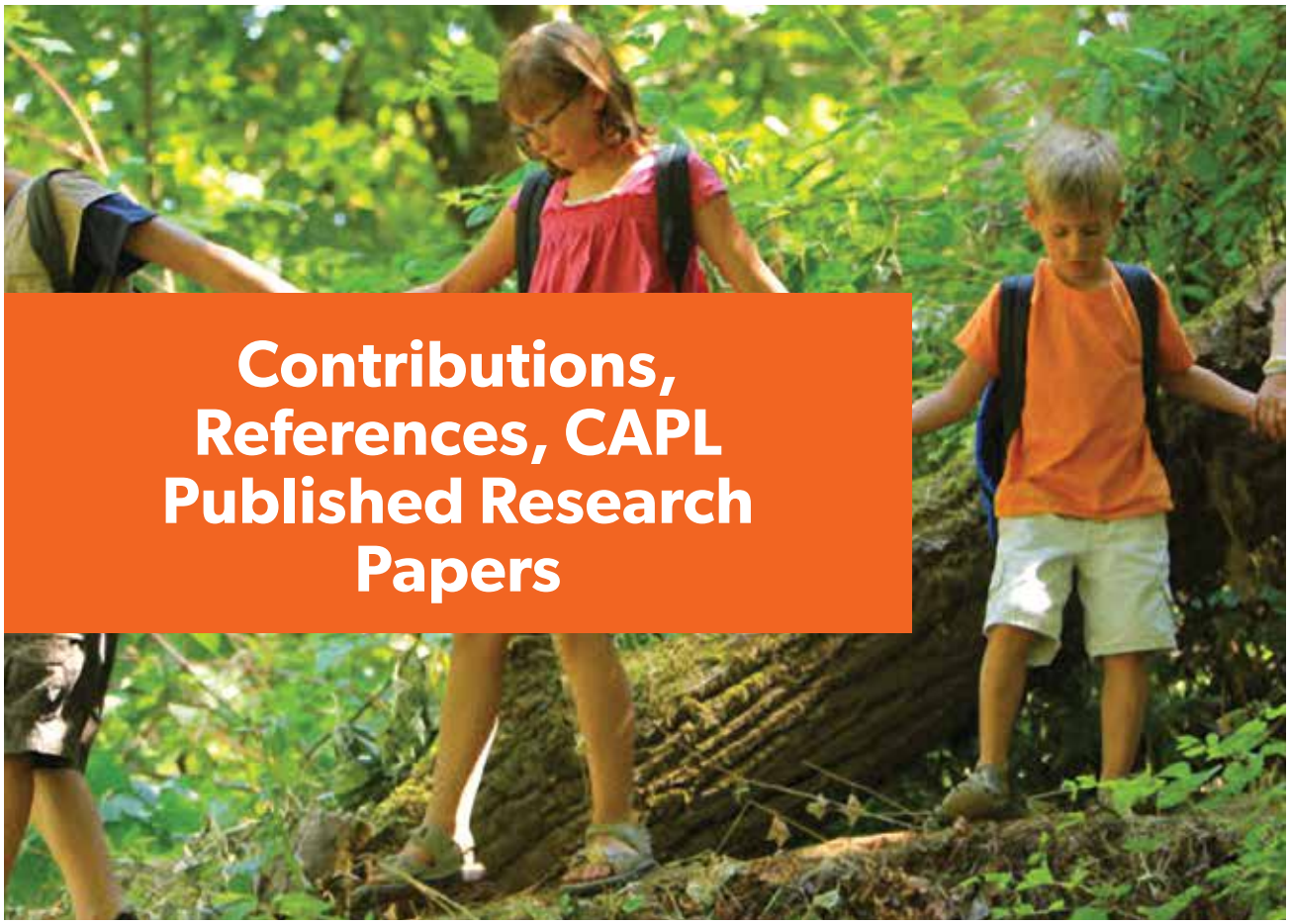
**Beginning:** You are beginning on your journey to have the motivation and confidence for physical activity that is needed for a physically active lifestyle. Have more fun and be healthier by trying to look for things you don't like about physical activity and for things you do like about physical activity. Talk with your teacher, a family member or a friend about how you can do more of the things you like with physical activity, or how you can change the things that you do not like.

**Progressing**: You are progressing towards having the motivation and confidence needed for you to get the health benefits of physical activity. Your scores are similar to other children your age. Have more fun and be healthier by trying to do the things you like about physical activity. Ask a teacher, family member, or friend on how you can do more fun things with physical activity.

**Achieving:** You are achieving the recommended levels of motivation and confidence. This means that your scores are related to health benefits. Keep up the great work by looking for ways to make physical activity more fun and enjoyable!

**Excelling:** Congratulations, you are excelling at having the motivation and confidence for physical activity. That means that your score is related to a lot of health benefits. Keep up the great work!

# The Knowledge and Understanding domain assesses a child's knowledge about physical activity, skill and fitness.



# Contributions, References, CAPL Published Research Papers

# Contributions

The following people have made significant contributions to the CAPL-2 Project:

- Carleton University Sport Camp
- Renfew Country District School Board
- YMCA / YWCA of the National Capital Region
- City of Ottawa Summer Camp, Stittsville
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# The Healthy Active Living and Obesity Research Group (HALO) has been responsible for the systematic development of the CAPL-2 since 2008.

# Appendices

# **Appendix A:** Example Consent Form

**What is the title of this research study?**
The Canadian Assessment of Physical Literacy

**Who is doing this research?**
[your name and contact information]

Example:
Mr. Kevin Belanger, Research Coordinator
Healthy Active Living and Obesity Research Group,
CHEO- Research Institute
tel: 613-737-7600 x 4408,
email: kbelanger@cheo.on.ca

The <<insert name of collaborating organization>> have approved of this research study.

**Why are we doing this study?**
We are doing this study because teachers, coaches and other physical activity leaders have told us they need a new way of measuring how well children are doing in physical and health education. The test we have created is called the Canadian Assessment of Physical Literacy. "Physical Literacy" means everything that children need to have or learn so that they can lead a healthy, active and enjoyable life. There are many ways to measure how well children are learning in many school subjects, like math and language. However, at the moment there are not many measures of physical literacy, which is why we are creating a new one. Having an accurate and reliable way to measure physical literacy will help us to identify children who are not learning everything they need to know for a healthy, active lifestyle. It will also help us to better evaluate programmes designed to encourage physical activity and healthy living so that children will not be at risk for the health problems that result from being overweight.

**What will your child do during the study?**
The Canadian Assessment of Physical Literacy includes many activities that are similar to what your child would typically do during physical education class. **Your child will be asked to "do the best that you can" and "try your hardest" for each activity**. As a result, your child may exercise very strenuously during the study although your child will be allowed to stop any activity at any time. Children, when possible, should be instructed to dress ready to participate in a gym class (proper footwear and athletic clothing).

Before your child tries any of the study activities, we will ask your child whether they want to participate. Your child can say either "Yes" or "No", and their choice will be respected even if you want your child to participate. If your child agrees to participate, we will record your child's gender, age and grade. Your child will then be asked to complete each of the following tasks:

- CAMSA – Includes jumping, running, hopping, catching, throwing and kicking balls while running
- Plank – A core strength exercise commonly used in yoga-like activities and sport training: holding a Push Up position while resting only on the toes and forearms
- 15m/20m PACER (Beep Test) - Run laps back and forth across the gym, starting at a slow speed and gradually getting faster. They will continue running until they are too tired or do not wish to continue running at the faster speed.
- Questionnaire - Answer questions about physical activity by writing their answers on a questionnaire or using a computer to answer the questions. The questions will tell us what children know about physical activity, physical fitness and the skills they need to be active. The questions will also ask about your child's interest in physical activity.
- Pedometers - a small square device, worn clipped to a belt or pant waistband, to measure the number of steps your child takes daily for 8 days. The pedometer should be worn at all times during waking hours, except when the child is swimming or bathing. It does not measure the types of activities or where the child is; it only measures how much movement the child makes. Your child will also be asked to write down the times that the pedometer is not worn, as well as the activities that were done when your child was wearing the device. It is very important that the pedometer is returned to us at the end of the study. However, if it is misplaced and absolutely cannot be found you will not have to purchase a replacement.

If you choose not to allow your child to participate in this study, your child will be supervised by their own instructor and engaged in appropriate program-focused activities while the other children in the program are completing the study. All of the activities will take place at the organization where your child is registered and your child's instructor/leader/teacher will be present at all times. Most activities will take place in the gymnasium.

**Who can participate in this research?**
We are asking 10 pilot sites where children 8 to 12 years of age are enrolled, to participate in this research.

Your child's instructor/leader/teacher and your child's Recreation Provider, Health Unit and/or School are interested in having children in their programmes participate in this research.

**Physical activity and fitness testing are safe for most children**, and the activities done in this study are similar to what your child normally does during physical education. Providing us with more information about your child's health and your family's history will help us to make the research study fun and safe for your child. Please complete the "Physical Activity for Kids" screening form enclosed, and return it with the consent form to your child's program leader. If you have questions about the information we are asking you to provide on the screening form, please contact: [your name] by telephone at [your number] or by sending an email to [your email].

**Could something bad happen to my child during this study?**
We do not expect bad things to happen to children who participate in this study. All the activities for the study are similar to what your child does in their regular physical education programs. There are no needles or invasive procedures. As with any type of physical activity, there is a small risk of falling or getting hurt. However, all the research equipment is similar to what your child uses in physical education and safety is our first priority. All study personnel are trained in First Aid and CPR, and in the event of an injury, standard organizational policies will be followed.

The CAPL-2 protocols are also designed with the student's emotional safety in mind. Appraisers are encouraged to foster a safe, friendly and inviting atmosphere during all assessments. The principles outlined in the CAPL-2 Training Materials, stating that children must have the opportunity to opt out of any of the activities without penalty or negative feedback, will be implemented.

In the unlikely event that your child is injured as a direct result of participating in this research, the normal legal rules about compensation for the injury will apply. By signing this consent form you are in no way waiving your legal rights or releasing the investigator and the sponsor from their legal and professional responsibilities.

**Will my child or family get something for being in this study?**
You and your child will not be paid or given a reward for being in this study. We are not able to promise that you will get any benefit from your child's study participation.

The information that we gather during this study will help us to assess how well recreation leaders, public health staff and/or school teachers can implement the Canadian Assessment of Physical Literacy with children 8 to 12 years of age. In the future, Recreation Providers, Health Units, School Teachers and Researchers will be able to use the Canadian Assessment of Physical Literacy to help children struggling with issues related to physical activity participation.

Your child's participation in this study is completely voluntary. You or your child is free to withdraw from this study at any time, even after the research testing has been completed. Neither participation nor withdrawal from the study will affect your child's outcomes in their programs.

**Who will know that my child is in this research study?**
The information we collect about your child will not identify your child. We will use a coded identification number instead of your child's name so that only the researchers will know who the information is about. The data collected in this study will be locked in a safe place. All information from your child will be numbered and will not contain your child's name. A list of names and matching code numbers will be stored separately.

It is intended that only the staff involved in this research study will have access to the research information collected during this study. However, there are specific situations where other people may be given access to the research information. A member of the Research Ethics Board at the Children's Hospital of Eastern Ontario (CHEO) may be given access to the research records for auditing purposes. There are also limits to the confidentiality of research information in situations of suspected child abuse, concerns of harm to self or others, or any request for information by court order.

The coded information collected during this research study will be stored for 7 years after all of the results of this research have been published. After that time, all records will be destroyed in the way required by Canadian research data regulations. Overall study results may be published for scientific purposes, but the identity of the research participants will remain confidential. No information that could identify your child or your child's organization will be published. If we want to publish information that could identify your child or your child's organization, we will contact you and ask you to sign a separate consent form for the publication.

**Who should I contact if I have questions about the research study?**
If you have questions about this study please contact [your name]. [your name] can be contacted by telephone at [your name] or by email [your email].

This study has been reviewed and approved by the [your institution or organization]. The [your institution or organization] is a committee of the [your institution or organization] that includes individuals from different professional backgrounds. Its goal is to ensure the protection of the rights and welfare of people participating in research. Their approval is not intended to replace a parent or child's judgment about what decisions and choices are best for them. You may contact the {your institution or organization], for information regarding participant's rights in research studies at [their number], although this person is not able to provide any health-related information about the study. The [your institution or organization] could review your study records in fulfilling its roles and responsibilities.

# CAPL-2 Parent/Guardian Informed Consent

I,_____ (your name),

the parent/guardian of _____(your child's name)

- □ **give** consent to my child's participation in the above study.
- □ **do not give** consent to my child's participation in the above study.

*(check one of the above sentences to indicate whether or not you give consent)*

I have read and understood the attached study information or had the attached information verbally explained to me. I understand that my child will be asked to exercise strenuously, and to do the best that they can for each type of exercise. I have been fully informed of the details of the study and have had the opportunity to discuss my concerns. I understand that I am free to withdraw my child at any time or not answer questions that make us uncomfortable, and that my child's performance outcomes will not be affected if I do. I have received a copy of the study information and consent form.

_____

Name of parent/guardian Signature of parent Date

After your child completes the study, you will receive a letter containing a login and password. The information will enable you to confidentially obtain your child's research study results.

More information can be found at: **www.haloresearch.ca**

# **Appendix B:** CAPL-2 Child Assent Form

**What is this research called?**
How active can I be?

**Who is doing this research?**
[your names]. They work at the [your institution or organization]. You can contact them by telephone at [number]. The <<insert name of collaborating organization>> have approved this study.

**Why are we doing this study?**
We are doing this study because teachers and coaches would like a new way to find out how well children are doing in learning to be active. It would help them to know if children are learning everything they need to know to be healthy.

**What will you do during the study?**
You will do many activities that are like being in gym class. We will ask you to answer some questions. In the gym we will ask you to try each of these tasks:

- Run through an agility course with jumping, throwing and kicking a ball.
- Keep a straight body while leaning only on your toes and elbows.
- Run laps back and forth across the gym, starting slowly and then getting faster.
- Answer questions about physical activity.
- Wear a small step counter (smaller than a cell phone) every day for 8 days. It is worn on a belt or pant waistband, and counts the number of steps you take.

All of the research activities will take place at your camp, recreation centre, health unit or school and your teacher/leader will be there too. Most of the activities will be done in the gymnasium. If you do not want to be in the research study that's okay, you will just stay with your teacher/leader. It's really important to bring the step counter back to us so someone else can use it. If the step counter gets lost and you're not able find it even when you and your parents look really hard, let us know. You will not have to buy a new one.

**Are there good or bad things about being in this study?**
We do not expect bad things to happen to children who participate in this study. Since you will be running and doing other activities, you might fall or bump into something. It will be the same as gym class.

We will not give you anything for being in this study. What we learn might help other children to be healthier one day.

**Who will know that I am in this research study?**
All of your written information will be stored safely, and your personal information will stay private. You don't have to participate if you don't want to, and the information we get won't be shared with anyone except you and your parents. The research team will also see the data for research purposes but will know you only by a number and not your real name. Being in this study will not change your marks, and you can decide to stop the study at any time.

# CAPL-2 Child Assent

I,_____ (child's name),
agree to participate in this research study.

The information has been verbally explained to the child. The child has been told all about the study and has had the chance to talk about it. The child understands that they can change their mind and stop the study at any time. The child also knows that they do not have to answer questions or do things that make them uncomfortable. The child knows that their treatment in their program will not be affected because they are doing this research. The child has received a copy of the study information and consent form.

_____ _____ _____
Name of person obtaining assent Signature Date

More information can be found at: **www.haloresearch.ca**

# **Appendix C:** Physical Activity for Kids Screening Questions

**Parent/Guardian Name:**_____

**Child's Name:**_____

Physical activity and fitness testing are safe for most children. However, sometimes children need to be careful when they do specific types of activity.

**Help us to supervise your child's activity appropriately by answering the following question(s).**

1. Has a health care professional ever told you that there are some types of exercise or physical activity that your child should not do? Please circle one answer.

   Yes No

2. Are there any special considerations we should know when your child exercises or is physically active? Please circle one answer.

   Yes No

3. If you answered yes to either of the above questions, please describe the special considerations or types of exercise or physical activity that your child is not able to do at this time:

# **Appendix D:** Reporting Adverse Events

Each organization administering the CAPL-2 should have their own risk management plan in place, including an emergency action plan. In any incident, the first step should be to assess the situation to determine whether a medical emergency has occurred and whether first responders should be called to the scene. If it is an emergency, the emergency plan should be initiated. Below are some guidelines to follow if your organization does not have a first response plan in place:

## Initial response

- Take control of the scene (direct and approve of what is occurring at the scene).
- Ensure first aid and medical services are given as necessary.
- Control potential secondary incidents/accidents (determine the potential for additional injuries / equipment/ property damage).
- Identify sources of evidence at the scene (Can be grouped into 4 categories):
  - People, anyone having information relating to incident or witnesses;
  - Positions of people, equipment or items including environmental conditions;
  - Parts relate to any physical items or effects of the incident;
  - Paper covers any documentation which has a bearing on the incident
- Determine the loss potential (How bad could it have been and how could it have been prevented?)
- Notify appropriate personnel (e.g. Directors, Occupational Health, as appropriate)

## Documentation

- Complete accident investigation form, include any photos or other relevant information
- Ensure that employee incident form is completed and sent to HALO team

# Reporting Form

| | Organization: | Date: |
|---|---|---|
| Describe how the incident happened: | | |
| Which protocol was the child performing when they were injured: | ◻ CAMSA<br>◻ 15m/20m PACER<br>◻ Plank<br>◻ Questionnaires<br>◻ Other: | |
| What was the result of the injury: | ◻ Broken bone<br>◻ Bruise<br>◻ Scratch<br>◻ Twisted ankle<br>◻ Exhaustion<br>◻ Other: | |
| How will you reduce the likelihood that this injury will occur in the future? | | |

**Return this form to the Healthy Active Living and Obesity Research Group at **capl@haloresearch.ca**

# **Appendix E:** 15m/20m PACER Conversion Chart

## PACER Conversion Chart

**Use this chart to convert scores on the 15–M PACER to a 20–M score to enter in the *FITNESSGRAM* software.**

| Level | | Laps | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15 M | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
| | 20 M | 1 | 2 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | | | | | | | | | | |
| 2 | 15 M | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | | | | | | | | |
| | 20 M | 8 | 8 | 9 | 10 | 11 | 12 | 12 | 13 | 14 | 15 | | | | | | | | | |
| 3 | 15 M | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | | | | | | | |
| | 20 M | 15 | 16 | 17 | 18 | 18 | 19 | 20 | 21 | 22 | 22 | 23 | | | | | | | | |
| 4 | 15 M | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | | | | | | | |
| | 20 M | 24 | 25 | 25 | 26 | 27 | 28 | 28 | 29 | 30 | 31 | 32 | 32 | | | | | | | |
| 5 | 15 M | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | | | | | | | |
| | 20 M | 33 | 34 | 35 | 35 | 36 | 37 | 38 | 38 | 39 | 40 | 41 | 41 | | | | | | | |
| 6 | 15 M | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | | | | | | |
| | 20 M | 42 | 43 | 44 | 45 | 45 | 46 | 47 | 48 | 48 | 49 | 50 | 51 | 51 | | | | | | |
| 7 | 15 M | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | | | | | | |
| | 20 M | 52 | 53 | 54 | 55 | 55 | 56 | 57 | 58 | 58 | 59 | 60 | 61 | 61 | | | | | | |
| 8 | 15 M | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | | | | | |
| | 20 M | 62 | 63 | 64 | 65 | 65 | 66 | 67 | 68 | 68 | 69 | 70 | 71 | 72 | 72 | | | | | |
| 9 | 15 M | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | | | | | |
| | 20 M | 73 | 74 | 75 | 75 | 76 | 77 | 78 | 78 | 79 | 80 | 81 | 82 | 82 | 83 | | | | | |
| 10 | 15 M | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | | | | |
| | 20 M | 84 | 85 | 85 | 86 | 87 | 88 | 88 | 89 | 90 | 91 | 92 | 92 | 93 | 94 | 94 | | | | |
| 11 | 15 M | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | | | | |
| | 20 M | 95 | 96 | 97 | 96 | 98 | 99 | 100 | 101 | 102 | 102 | 103 | 104 | 105 | 105 | 106 | | | | |
| 12 | 15 M | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | | | |
| | 20 M | 107 | 108 | 108 | 109 | 110 | 111 | 111 | 112 | 113 | 114 | 114 | 115 | 116 | 117 | 117 | 118 | | | |
| 13 | 15 M | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | | |
| | 20 M | 119 | 120 | 121 | 121 | 122 | 123 | 124 | 124 | 125 | 126 | 127 | 128 | 128 | 129 | 130 | 130 | 131 | | |
| 14 | 15 M | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | | |
| | 20 M | 132 | 133 | 134 | 134 | 135 | 136 | 137 | 137 | 138 | 139 | 140 | 140 | 141 | 142 | 143 | 143 | 144 | | |
| 15 | 15 M | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | |
| | 20 M | 145 | 146 | 147 | 147 | 148 | 149 | 149 | 150 | 151 | 152 | 152 | 153 | 154 | 154 | 155 | 156 | 156 | 157 | |
| 16 | 15 M | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | |
| | 20 M | 158 | 159 | 160 | 160 | 161 | 162 | 163 | 163 | 164 | 165 | 166 | 166 | 167 | 168 | 169 | 170 | 170 | 171 | |
| 17 | 15 M | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 |
| | 20 M | 172 | 173 | 174 | 174 | 175 | 176 | 177 | 177 | 178 | 179 | 179 | 180 | 181 | 181 | 182 | 183 | 184 | 184 | 185 |
| 18 | 15 M | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 |
| | 20 M | 186 | 187 | 188 | 188 | 189 | 190 | 190 | 191 | 192 | 193 | 193 | 194 | 195 | 196 | 197 | 197 | 198 | 199 | 200 |
| 19 | 15 M | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 |
| | 20 M | 201 | 202 | 203 | 203 | 204 | 205 | 206 | 206 | 207 | 208 | 208 | 209 | 210 | 210 | 211 | 212 | 213 | 214 | 214 |
| 20 | 15 M | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 |
| | 20 M | 216 | 217 | 218 | 218 | 219 | 220 | 221 | 221 | 222 | 223 | 224 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 230 |