Canadian Assessment of **Physical Literacy**

Manual for **Test Administration**

Healthy Active Living and Obesity Research Group 2014

Acknowledgements

The financial support and expertise of the following organizations have made a significant contribution to the development of the Canadian Assessment of Physical Literacy:

- Active Healthy Kids Canada
- Canadian Association of Health, Physical Education, Recreation and Dance / Physical and Health Education Canada
- Canadian Institutes of Health Research
- Champlain Cardiovascular Disease Prevention Network
- Champlain Local Health Integration Network
- Children's Hospital of Eastern Ontario Research Institute
- Ontario Ministry of Health Promotion
- Ontario Physical and Health Education Association
- Ottawa Catholic School Board
- ParticipACTION
- Upper Canada District School Board

The Canadian Assessment of Physical Literacy Training Materials would not have been possible without the financial support from both the Government of Ontario and the Ontario Trillium Foundation.

Ontario

Ontario Trillium Foundation / Fondation Trillium de l'Ontario

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 organisations.

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Background & Information

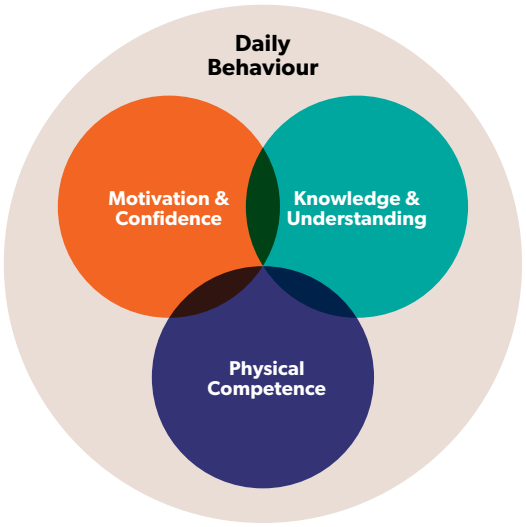
The term *physical literacy* has been defined as "the motivation, confidence, physical competence, knowledge and understanding that individuals develop in order to maintain physical activity at an appropriate level throughout their life" (Whitehead, 2010, p. 5). In the same way that reading, writing, 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?**

The Canadian Assessment of Physical Literacy (CAPL) is the first 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, 2013). Physical literacy moves beyond just fitness, motor skill or motivation in isolation. The CAPL is unique in that it can assess multiple aspects of physical literacy. The Healthy Active Living and Obesity Research Group (HALO) have been responsible for the systematic development of the CAPL since 2008. We anticipate that this first version of the CAPL will be revised and updated as more data and experience become available through wide-spread use. The goal is to ensure that the outcomes from this assessment accurately and reliably reflect a child's current physical literacy level. This first version represents the culmination of HALO's test development efforts, informed by the assessment of more than 2,000 children and with input from well over 100 researchers and practitioners within related fields of study.

The CAPL is conceptualised as consisting of 4 domains, and is visualised 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. Thus the daily behaviour domain encompasses the other 3 circles. 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).

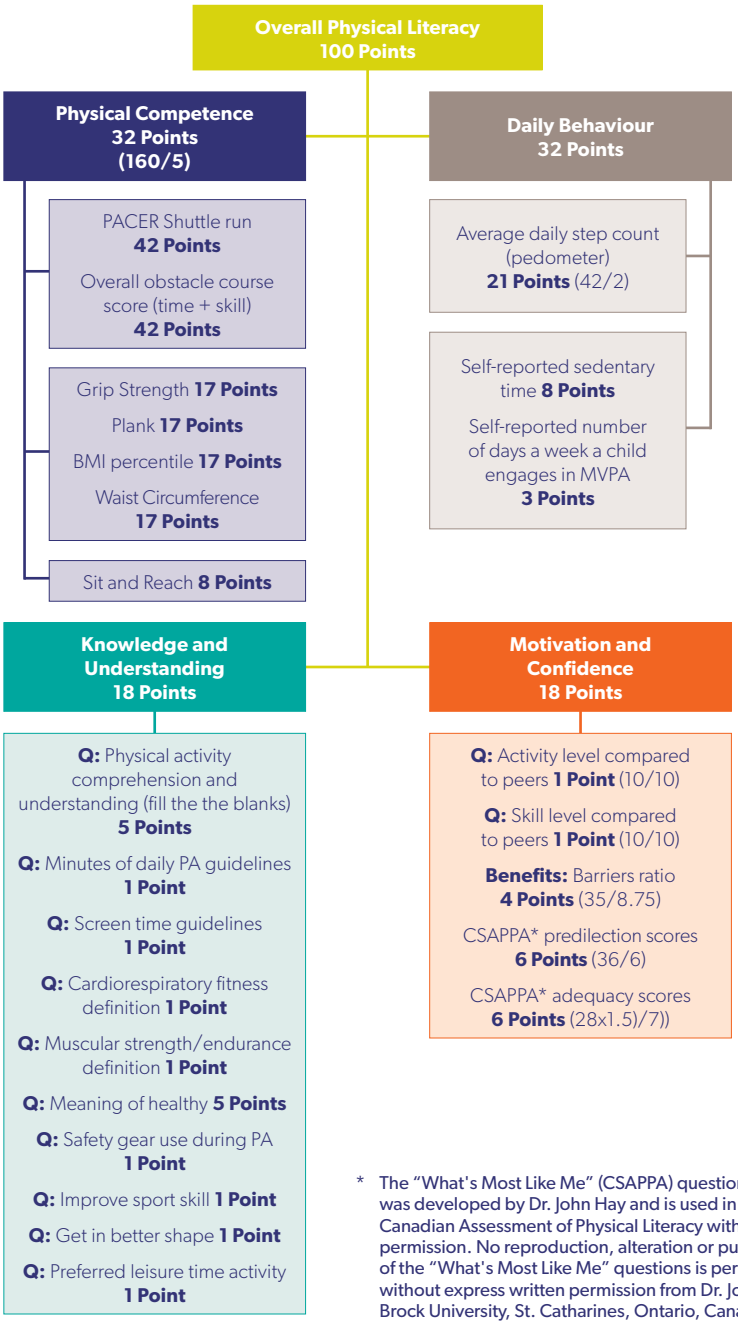
Figure 1: The Core Domains of Physical Literacy



Whose **Physical Literacy** Can Be Assessed?

This version of the CAPL 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 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 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 scoring system. The assigned raw scores were created by the HALO group based on the feedback from these scientists who decided which elements were more important to a child's overall physical literacy.

Figure 2: Comprehensive Scoring System



* The "What's Most Like Me" (CSAPPA) questionnaire was developed by Dr. John Hay and is used in the Canadian Assessment of Physical Literacy with his permission. No reproduction, alteration or publication of the "What's Most Like Me" questions is permitted without express written permission from Dr. John Hay, Brock University, St. Catharines, Ontario, Canada.

How Long Does the Test Take?

For the administration of one child being tested individually, the CAPL can be completed in approximately 60 minutes. If multiple appraisers are available, children can be evaluated in groups. A group of 25 children can be assessed by a team of 5 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 varies, from less than 1 minute to measure weight or height, to up to 30 minutes to complete the knowledge questionnaire (depending on age and reading literacy of the child).

Appraisers who will be administering the test by themselves (i.e., teachers, coaches, etc.) will want to structure the assessment differently. Most assessments for a group of 25 children would take approximately 10-15 minutes to complete, allowing for 2 assessments per day if allowing for 30-45 minutes allotted 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 is 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 CAPL development were designed around 2 days of testing with 5 appraisers on each day. On the first day of testing, children completed the obstacle course, plank and anthropometric assessments as follows:

Station 1: Obstacle Course – 2 appraisers
Station 2: Plank – 1 appraiser
Station 3: Anthropometric Measures – 2 appraisers

At the end of the first day of testing, each child was 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 incorporated the sit & reach flexibility, grip strength, 15m/20m Progressive Aerobic Cardiovascular Endurance Run (PACER) and cognitive questionnaire assessments. The following is an example of the testing stations for the second day:

Station 1: 15m/20m PACER – 1 appraiser per 5 children
Station 2: Sit and Reach + Grip Strength – 1-2 appraiser(s)
Station 3: Questionnaires – 1-2 appraiser(s)

The number of children that can be tested simultaneously depends on the number and experience of staff and space available. The cognitive questionnaires can be completed outside of the gymnasium setting to reduce distractions and optimize the space available for the active components. They 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 examiner to implement the CAPL 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 can be assessed in a series of 30-40 minute lessons over 4 days.

Day 1 (MONDAY):	Questionnaires – 30 minutes Hand out Pedometers – 10 minutes ***no gym space required, classroom (desk and chairs) setting is preferred**
Day 2 (WEDNESDAY):	Obstacle Course – 20 minutes Beep Test – 10 minutes ***gym space required, 2 examiners required for obstacle course**
Day 3 (FRIDAY):	Waist Circumference – 20 minutes Height – 10 minutes Weight – 10 minutes ***no gym space required, but gym space is preferred**
Day 4 (Following TUESDAY):	Plank – 20 minutes Grip Strength – 10 minutes Flexibility – 10 minutes Collect Pedometers - 5 minutes ***no gym space required, but gym space is preferred**

Who Can **Be an Appraiser?**

It is recommended that for individual testing sessions, an appraiser from each gender should be present. During 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 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 appraiser.

Appraiser **Training**

Each appraiser must be thoroughly trained on all aspects of the CAPL assessment protocols that will be administered. Reviewing this Training Manual and the corresponding CAPL 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 appraisers have valid First Aid, Cardiopulmonary Resuscitation (CPR) training and a valid Criminal Records Check. Each organization administering the CAPL 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 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 appraisers use group averages if discussing CAPL results with a group of children. Organizational policies should be followed regarding the dissemination of the assessment results.

Participation in the CAPL 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.

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 assessment results

If you choose to enter the assessment results into the CAPL 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 research database maintained by the HALO 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 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 Board 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 database in fulfilling the Board's roles and responsibilities for research oversight. Additional information about the research use of CAPL 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 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 are linked directly to health and physical literacy outcomes, daily physical activity and motor skill.

The inclusion of anthropometric measures in the CAPL is often a point of discussion. However, research indicates that these measures are linked to important facets of the child's capacity for a healthy, active lifestyle or a child's physical literacy. Our experience has been that when these measures are **implemented according to the CAPL protocols**, participating children are not adversely affected. To date, we have never received a report of an adverse effect from any aspect of the CAPL evaluations.

During the development of the CAPL test, 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. Among the over 700 children who completed the most recent round of data collection, very few children declined to participate in any of the protocols:

- 3% (n=24) declined the waist circumference measurement,
- less than 3% (n=19) declined the weight measurement,
- less than 1% declined each of the following assessments: the flexibility (n=3), grip strength (n=3), PACER (n=5), plank (n=7) or pedometer tests (n=2).

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 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 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 a short series of questions: *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 can be found in (Appendix C). Answering yes to this question suggests that there may be items within the CAPL that the child should not perform. Additional information should be obtained from parents in order to determine whether each component of the CAPL assessment is suitable for the child. Regardless of physical activity restrictions, all children should be able to partake in the cognitive physical activity questionnaires and the 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 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.

To ensure the privacy of the children completing the anthropometric measures, a screen should be set up so the testing can be completed in private. Two appraisers should be present at all times whenever a child is shielded from the view of others by the privacy screen.

Social environment

The social environment of the CAPL 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 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 measurements can occur in a wide variety of locations. Appraisers administering the CAPL 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 must be followed when addressing and documenting adverse events. Each appraiser is responsible for the safety of children participating in the CAPL testing.

Monitoring of adverse events during CAPL assessments

In the unlikely situation where an adverse event occurs during CAPL testing, appraisers are requested to provide the HALO 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 remains a safe measurement tool.

CAPL Scoring

Numerical CAPL scores are assigned to 1 of 4 categories: Beginning, Progressing, Achieving and Excelling. Beginning and Progressing scores are children who have not yet achieved an acceptable 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 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.

The CAPL assessment results 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 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 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 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 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 total score

Daily behaviour (range 0 to 32)	+	Physical competence (range 5.2 to 32)	+	Motivation and confidence (range -1.5 to 18)	+	Knowledge and understanding (range -0.63 to 18)	+	Total CAPL score (range 3.07 to 100)

The CAPL 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 examiner, 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 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)

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 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 health benefits. CAPL 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.

Information is also provided to enable the calculation if aggregate scores if 1 assessment item or whole domain score is missing. This allows the CAPL 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.

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 36 – 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 scores and feedback on their current level of physical literacy.

A total CAPL 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 17) then the physical competence domain score would be out of a total of 143 instead of the full 162. If the sum of the child's scores for the physical competence domain protocols actually performed was 110, the fraction would be calculated as: **110/143 = 0.769**.
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 162. The child's overall physical competence score would be calculated as follows: **0.769*162 = 124.6**.
3. The child's performance in the physical competence domain would be interpreted based on a score of 124.6 points. The physical competence domain is divided by 5 and has a maximum of score of 32 (see Figure 2 on page 11). Therefore the final physical competence score for this child would be: **124.6/5 = 24.9**.

Overall **Score**

Interpretation of Child's Overall Score and Domain Scores:

	Beginning	Progressing	Achieving	Excelling
Physical Literacy Overall (max 100)	< 43.8	43.8 to 63.8	> 63.8 to 74.0	> 74.0
8	< 39.2	39.2 to 61.5	> 61.5 to 72.6	>72.6
9	< 47.3	47.3 to 63.7	> 63.7 to 72.0	> 72.0
10	< 41.2	41.2 to 61.6	> 61.6 to 71.7	>71.7
11	< 44.8	44.8 to 66.7	> 66.7 to 77.6	> 77.6
12	< 41.3	41.3 to 64.0	> 64.0 to 75.3	> 75.3
Physical Competence (max 32)	< 14.1	14.1 to 21.5	> 21.6 to 25.3	> 25.3
8	< 12.3	12.3 to 18.5	> 18.5 to 21.7	> 21.7
9	< 13.8	13.8 to 19.8	> 19.8 to 22.7	> 22.7
10	< 14.0	14.0 to 20.5	> 20.5 to 23.7	>23.7
11	< 16.0	16.0 to 23.4	> 23.4 to 27.1	> 27.1
12	< 16.6	16.6 to 24.7	> 24.7 to 27.1	> 27.1
Daily Physical Activity Behaviour (max 32)	< 7.5	7.5 to 19.2	> 19.3 to 25.2	> 25.2
8	<10.1	10.1 to 21.7	> 21.7 to 27.7	> 27.7
9	< 8.6	8.6 to 20.3	> 20.3 to 26.1	> 26.1
10	< 6.3	6.3 to 18.0	> 18.0 to 23.9	> 23.9
11	< 7.9	7.9 to 19.7	> 19.7 to 25.6	> 25.6
12	< 7.0	7.0 to 18.1	> 18.1 to 23.7	> 23.7
Knowledge and Understanding (max 18)	< 6.8	6.8 to 11.5	> 11.6 to 14.1	> 14.1
8	<7.7	7.7 to 10.8	> 10.8 to 12.3	> 12.3
9	< 6.5	6.5 to 11.0	> 11.0 to 13.3	> 13.3
10	< 6.7	6.7 to 11.6	> 11.6 to 14.1	> 14.1
11	< 7.1	7.1 to 12.2	> 12.2 to 14.7	> 14.7
12	< 7.2	7.2 to 12.3	> 12.3 to 14.8	> 14.8
Motivation and Confidence (max 18)	< 8.1	8.1 to 13.7	> 13.8 to 16.6	> 16.6
8	<7.4	7.4 to 12.4	> 12.4 to 15.0	> 15.0
9	< 8.5	8.5 to 13.7	> 13.7 to 16.4	> 16.4
10	< 7.6	7.6 to 13.7	> 13.7 to 16.8	> 16.8
11	< 8.4	8.4 to 13.9	> 13.9 to 16.6	> 16.6
12	< 8.1	8.1 to 13.9	> 13.9 to 16.8	> 16.8

Reporting & Interpreting the Child's Physical Literacy

	Beginning	Progressing	Achieving	Excelling
Physical Literacy Overall				
Physical Competence				
Overall				
20 m PACER				
Obstacle Course				
Grip Strength				
Plank				
BMI Percentile				
Waist Circumference				
Sit & Reach				
Daily Behaviour				
Overall				
Average Daily Step Count				
Self-reported Sedentary Time				
Self-Reported number of days a week a child engages in MVPA				
Knowledge and Understanding				
Overall				
Motivation and Confidence				
Overall				
CSAPPA* Predilection				
CSAPPA* Adequacy				
Benefits to Barriers ratio				
Activity level compared to peers				
Skill level compared to peers				

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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 have 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 activities. 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

	Child	Parent	Appraiser
Progressing & Beginning	**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. **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. **After school:** Make after school time outdoor time! 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. **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. **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. **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 them 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. Allocate time for free play so they can participate in activities that they enjoy. Emphasize that there are many ways to increase one's daily activity. Group children with different levels of physical literacy together for activities. 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. **Try to do** activities that make you **breathe hard** 3 days a week like: running, swimming, cross-country skiing and bicycling. **Try doing** 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. 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. 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. 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. 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.

The CAPL assessment results 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) and sedentary behaviour (time spent doing very little physical movement). Physical activity is directly measured using pedometers and indirectly assessed through question 19 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). Sedentary behaviour is assessed via questions 15, 16, 17 and 18. Refer to the questionnaire section of the manual for details about how to administer and score these questions.

Calculating the Daily Behaviour Domain Score

The component scores for both the physical activity behaviour (measured with pedometer step counts) and the sedentary time (based on self-report) are summed. Physical activity behaviour is assigned a heavier weight than sedentary time and the weekly physical activity question because the direct measurement of activity over 7 days by pedometer is a more objective measure than the questionnaire measures. Sedentary time is assigned a higher weighting than the weekly physical activity question because daily physical activity level is also represented primarily by the pedometer step counts.

The daily behaviour domain score is calculated as follows:

Pedometer steps component score (range 0 to 21)	+	Total screen time component score (range 0 to 8)	+	Weekly time spent in MVPA component score (range 0 to 3)	=	Daily behaviour (range 0 to 32)

Interpreting the Daily Behaviour Domain Score

	Beginning	Progressing	Achieving	Excelling
Boys and Girls (measure in Total Score for Daily Behaviour)				
8 years	< 10.1	10.1 to 21.7	> 21.7 to 27.7	>27.7
9 years	< 8.6	8.6 to 20.3	> 20.3 to 26.1	> 26.1
10 years	< 6.3	6.3 to 18.0	> 18.0 to 23.9	>23.9
11 years	< 7.9	7.9 to 19.7	> 19.7 to 25.6	> 25.6
12 years	< 7.0	7.0 to 18.1	> 18.1 to 23.7	> 23.7

**Based on data collected by HALO Research Team

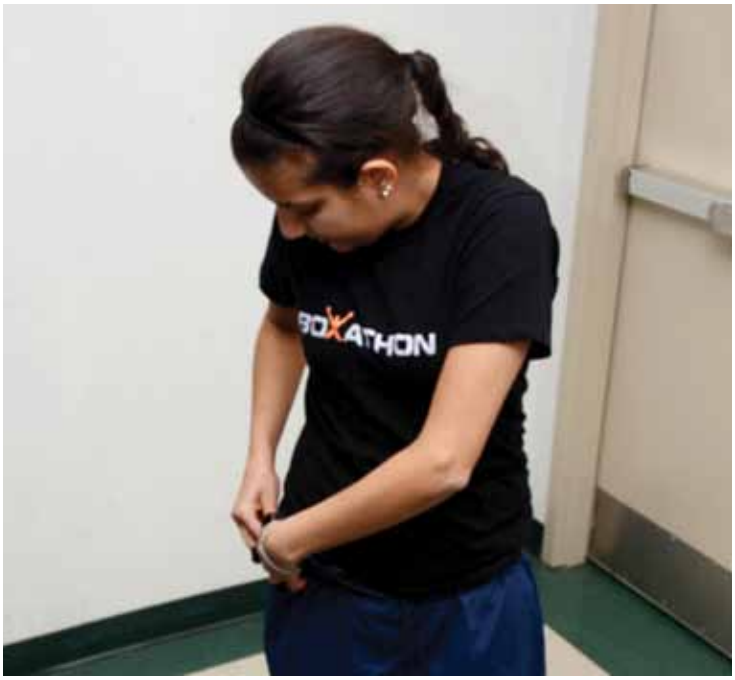
Messaging the Daily Behaviour Domain Score

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 behavior 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 identifier 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 pedometer is counting)

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

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 his or her 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 his/her 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 is 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. You will need to wear the pedometer an extra day to replace the missing day.

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:_____

Scoring Daily Physical Activity Behaviour

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 1000 and 30000 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

Where there is no recorded step count or the recorded number is deemed invalid, a statistical approach is used to estimate the step count on the missing days based on the valid data that is available. For example:

> *If there are 3 days with valid data, the score for the 4 remaining days are randomly drawn from the 3 available days. 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 first missing day (Day 2 and the first missing day will now have the same number of steps). Randomly select another number between 1 and 3 to fill the second missing day. If the random number is again "2", the steps from Day 2 are also entered into the second missing day. Continue choosing random numbers (by computer or by throwing a die) until all seven days contain a count of steps. For each missing day, all of the valid days can potentially be selected (i.e., you can always choose 1, 2 or 3 for the next space, regardless of which number was chosen for the previous space).*

A given number of steps on **an individual day** are assigned a numerical value:

Number of steps	Numerical value
15,000 or more	6
12,000-14,999	5
9,000-11,999	3
6,000-8,999	1
Fewer than 6,000	0

After any missing days are estimated using the random number process described above, the numerical values for each day are summed and then divided by 2 to give the final pedometer score (range from 0 to 21 points).

For example:

Day	Number of steps reported	Score for the day
Monday	14,365	5
Tuesday	9,504	3
Wednesday	12,003	5
Thursday	7,461	1
Friday	16,221	6
Saturday	15,000	6
Sunday	6,978	1
	Sum of scores	27
	Pedometer composite score (sum of scores/2)	13.5

Interpreting Physical Activity Behaviour Scores

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. Therefore, the pedometer score is interpreted both in terms of how many steps are taken in a day and how many days of the week achieve a minimum of 12,000 steps.

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 will continue to monitor physical activity levels of children 8 to 12 years of age and will adjust the scoring system once more information is collected.

	Beginning	Progressing	Achieving	Excelling
Boys and Girls (measures in steps)				
8 to 12 years	< 8,999	8,999 to 11,999	12,000 to 14,999	≥15,000

**Based on data from Colley et al. (2012)

Messaging for Physical Activity Behaviour Scores

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 **Sedentary Screen Time**

Objective:
To assess the amount of sedentary screen time

Rationale:
The amount of time children sit in front of screens is associated with negative impacts on their health

How to prepare for the test

See questionnaire section

How to administer the test

See questionnaire section. Children need to complete questions 15, 16, 17 and 18 of the CAPL Knowledge of Physical Activity Questionnaire.

Scoring Self-Reported Sedentary Behaviour **Background**

Sedentary behaviour has been defined as "any waking behaviour characterized by an energy expenditure that is less than 1.5 times the energy used while in a sitting or reclining posture" (Sedentary Behaviour Research Network, 2012). Watching TV for more than 2 hours per day is associated with unfavourable body composition (increased body fat), decreased fitness (endurance and strength), lower scores for self-esteem, more anti-social behaviour and decreased academic achievement (Tremblay et al., 2011-B). Television viewing has also been shown to have a negative effect on academic performance, body concept and self-image, and nutrition, while increasing the likelihood of dieting and obesity.

The most commonly observed sedentary behaviours are time spent in front of a screen (i.e., watching TV, using the computer or playing computer/video games). The current guidelines for children between 5 and 17 years of age recommend no more than 2 hours of recreational screen time should be accumulated in 1 day (American Academy of Pediatrics, Committee on Public Education, 2001; Tremblay et al., 2011-A). Screen time that is required for school, work or homework is not considered recreational screen time. The scoring for sedentary behaviours in the CAPL reflects these guidelines, with lower levels of sedentary behaviour receiving a higher score.

NOTE: The current guidelines apply only to screen time. The current guidelines do not include other sedentary behaviours (e.g., reading, sewing/crafts, playing a musical instrument). Currently, there is insufficient evidence to determine whether all sedentary behaviours (screen and non-screen types) carry the same health risks. Preliminary evidence suggests that the type of sedentary behaviour may be important when considering the health implications in children, but further research is required. For example, Chaput et al. (2013) found that television viewing is associated with increased snacking and exposure to food advertisements targeting children. Therefore, television viewing may carry different risks in comparison to sedentary activities that do not increase snacking or food advertisement exposure.

Given the current guidelines, the CAPL sedentary behaviour score is based on self-reported screen time. A question regarding time spent engaged in other sedentary behaviours is included in the CAPL questionnaire as a means of collecting data that can contribute to enhancing our understanding of the effect of different types of sedentary behaviour on the health and physical literacy of children.

Scoring Self-Reported Sedentary Behaviour

To calculate the sedentary behaviour score, screen time is inferred from the responses to the following questions on the physical activity questionnaire:

Q15: On a school day, how many hours did you watch TV?

Q16: On a school day, how many hours did you sit down to play video or computer games or use a computer for something that was not school work?

Q17: On a weekend day, how many hours did you watch TV?

Q18: On a weekend day, how many hours did you sit down to play video or computer games or use a computer for something that was not school work?

The total screen time on a school day is summed (Q15 +Q16) and assigned a component score:

Number of hours of screen time on a weekend day (TV + computer/video games)	Component score
< 2 hours	4 (meeting guidelines)
2 to < 4 hours	2 (above guidelines)
≥ 4 hours	0 (excessive screen time)

Then the total screen time on a weekend day (Q17 + Q18) is summed:

Number of hours of screen time on a weekday (TV + computer/video games)	Component score
< 2 hours	4 (meeting guidelines)
2 to < 4 hours	2 (above guidelines)
≥ 4 hours	0 (excessive screen time)

Calculating the Overall Sedentary Score

Component score for weekend day (range 0 to 4)	+	Component score for weekday (range 0 to 4)	=	Total screen time component score (range 0 to 8)

Interpreting Self-Perceived Sedentary Behaviour Score

	Beginning	Progressing	Achieving	Excelling
Boys and Girls				
8 to 12 years	> 4 hours (excessive screen time) on both weekday and weekends	> 2 hours (above guidelines) on both weekday and weekends	< 2 hours either on weekday or weekend	< 2 hours on weekdays and weekends

**Based on sedentary screen guidelines from Tremblay et al. (2011-A)

Messaging Self-Perceived Sedentary Behaviour Score

Beginning: You are beginning your journey towards reducing the amount of screen based sedentary time. Have more fun and be healthier by trying to decrease your screen time and the time you are sitting still.

Progressing: You are progressing towards reducing your screen based sedentary time. The number of hours you spend sitting in front of a screen is similar to other children your age. Have more fun and be healthier by decreasing the time you spend sitting still or watching screens.

Achieving: You are achieving the recommended levels for sedentary screen time. That means you are gaining health benefits from reducing the time you spend sitting in front of screens. Keep up the great work by trying to reduce the time you spend sitting in front screens.

Excelling: Congratulations, you are doing a great job at limiting the time you spend sitting in front of screens which is related to a lot of health benefits. Keep up the great work!

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

See questionnaire section

How to administer the test

See questionnaire section. Children need to complete question 19 of the CAPL Knowledge of Physical Activity Questionnaire.

As stated above, current physical activity guidelines recommend that children 5 to 17 year of age should accumulate at least 60 minutes of MVPA each day 7. Q19 on the physical activity 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.

Interpretation of 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**
6-7	3
4-5	2
2-3	1
0-1	0

	Beginning	**Progressing**	**Achieving**	**Excelling**
Boys and Girls (measures in # of days)				
8 to 12 years	0-1	2-3	4-5	6-7

**Based on physical activity guidelines from Tremblay et al. (2011-c)

Messaging Self-Perceived Moderate-to-Vigorous Physical Activity

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 at least 60 minutes of moderate-to-vigorous intensity physical activity (MVPA) 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 body composition, aerobic fitness and musculoskeletal fitness. Motor performance is assessed via the skill performance during an obstacle course, and time to complete.

Calculating the Physical Competence Domain Score

The aggregate physical competence domain score is calculated as follows:

Body composition aggregate score (range 8 to 34)	+	Musculo-skeletal fitness aggregate score (range 6 to 42)	+	PACER score (range 10.5 to 42)	+	Overall obstacle course score (range 1.5 to 42)	=	Physical competence domain score (range 26 to 160)/5 = (range 5.2 to 32)

Overall musculoskeletal fitness score

Grip strength (range 2 to 17)	+	Plank (range 2 to 17)	+	Flexibility (range 2 to 8)	=	Musculoskeletal fitness score (range 6 to 42)

Body composition sub-score

The body composition sub-score is calculated based on the BMI and waist circumference component score. It is possible to be classified as overweight or obese according to BMI but still have a healthy body composition, as BMI is unable to distinguish between muscle and fat. Therefore, higher health risks are associated with a high BMI score combined with a high waist circumference score (Ardern et al., 2004).

BMI component score (range 3 to 17)	+	Waist circumference component score (range 5 to 17)	=	Body composition sub-score (range 8 to 34)

Physical Competence
Individual Scoring Sheet

Unique Child Identifier: _____

Test Date: _____

Test Location: _____

Child's Age _____(years)	**Child's Gender** male / female (circle)		
Sit and Reach _____(cm)	**Sit and Reach 2** _____(cm)		
Left Handgrip 1 _____(kg)	**Left Handgrip 2** _____(kg)	**Right Handgrip 1** _____(kg)	**Right Handgrip 2** _____(kg)
PACER Shuttle Run Distance ☐ 15m ☐ 20m	**PACER Shuttle Run Laps** _____(laps)		
Plank Time _____(s)			
Standing Height 1 _____(cm)	**Standing Height 2** _____(cm)	***Standing Height 3** _____(cm)	
Body Weight 1 _____(kg)	**Body Weight 2** _____(kg)	***Body Weight 3** _____(kg)	
Waist Circumference 1 _____(cm)	**Waist Circumference 2** _____(cm)	***Waist Circumference 3** _____(cm)	
Obstacle Course Time 1 _____(s)	**Obstacle Course Score 1** _____	**Obstacle Course Time 2** _____(s)	**Obstacle Course Score 2** _____

* If first two measurements have a difference greater than 0.5, then a third measurement must be taken.

Interpreting the Physical Competence Domain Score

	Beginning	Progressing	Achieving	Excelling
8 years	< 12.3	12.3 to 18.5	> 18.5 to 21.7	> 21.7
9 years	< 13.8	13.8 to 19.8	> 19.8 to 22.7	> 22.7
10 years	< 14.0	14.0 to 20.5	> 20.5 to 23.7	> 23.7
11 years	< 16.0	16.0 to 23.4	> 23.4 to 27.1	> 27.1
12 years	< 16.6	16.6 to 24.7	> 24.7 to 27.1	> 27.1

**Based on data collected by HALO Research Team

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, stretching, 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, stretching a bit further, a few more push-ups 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. If it's grip strength, work on increasing the amount of push ups you can do.

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
- ☐ 1 Soccer ball
- ☐ 1 Squellet ball or soft ball (70 mm)
- ☐ 1 cardboard wall target (24" wide x 18" high)

How to administer the test

Overview of Administration

- ☐ Before attempting the obstacle course, children should watch two demonstrations. During the first demonstration of the obstacle course 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, emphasising the cue words (see following pages). For the second demonstration, the appraiser completes the obstacle course 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. Examiner #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. Examiner #1 starts each trial by saying "ready, set, go".
3. Timing starts when the examiner says "go" and stops when the child's foot kicks the soccer ball.
4. Examiner #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. Examiner #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 Examiner #1 provides consistent, clear verbal prompts for each skill during performance of the obstacle course.
8. Accurate and effective prompting is essential to ensure that the score and time reflect the child's motor skill, rather than memory.

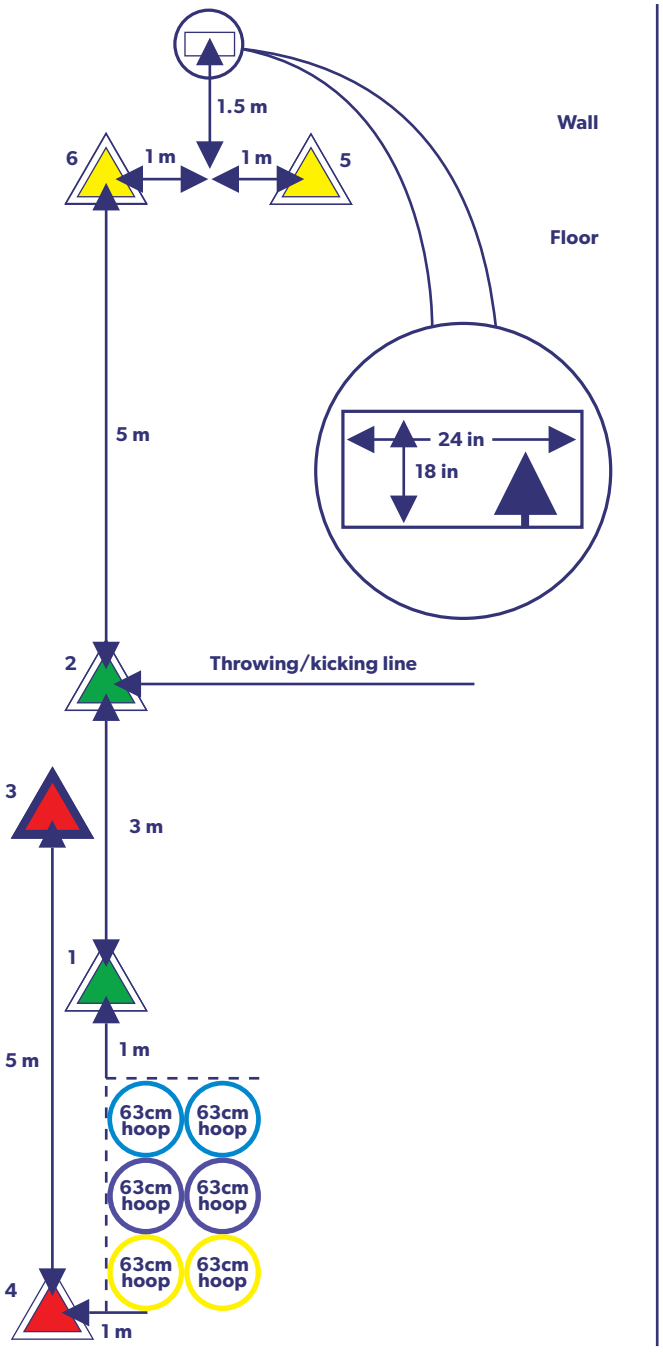
Preparation

Measure and position the obstacle course by following these steps:

1. Mount the target on the wall so that the top of the target is 1.5m above the floor.
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 red hula hoop with the line from the target wall (in line with cone #1, #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.

Obstacle Course **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."* *"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 obstacle course 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 obstacle course score when the child has completed the course fewer than 3 times.

How to Record the Obstacle Course 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 obstacle course 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 Obstacle Course Score

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. 1-foot lands in each hoop and does 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 demonstrated 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 obstacle course 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.

Obstacle Course **Score Sheet**

Test Location:_____

Test Date:_____

Examiner #1:_____

Examiner #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 Obstacle Course

Motor competence is assessed through performance of the obstacle course. Both a time score to complete the course (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 obstacle course 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.

Obstacle course 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.

Obstacle course time score

Using previously collected CAPL data, time norms for the obstacle course 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 by HALO Research Team

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

Calculating the Overall Obstacle Course Score

Time Score (range 1 to 14)	+	Skill Score (range 0 to 14)	=	Total Obstacle Course Score (range 1 to 28)	=	Best Score from Trial 1 and Trial 2 x 1.5 (range 1.5 to 42)

**The highest overall obstacle course score should be used to interpret the child's obstacle course results or to calculate a physical competence score.

Interpreting Obstacle Course Scores

	Beginning	Progressing	Achieving	Excelling
Boys and Girls (combined time and skill score)				
8 years	< 14	14 to 18	> 18 to 23	> 23
9 years	< 17	17 to 21	> 21 to 24	> 24
10 years	< 19	19 to 23	> 23 to 26	> 26
11 years	< 20	20 to 24	> 24 to 27	> 27
12 years	< 21	21 to 24	> 24 to 27	> 27

**Based on data collected by HALO Research Team

Messaging for Obstacle Course Scores

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 shuttle run, 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

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

Test Date: _____

Test Location: _____

Test Length: ☐ 15 m ☐ 20 m

ID #	Appraiser	Lane	Laps Completed

Scoring Cardiorespiratory Endurance

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. Percentiles are based on data by Carrel et al. (2012).

20m PACER (laps)	Composite score
> 44	42
31 to 44	31.5
19 to < 31	21
< 19	10.5

**Based on data from Carrel et al. (2012)

Interpreting 20 m PACER Scores

	Beginning	Progressing	Achieving	Excelling
Boys (measures in 20 m laps)				
8 years	< 12	12 to 23	> 23 to 34	> 34
9 years	< 13	13 to 26	> 26 to 38	> 38
10 years	< 17	17 to 29	> 29 to 41	> 41
11 years	< 15	15 to 28	> 28 to 42	> 42
12 years	< 19	19 to 32	> 32 to 44	> 44

**Based on data from Carrel et al. (2012)

	Beginning	Progressing	Achieving	Excelling
Girls (measures in 20 m laps)				
8 years	< 12	12 to 24	> 24 to 37	> 37
9 years	< 12	12 to 25	> 25 to 37	> 37
10 years	< 15	15 to 27	> 27 to 38	> 38
11 years	< 14	14 to 26	> 26 to 37	> 37
12 years	< 15	15 to 29	> 29 to 43	> 43

**Based on data from Carrel et al. (2012)

Messaging Cardiorespiratory Endurance Scores

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 shuttle run. Your score is related to a lot of health benefits. Keep up the great work!

Body Composition: Assessment of Height (CSEP, 2013)

Objective:
To measure standing height

Rationale:
The relationship between height and weight provides an indication of body composition, which is linked to many health outcomes

How to prepare for the test

Equipment/Space Required:

- ☐ Stadiometer placed on a smooth, level floor area

Preparation:

- ☐ Place the stadiometer on a smooth, level section of the floor
- ☐ Ensure stadiometer is vertical
- ☐ Ensure children have removed footwear (socks are kept on) and headwear (e.g., hats, hair elastic)

How to administer the test

Explain the test by demonstrating the correct position and describing the test as follows: "We are going to see how tall you are. Take your shoes off and stand with your heels right back against the platform with your feet together. Stand up straight and look straight ahead. Let your arms hang freely by your side. Then take a deep breath while I bring the measuring arm down so it rests on your head."

Alternative equipment

If your organization does not have a stadiometer, you may secure a measuring tape to the wall and take the height measurement following the same protocol using a right angle measure against the wall that extends to the crown of the head.

Instructions for the Participant

1. Stand straight without your shoes with your arms hanging at your side, feet together and your heels and back in contact with the height measuring tool.
2. Look straight ahead, standing straight up and take a deep breath in while the measurement is taken.
3. The appraiser will lower your head so that your head is in the proper position.

Proper **Form**

1. Lower child's head so that it is in the Frankfort plane (horizontal line from the ear canal to the lower border of the orbit of the eye, parallel to the floor).
2. Lower headboard until it depresses the hair and makes firm contact with head.
3. Check to ensure that the child's heels remain in contact with floor and the head remains level.
4. Height should be recorded without any feedback related to the measurement.

Frankfort Plane

How to **Record the Score**

1. Record height to the nearest 0.1 cm separately for each trial.
2. 2 trials are performed; the final height measurement is the average of the 2 trials.
3. If the difference between the 2 trials is more than 0.5 cm then a third measurement should be taken, and the 2 closest trials should be averaged to give a final height measurement.

Height **Score Sheet**

Test Date:_____

Test Location:_____

Stand on the platform with your feet together and your heels against the back of the platform. Let your arms hang down at your sides. Take a deep breath in while the measurement is made.

ID #	Appraiser	Trial 1 (0.1 cm)	Trial 2 (0.1 cm)	Trial 3 (0.1 cm; if needed)

Body Composition: Assessment of Weight (CSEP, 2013)

Objective:
To measure body mass

Rationale:
The relationship between height and weight provides an indication of body composition, which is linked to many health outcomes

How to prepare for the test

Equipment/Space Required:

- ☐ Weigh scale
- ☐ Smooth, level floor area for scale

Preparation:

- ☐ Place the scale on a smooth, level section of the floor
- ☐ Ensure children have removed footwear (socks are kept on) and are dressed in light clothing
- ☐ If required by your organization, you may cover the screen so children cannot see the measurement results

How to administer the test

Explain the test to the child by demonstrating what they are to do and describing the test as follows: "At this station we are going to see how much you weigh. All you have to do is take your shoes off (you can keep your socks on) and stand on the scale with both feet. Keep still for a few seconds until I say you are done. No one apart from me will see the number."

Instructions for the Participant

1. Stand on the scale with both feet and keep still until I say you are done.

Proper **Form**

1. Ensure scale is on flat, hard and level surface.
2. Children should be in light clothing and without footwear.
3. Take 1 measurement if using a digital scale. For consistency, take 2 measurements if using a mechanical scale and use the average of the two scores as the final weight. If the two scores differ by more than 0.5 kg, take a third measurement and use the average of the two closest weights as the final score.
4. Weight should be recorded without giving any feedback related to the measurement.
5. If desired, the participant's view of the scale output can be obscured so that the child being measured does not know the result.

How to **Record the Score**

1. Record the weight to the nearest 0.1 kg.

Weight **Score Sheet**

Test Date:_____

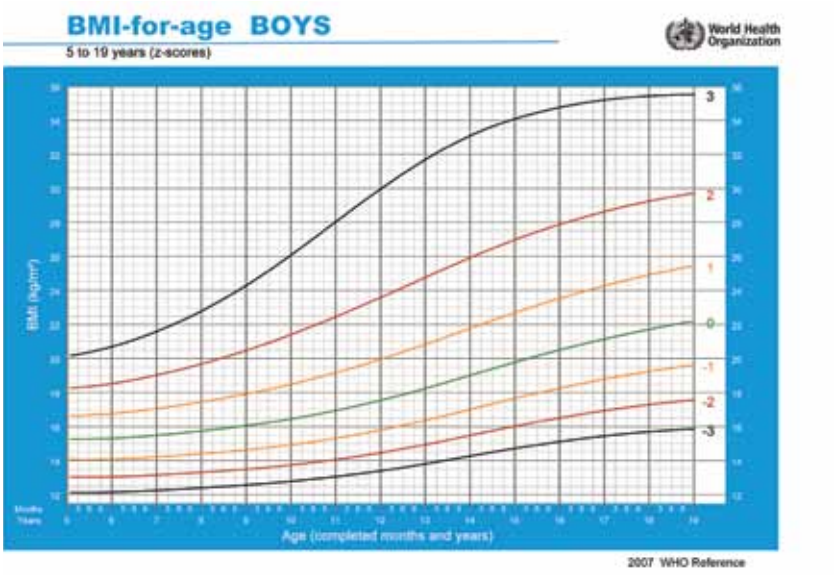
Test Location:_____

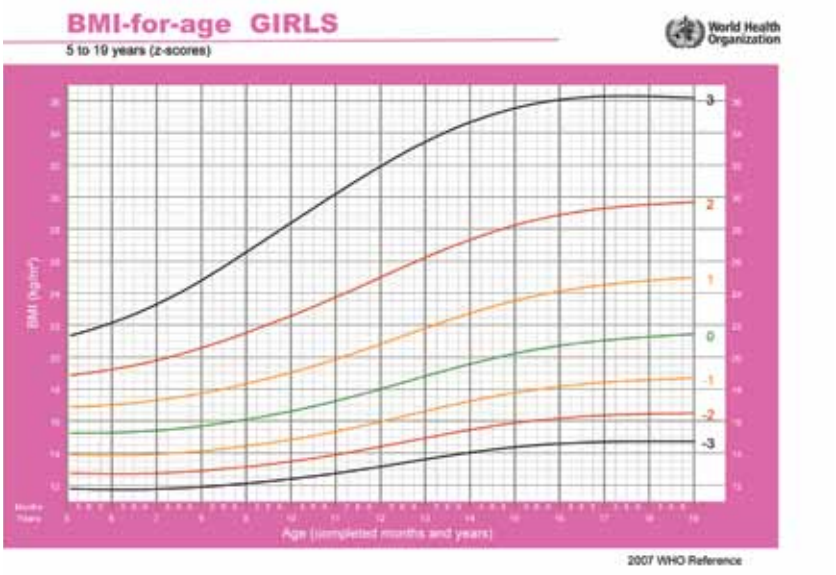
Stand on the scale with both feet and keep still until I say you are done.

ID #	Appraiser	Trial 1 (0.1 kg)	Trial 2 (0.1 kg)	Trial 3 (0.1 kg; if needed)

Calculating the Body Mass Index Score

Body mass index (BMI) is calculated using the following formula: **Body Mass Index = Weight (kg) / [Height (m)]** ^{2}. BMI raw data are converted to age and gender z-scores, because body composition changes as children grow and mature. The BMI z-scores shown below are based on World Health Organization (WHO) growth references. To calculate a z-score use the WHO charts (available at **http://www.who.int/growthref/who2007_bmi_for_age/en/index.html**) to look up the z-score for each child based on the child's age, gender and BMI.





BMI component score

BMI z-score	Corresponding WHO category	Component Score
> 2.0	Obese	5
> 1.0 to ≤ 2	Overweight	12
≥ -2.0 to ≤ 1.0	Recommended	17
≥ -3 to < -2.0	Thinness	10
< -3.0	Severe Thinness	3

**Based on WHO standards

Interpreting Body Mass Index (BMI) based on calculated BMI Z-Scores

	Beginning	Progressing	Achieving	Excelling
Boys (measured in kg/m²)				
8 years	< 12.4 or > 19.7	≥ 12.4 to < 13.3	> 17.4 to ≤ 19.7	≥ 13.3 to ≤ 17.4
9 years	< 12.6 or > 20.5	≥ 12.6 to < 13.5	> 17.9 to ≤ 20.5	≥ 13.5 to ≤ 17.9
10 years	< 12.8 or > 21.4	≥ 12.8 to < 13.7	> 18.5 to ≤ 21.4	≥ 13.7 to ≤ 18.5
11 years	< 13.1 or > 22.5	≥ 13.1 to < 14.1	> 19.2 to ≤ 22.5	≥ 14.1 to ≤ 19.2
12 years	< 13.4 or > 23.6	≥ 13.4 to < 14.5	> 19.9 to ≤ 23.6	≥ 14.5 to ≤ 19.9

**Based on WHO standards within each age for first calendar month of each age group

	Beginning	Progressing	Achieving	Excelling
Girls (measured in kg/m²)				
8 years	< 11.9 or > 20.6	≥ 11.9 to < 12.9	> 17.7 to ≤ 20.6	≥ 12.9 to ≤ 17.7
9 years	< 12.1 or > 21.5	≥ 12.1 to < 13.1	> 18.3 to ≤ 21.5	≥ 13.1 to ≤ 18.3
10 years	< 12.4 or > 22.6	≥ 12.4 to < 13.5	> 19.0 to ≤ 22.6	≥ 13.5 to ≤ 19.0
11 years	< 12.7 or > 23.7	≥ 12.7 to < 13.9	> 19.9 to ≤ 23.7	≥ 13.9 to ≤ 19.9
12 years	< 13.2 or > 25.0	≥ 13.2 to < 14.4	>20.8 to ≤ 25.0	≥ 14.4 to ≤ 20.8

**Based on WHO standards within each age for first calendar month of each age group

Messaging for Body Mass Index Scores

Beginning: Body mass index can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether a "beginning" body mass index score is accurate for you. Your doctor can also provide more information about your health benefits and risks.

Progressing: Body mass index can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether a "progressing" body mass index score is accurate for you. A "progressing" body mass index score is associated with some health benefits.

Achieving: Body mass index can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether an "achieving" body mass index score is accurate for you. An "achieving" body mass index score is associated with many health benefits.

Excelling: Body mass index can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether an "excelling" body mass index score is accurate for you. An "excelling" body mass index score is associated with the most health benefits.

Body Composition: Assessment of Waist Circumference (CSEP, 2013)

Objective:
To measure waist circumference

Rationale:
Waist circumference reflects the deposition of fat in the abdominal area. Abdominal fat distribution is linked to many health outcomes

How to prepare for the test

Equipment/Space Required:

- ☐ Tape measure (cm)
- ☐ Clothes pins or clip
- ☐ Highlighter for marking landmarks (*always use highlighter that will easily wash off and is scent free and hypoallergenic)
- ☐ Privacy screen for testing area

Preparation:

- ☐ Erect a privacy screen so that the measurement can be taken in private
- ☐ Ensure children are dressed in light clothing with a separate shirt and shorts/pants (i.e., not a one-piece leotard or dress)
- ☐ Always have 2 appraisers present whenever a child is behind the privacy screen

How to administer the test

Explain the test to the child by demonstrating on yourself first while describing the test as follows: "At this station we are going to measure around your waist. I will ask you to lift your shirt so that I can measure your waist and not your clothes. I will use clothes pins to pin your shirt out of the way. You show me where your hip bone is by pointing. I will make a small mark on your body with the highlighter but don't worry – it washes off really easily! Then we'll do the same thing on the other side. Finally I will put the tape around you so it is over the dots. Then I will ask you to let your arms hang down, stand up straight, look straight ahead and breathe out and relax while I make the measurement."

Instructions for the Participant

1. You lift your shirt out of the way so that I can measure your waist and not your clothes.
2. I will use the clothes pins to hold your shirt out of the way.
3. Point to where your hip bone is and I will draw a little dot.
4. Now we'll do the same thing on the other side.
5. Now we are ready to measure. I will put the tape around you so it covers the dots.
6. Now let your arms hang down at your sides, stand up straight and look straight ahead.
7. Breathe in and then breathe out and relax while I make the measurement.

Proper **Form**

1. Child stands in relaxed position with feet shoulder width apart.
2. Have the child roll up his or her own shirt so the waist is exposed. Secure the shirt in the rolled up position with clothes pins.
3. Have the child point to the top of their iliac crest (or the top of the hip bone). The hip bone may be located by pressing against the upper right hip bone until the very top of the hip bone is found. Confirm the location by palpating the hip bone yourself. Make sure you confirm with the child that this is appropriate.
4. Mark the top of the hip bone crest. Repeat the landmark so that both the left and right sides are marked.
5. Ask the child to hold arms slightly forward (45 degree angle) with palms facing in.
6. Standing on the child's right side, position the measuring tape around the abdomen so that the bottom edge of the measuring tape is at the level of the landmark.
7. Ensure measuring tape is in a horizontal plane between the two marks. If there is a visible difference between the marks, use the mark on the right side as the guide to ensure that the measuring tape is parallel to the floor.
8. Waist circumference should be recorded without any feedback related to the measurement.

How to **Record the Score**

1. Measuring tape should fit snugly around the abdomen without causing indentation to the skin.
2. Once the tape is in position, ask the participant to place both arms along the side of the body in a relaxed manner and to breathe normally.
3. Measure waist circumference at the end of a normal expiration while the appraiser's eyes are at the same level as the measuring tape.
4. Record the first score to the nearest mm.
5. Remove the measuring tape from the participant and then place it in position a second time, using the same landmarks at the top of the iliac crest.
6. Record the second score to the nearest mm.
7. The final waist circumference score is the average of the 2 measurements.
8. If the difference between the 2 measurements is greater than 0.5 cm then a third measurement is taken and the 2 closest trials are averaged to give a final waist circumference score.

Waist Circumference **Score Sheet**

Test Date:_____

Test Location:_____

ID #	Appraiser	Trial 1 (0.1 cm)	Trial 2 (0.1 cm)	Trial 3 (0.1 cm; if needed)

Scoring Waist Circumference

Waist circumference component score

Waist Circumference (cm)	Classification	Component Score
> 84.9	Obese	5
75 to 84.9	Overweight	11
50 to 74.9	Recommended	17
<50	Thinness	11

**Based on data collected by HALO Research Team

Interpreting Waist Circumference

A very large waist circumference has greater health risks and thus is scored the lowest (beginning). A very small waist circumference is also associated with health risks (progressing). A greater than average waist circumference is scored higher than both large and small waist circumferences (achieving). The recommended waist circumference is the best possible score (excelling).

	Beginning	Progressing	Achieving	Excelling
Boys (measured in cm)				
8 years	> 79	65 to 79 **or** < 47	47 to 52 **or** 61 to < 65	> 52 to < 61
9 years	> 82	73 to 82 **or** < 53	53 to 58 **or** 68 to < 73	> 58 to < 68
10 years	> 86	75 to 86 **or** < 56	56 to 61 **or** 70 to < 75	> 61 to < 75
11 years	> 95	81 to 95 **or** < 57	57 to 63 **or** 75 to < 81	> 63 to < 75
12 years	> 95	85 to 95 **or** < 57	57 to 65 **or** 77 to < 85	> 65 to < 77

**Based on data collected by HALO Research Team

	Beginning	Progressing	Achieving	Excelling
Girls (measured in cm)				
8 years	> 79	65 to 79 **or** < 47	47 to 52 **or** 61 to < 65	> 52 to < 61
9 years	> 79	71 to 79 **or** < 51	51 to 56 **or** 66 to < 71	> 56 to < 66
10 years	> 90	84 to 90 **or** < 54	54 to 62 **or** 77 to < 84	> 62 to < 77
11 years	> 90	84 to 90 **or** < 57	57 to 64 **or** 77 to < 84	> 64 to < 77
12 years	> 100	84 to 100 **or** < 59	59 to 64 **or** 78 to < 84	> 64 to < 78

**Based on data collected by HALO Research Team

Messaging for Waist Circumference

Beginning: Waist circumference can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether a "beginning" waist circumference score is accurate for you. Your doctor can also provide more information about your health benefits and risks.

Progressing: Waist circumference can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether a "progressing" waist circumference score is accurate for you. A "progressing" waist circumference score is associated with some health benefits.

Achieving: Waist circumference can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether an "achieving" body mass index score is accurate for you. An "achieving" body mass index score is associated with many health benefits.

Excelling: Waist circumference can only provide a general estimate of the health benefits that you are likely to achieve. Talk to your doctor to find out whether an "excelling" waist circumference score is accurate for you. An "excelling" waist circumference score is associated with the most health benefits.

Musculoskeletal Fitness: Assessment of Grip Strength (CSEP, 2013)

Objective:
To measure static grip strength

Rationale:
Grip strength is an indicator of upper body strength

How to prepare for the test

Equipment/Space Required:

- ☐ Handgrip dynamometer adjusted to the size of the child's hand
- ☐ Space for children to hold dynamometer with arm extended slightly away from the body

*If your organization does not own a dynamometer, check with a fitness or physical activity programme in a local college, university or fitness club to inquire about the possibility of borrowing a dynamometer for the assessment

How to administer the test

Demonstrate the test procedure while providing the following explanation: "Take the machine into the palm of your hand and hold it so the scale is facing out. Make sure that you are gripping the machine between the base of your thumb and your fingers. Hold your arm so that it is straight and hanging at your side. Your arm should not be touching your side and it must be as straight as possible. With control, gradually squeeze the handle as hard as you can while slowly saying the word 'squeeze'."

Instructions for the Participant

1. Hold the handle with just one hand.
2. Keep your arm straight and hold it away from your body.
3. Do not let the handle or your hand touch your body.
4. Slowly squeeze the handle as hard as you can while saying the word "squeeeze".

Proper **Form**

1. Child stands in upright position.
2. Dynamometer held in appropriate hand with scale facing tester.
3. Arm should be straight and slightly away from body so that the hands and dynamometer do not touch body.
4. Grip of dynamometer should be between fingers and palm at base of the thumb.
5. Adjust dynamometer so that second joint of fingers is at a right angle when gripping.
6. Dynamometer held in line with forearm at level of the thigh.
7. Child squeezes dynamometer firmly and gradually to build up to maximal force.
8. Child exhales while slowly saying the word "squeeeze".

How to **Record the Score**

1. Record scores to nearest 0.5 kg.
2. 2 trials with each hand (alternate hands between each trial).
3. Combine maximum score for each hand to calculate the total score.
4. If proper form is not used, do not score result.

Grip Strength **Score Sheet**

Test Date:_____

Test Location:_____

ID #	Appraiser	Trial 1 (0.5 kg)		Trial 2 (0.5 kg)	
		Left	Right	Left	Right

Scoring Grip Strength

Grip Strength Component Score

Grip strength score, as detailed in the Canadian Health Measures Survey (2010) is calculated using the formula:

Total Grip Strength (kg) = max left hand score + max right hand score

Total Grip Strength is used to determine the grip strength component score. Component scores differ for boys and girls. The scoring criteria are as follows:

Total grip strength	Component score
> 45	17
39 to 45	12
33 to < 39	7
< 33	2

**Based on data from Cycles 1 and 2 of the CHMS for 12 year old boys

Interpreting Grip Strength Scores

	Beginning	Progressing	Achieving	Excelling
Boys (measured in kg)				
8 years	< 21	21 to 25	> 25 to 28	> 28
9 years	<24	24 to 27	> 27 to 31	> 31
10 years	<26	26 to 31	> 31 to 36	> 36
11 years	<31	31 to 37	> 37 to 43	> 43
12 years	<33	33 to 39	> 39 to 45	> 45

**Based on data from Cycles 1 and 2 of the CHMS

	Beginning	Progressing	Achieving	Excelling
Girls (measured in kg)				
8 years	< 19	19 to 21	> 21 to 24	> 24
9 years	< 20	20 to 24	> 24 to 28	> 28
10 years	< 25	25 to 28	> 28 to 32	> 32
11 years	< 29	29 to 34	> 34 to 39	> 39
12 years	< 36	36 to 40	> 40 to 44	> 44

**Based on data from Cycles 1 and 2 of the CHMS

Messaging for Grip Strength Scores

Beginning: You are beginning the journey towards achieving the grip strength necessary for a physically active lifestyle. Have more fun and be healthier by doing push-ups from your knees or swinging from the monkey bars to help your arms to get stronger.

Progressing: You are progressing on the journey towards having the grip strength needed for health benefits. Your grip strength score is similar to other children your age. Have more fun and be healthier by doing push-ups from your knees or climbing on or hanging from the monkey bars to build up your strength.

Achieving: You are achieving the recommended levels of grip strength. That means your score is associated with health benefits. Keep up the great work by trying to do push ups from your feet instead of from your knees.

Excelling: Congratulations, you have done a great job on the grip strength test. That means your score is associated with 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."

Instructions for the Participant

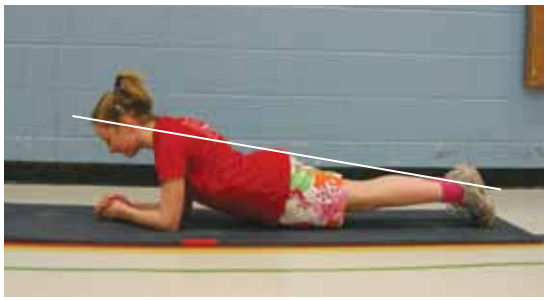
1. Start on your hands and knees.
2. Lean on your elbows and fold your arms so that your fingertips touch your elbows.
   - **When correct elbow spacing is achieved with shoulders directly above the elbows.**
3. Fold your hands together against the floor and move your toes back so that you can straighten 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.**

Proper **Form**

What do 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)

Plank Torso Strength **Component Score**

Total time that the plank position could be maintained is used for calculating the plank component score time. As there is no established data concerning the plank test in children aged 8-12, component scores are based on CAPL data collected between 2009 and 2012 on over 2,000 children.

Plank Time(s)	Composite Score
> 127	17
86 to 127	12
46 to < 86	7
< 46	2

**Based on data collected by the HALO Research Team

Interpreting the Plank Torso Strength Score

	Beginning	Progressing	Achieving	Excelling
Boys and Girls (measured in seconds)				
8 to 10 years	< 30	30 to < 69	69 to 108	> 108
11 to 12 years	< 46	46 to < 86	86 to 127	> 127

**Based on data collected by the HALO Research Team

Messaging for 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!

Sit & Reach Assessment of Flexibility (CSEP, 2013)

Objective:
To measure trunk and hamstring flexibility

Rationale:
Flexibility is an important element that contributes to the physical competence of a child

How to prepare for the test

Equipment/Space Required:

- ☐ Floor space for child to sit with legs extended
- ☐ Sit and reach flexometer with foot surface located at the 26 cm mark of the measuring rod
- ☐ Flexometer measurement rod extending from 0 to 70 cm in 0.5 cm increments
- ☐ Flat floor space. If a mat is used it must be very firm and no indent under the weight of the child
- ☐ Wall for sit & reach to sit against

Preparation:

- ☐ Place the flexometer on the floor mat
- ☐ Stabilize the flexometer measurement rod so that 26 cm is at the foot surface

How to administer the test

Before the test begins, lead children through a 5 minute activity that engages the large muscle groups of the lower torso and legs. Having children complete the PACER first will help warm up the leg muscles for this test. After the general warm-up activity, lead the children in the modified hurdler stretch as an additional warm up. During the assessment, have children remove their shoes but leave their socks on.

When demonstrating, do not reach past your toes but appear to give a maximal effort. Reaching past the toes may discourage less flexible children or encourage children to match your performance by bending their knees.

Demonstrate the test procedure while providing the following explanation: "Sit down on the mat/floor with your legs stretched out in front of you. Make sure that your heels are flat against the surface and your toes are pointing up. Keep your knees straight. That is the hardest part of the test. Do not let your knees bend even a little. Put your arms out straight and stack your hands together, on top of each other. Start moving your body by leaning forward from your hips. Go as far along the box as you can with your hands together and your knees straight. Once you can no longer bend further forward hold the same position while you count to 5. You may find you can bend further if you breathe out as you bend forward."

Alternative equipment

If your organization does not have access to the flexometer outlined above, you may create a flexometer with more common equipment. The essential equipment needed would be a ruler which measures in 0.5 cm increments from 0 to 70 cm. You will also need a straight, vertical surface that is approximately 15 cm high (such as a box, curb or step). Attach the ruler to the top of the vertical surface so that it cannot move and is parallel to the floor. The 26 cm mark on the ruler must be aligned with the edge of the vertical surface. The bases of the child's feet are placed against the vertical surface.

Instructions for the Participant

1. Sit down on the mat/floor with your legs stretched out straight.
2. Put your heels flat against the surface with your toes pointing up.
3. Keep your knees straight. Do not let your knees bend even a little.
4. Arms straight and stack your hands on top of each other.
5. Bend forward slowly and go as far as you can without bending your knees.
6. Hold it and count to 5.

Proper **Form**

1. Child sits with legs straight and knees fully extended (no shoes).
2. Soles of feet flat against box with 4 to 6 inches between the child's feet.
3. Examiner ensures flexometer is secured against wall and does not move.

Action

1. Knees remain fully extended throughout test.
2. Child bends from the hip and reaches forward.
3. Arms reach evenly with palms down and hands placed on top of each other.
4. Back is kept straight and head is down during forward reach.
5. Child is instructed to breathe out while reaching forward and tuck head.
6. Child pushes sliding marker with finger tips as far forward as possible.
7. Final position held steadily for at least two seconds.
8. Inform child to relax and recover before attempting a second trial.

How to **Record the Score**

1. Record readings in cm to the nearest 0.5 cm (2 trials).
2. Final score is the highest value obtained from 2 correct trials.
3. Repeat test if knees bend or if a jerking motion occurs.
4. Watch for and correct improper form.

Sit & Reach Flexibility **Score Sheet**

Test Date:_____

Test Location:_____

ID #	Appraiser	Trial #1 (0.5 cm)	Trial #2 (0.5 cm)

Scoring Flexibility

Sit & Reach test results are used to calculate the flexibility score. The best score from 2 trials is used to determine the component score.

Flexibility (cm)	Composite Score
> 33.7	8
> 27.7 to 33.7	6
24.1 to 27.7	4
< 24.1	2

**Based on data from Cycles 1 and 2 of the CHMS for 12 year old girls

Interpreting Flexibility Scores

	Beginning	Progressing	Achieving	Excelling
Boys (measured in cm)				
8 years	< 19.7	19.7 to 26.4	> 26.4 to 29.1	> 29.1
9 years	< 17.6	17.6 to 22.8	> 22.8 to 29.1	> 29.1
10 years	< 16.9	16.9 to 21.8	> 21.8 to 26.2	> 26.2
11 years	< 16.5	16.5 to 22.7	> 22.7 to 29.6	> 29.6
12 years	< 13.9	13.9 to 18.9	> 18.9 to 24.8	> 24.8

**Based on data from Cycles 1 and 2 of the CHMS

	Beginning	Progressing	Achieving	Excelling
Girls (measured in cm)				
8 years	< 24.7	24.7 to 28.2	> 28.2 to 33.2	> 33.2
9 years	< 21.0	21.0 to 27.4	> 27.4 to 32.8	> 32.8
10 years	< 21.1	21.1 to 27.3	> 27.3 to 32.3	> 32.3
11 years	< 21.9	21.9 to 29.5	> 29.5 to 33.7	> 33.7
12 years	< 24.1	24.1 to 27.7	> 27.7 to 33.7	> 33.7

**Based on data from Cycles 1 and 2 of the CHMS

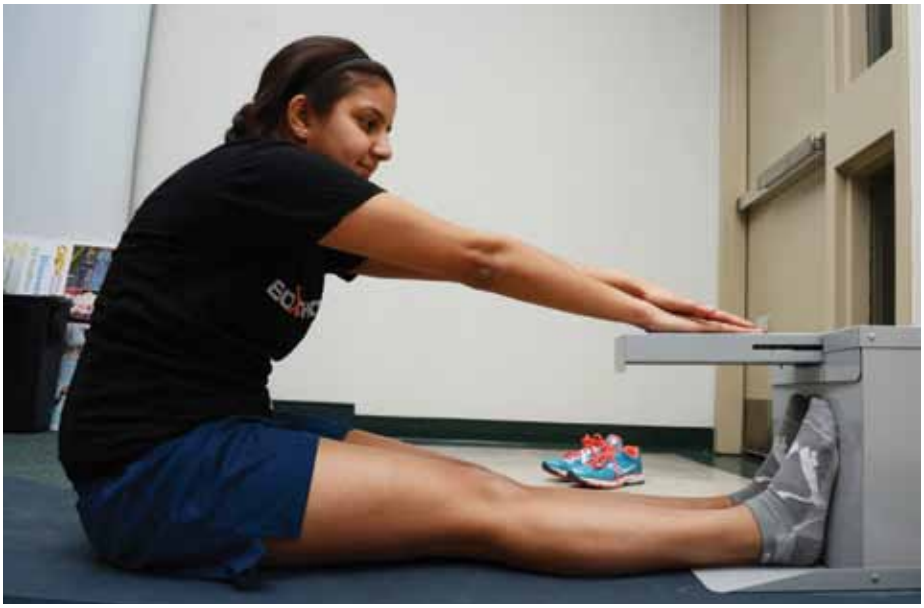
Messaging for Flexibility Scores

Beginning: You are beginning on the journey towards having the flexibility needed for a physically active lifestyle. Have more fun and be healthier by trying once a day to reach down as far as you can while holding your legs straight slowly and hold for 5 seconds when you get to as far down as you can go.

Progressing: You are progressing towards having the flexibility needed for health benefits. Your flexibility is similar to other children your age. Have more fun and be healthier by practicing your flexibility by sitting down, keep your legs straight and reach out as far as you can and hold for 5-10 seconds.

Achieving: You are achieving the recommended levels of flexibility. That means that your score is related to health benefits. Keep up the great work by practicing your flexibility by sitting down, keep your legs straight and touch your toes for 5-10 seconds a couple times a week.

Excelling: Congratulations, you did a great job on the flexibility test. That means that 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.

Questionnaires

Knowledge and Understanding Domain and Motivation and Confidence Domain (Appendix F)

The knowledge and understanding domain assesses a child's knowledge about physical activity, sedentary behaviour, physical fitness, and safety during activity. 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 questionnaires contain both of these assessments. The CAPL questionnaires can be administered either using a paper and pencil format or online. 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 questionnaires through decreased writing time and prompts for incomplete responses. Audio recordings for each question and response option are available in the online version to enhance comprehension of the written material. It is best to familiarize yourself with the CAPL Questionnaires before reviewing the related Training Material (Appendix F).

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
2	"I don't understand what I have to do"	☐ Often reading through the first option with the child will increase understanding of the response required: "A reason I might be active is because when I am active I look better, do you disagree a lot, disagree a little, are you in between, do you agree a little or agree a lot with this statement?" ☐ Re-phrase the question to be direct to the child: "Some children say they are active because it makes them look better. Do you agree or disagree with that reason?"
3	See Q2	
7	"I don't know what cardiorespiratory means"	☐ Cardiorespiratory fitness means the same as aerobic fitness or endurance fitness…have you heard or either of the words aerobic or endurance before? ☐ Work out which answer you know that it IS NOT and see what you are left with ☐ Choose the answer that you think is best – don't worry, we only want to know what you think
9	"What does 'looking good' mean?"	☐ It means being physically attractive to your friends and people that you know
10	"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 ☐ Choose the answer that you think is best – don't worry, this is one of the hard questions for older children – remember we only want to know what you think
11	"What if I don't do an activity?"	☐ If you do not do an activity just leave it blank ☐ Ensure that any sport that has an answer about safety gear has been marked as being done ☐ If a child is not sure what the picture is showing you, you can identify the activity

Question #	Clarification question	Possible responses
14	"I like doing lots of these activities"	☐ If you had to pick only one, which one would you do?
15	"Does watching TV online (e.g., Netflix/watching, movies) count?"	☐ Any time that you watch a television programme or movie counts
16	"Do active video games count?" "Do learning computer games count?"	☐ Active video games do NOT count as screen time ☐ Anytime you spend on a computer outside of school not doing homework counts as screen time
17	See Q15	
18	See Q16	
19	"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.
CSAPPA* clarification	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. Once you have decided which statement is most like you, you ignore the other statement ☐ When you have decided which statement is most like you, you need to decide if the statement is really true for you or sort of true for you ☐ You should only tick one box on each line

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

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 questionnaires are administered by a CAPL examiner. 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. Examiners can help clarify questions as required as long as the clarifications do not lead children toward specific answers (see table below).

Online Questionnaires

How to prepare for the test

Equipment/Space Required:

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

Preparation:

- ☐ Ensure there is a connection to the internet and that the website is not blocked by the host organization
- ☐ Verify that the computer version is logged in and running correctly
- ☐ If audio will be used, have each child use their own headset so that the audio does not disturb other children

How to administer the test

The questionnaires are administered by a CAPL examiner. 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. Examiners can help clarify questions as required as long as the clarifications do not lead children toward specific answers (see table below).

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: Minutes of daily MVPA
- ☐ Correct answer = d: at least 60 minutes or 1 hour
- ☐ 1 = correct answer, 0 = incorrect answer

Q6: Screen time
- ☐ Correct answer = c: 2 hours
- ☐ 1 = correct answer, 0 = incorrect answer

Q7: Cardiorespiratory fitness
- ☐ Correct answer = b: how well the heart can pump blood and the lungs can provide oxygen
- ☐ 1 = correct answer, 0 = incorrect answer

Q8: Muscular endurance
- ☐ Correct answer = a: how well the muscles can push, pull or stretch
- ☐ 1 = correct answer, 0 = incorrect answer

Q9: 'Healthy' means:
- ☐ 1 point for every item that is correctly identified (maximum of 5)
  - "being skinny": no line should be drawn for a correct response (this does NOT mean healthy)
  - "eating well": line drawn/correctly identified as part of the healthy definition
  - "not being sick": line drawn/correctly identified as part of healthy definition
  - "feeling good": line drawn/correctly identified as part of healthy definition
  - "looking good": no line shown be drawn for a correct response (this does NOT mean healthy)

Q10: Fill in the missing words
- ☐ 1 point for each correctly placed word (maximum of 5)
  - 1st gap = 'fun'
  - 2nd gap = 'good'
  - 3rd gap = 'endurance'
  - 4th gap = 'strength'
  - 5th gap = 'pulse'

Q11: Safety gear:

- ☐ This question is negatively marked, as the purpose is not to penalise children who do not participate in specific activities, but to ensure that any activities that are enjoyed are done with recommended safety gear
- ☐ Not all activities require safety gear, so activities that have been circled do not necessarily have to be checked off
- ☐ Total number of activities performed safely (maximum 11)
- ☐ Divide score by the number of activities circled to give an overall score for the question (range of score = -0.63 - +1)

Activity	Circled and checked	Circled but not checked	Not circled
Snowmobile	1	-1	0
Swinging	1	1	0
Baseball	1	-1	0
Tobogganing	1	-1	0
Climbing	1	1	0
Skipping	1	1	0
Swimming	1	1	0
Roller Skating	1	-1	0
Skiing	1	-1	0
Cycling	1	-1	0
Ice Skating	1	-1	0
Possible maximum /minimum score	11	-7	0

Q12: Get better at kicking/catching

- ☐ 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

Q13: Get in better shape

- ☐ Correct answer = c: try exercising or being active a lot more
- ☐ 1 = correct answer, 0 = incorrect answer

Q14: Preferred leisure time activity

- ☐ 1 = active pursuits (play outside with my friends, go to my sports team's practice, walk my dog)
- ☐ 0 = sedentary pursuits (play video/computer games, read, do homework, chat with friends online, watch television)

Calculating the Knowledge & Understanding Domain Score

The score for each of these 10 questions is summed to give a possible maximum total score of 18 for the knowledge and understanding domain.

Q1 range 0 to 1 + Q6 range 0-1 + Q7 range 0-1 + Q8 range 0-1 + Q9 range 0-5 + Q10 (0-5) + Q11 (0-1) + Q12 (-0.63-1) + Q13 (0-1) + Q14 (0-1)

=

Knowledge and understanding domain score (range -0.63 to 18)

Interpreting Knowledge & Understanding Scores

	Beginning	Progressing	Achieving	Excelling
Boys and Girls				
8 years	< 7.7	7.7 to 10.8	> 10.8 to 12.3	> 12.3
9 years	< 6.5	6.5 to 11.0	> 11.0 to 13.3	> 13.3
10 years	< 6.7	6.7 to 11.6	> 11.6 to 14.1	> 14.1
11 years	< 7.1	7.1 to 12.2	> 12.2 to 14.7	> 14.7
12 years	< 7.2	7.2 to 12.3	> 12.3 to 14.8	> 14.8

**Based on data collected by the HALO Research Team

Messaging for Knowledge & Understanding Scores

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. That means that your score is related to substantial health benefits. Keep up the great work!

Scoring Motivation and Confidence

The motivation and confidence domain score is calculated based on the ratio of Q2, Q3, and the answers to Q4, Q5, and the CSAPPA* questionnaire (Hay, 1992).

Q2: Reasons to be physically active
- Scale 1-5 (9 questions)
- Possible total of 45

Q3: Reasons not to be physically active
- Scale 1-5 (10 questions)
- REVERSE SCORED (i.e., if a child circles a 1, they score 5; if they circle a 5 then they score 1 etc.)
- Possible total of 50

Scoring Q2 and Q3:
- The scores for the responses to the "reasons to be physically active" and "reasons not to be physically active" questions are combined to create a perceived benefit to barrier ratio towards physical activity (Garcia et al., 1995)
- Benefits to barriers ratio (-41 to 35) = Total for Q2 (9-45) – Total for Q3 (10-50)
- Total score (-4.7 to 4) = (benefits to barriers ratio/8.75)

Q4: Activity level compared to peers
- Divide the number circled by 10
- (1-10)/10

Q5: Skill level compared to peers
- Divide the number circled by 10
- (1-10)/10

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Scoring Adequacy & Predilection for Physical Activity using the CSAPPA* Questionnaire (Hay, 1992)

- Adequacy score: The adequacy score for physical activity is determined based on the response to the following 7 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	4	3	1	2	Other kids find active games hard to play
Some kids are among the last to be chosen for active games	1	2	4	3	Other kids are usually picked to play first
Some kids do well in most sports	4	3	1	2	Other kids feel they aren't good at sports
Some kids learn to play active games easily	4	3	1	2	Other kids find it hard learning to play active games
Some kids think they are the best at sports	4	3	1	2	Other kids think they aren't good at sports
Some kids find games in physical education hard to play	1	2	4	3	Other kids are good at games in physical education
Some kids aren't good enough for sports teams	1	2	4	3	Other kids do well on sports teams
Total adequacy score (sum of questions)					

Adequacy score (range 1.5 to 6) = (sum of scores for the above questions (range 7 to 28) x 1.5)/7

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- Predilection score: The predilection score for physical activity is determined by the responses to the following 9 questions:

	Really true for me	Sort of true for me	Really true for me	Sort of true for me	
Some kids can't wait to play active games after school	4	3	1	2	Other kids would rather do something else after school
Some kids don't like playing active games	1	2	4	3	Other kids really like playing active games
Some kids don't have much fun playing sports	1	2	4	3	Other kids have a good time playing sports
Some kids don't like playing sports	1	2	4	3	Other kids really enjoy playing sports
Some kids like to play active games outside	4	3	1	2	Other kids would rather read or play video games
Some kids like to watch games being played outside	1	2	4	3	Other kids would rather play active games outside
Some kids like to take it easy during recess	1	2	4	3	Other kids would rather play active games during recess
Some kids like to read or play quiet games	1	2	4	3	Other kids like to play active games
Some kids like to play active games outside on weekends	4	3	1	2	Other kids like to relax and watch TV on weekends

Predilection score (range 1.5 to 6) = sum of scores for the above questions (range 9 to 36)/6

Calculating the Motivation & Confidence Domain Score

CSAPPA* adequacy score (range 1.5 to 6)	+	CSAPPA* predilection score (range 1.5 to 6)	+	Benefits: Barriers ratio (range -4.7 to 4)	+	Q4 (range 0.1 to 1)	+	Q5 (range 0.1 to 1)	=	Motivation & Confidence domain score (range -1.5 to 18)

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Interpreting Motivation & Confidence Domain Score

	Beginning	Progressing	Achieving	Excelling
Boys and Girls				
8 years	< 7.4	7.4 to 12.4	> 12.4 to 15.0	> 15.0
9 years	< 8.5	8.5 to 13.7	> 13.7 to 16.4	> 16.4
10 years	< 7.6	7.6 to 13.7	> 13.7 to 16.8	> 16.8
11 years	< 8.4	8.4 to 13.9	> 13.9 to 16.6	> 16.6
12 years	< 8.1	8.1 to 13.9	> 13.9 to 16.8	> 16.8

**Based on data collected by the HALO Research Team

Messaging for Motivation & Confidence Domain Scores

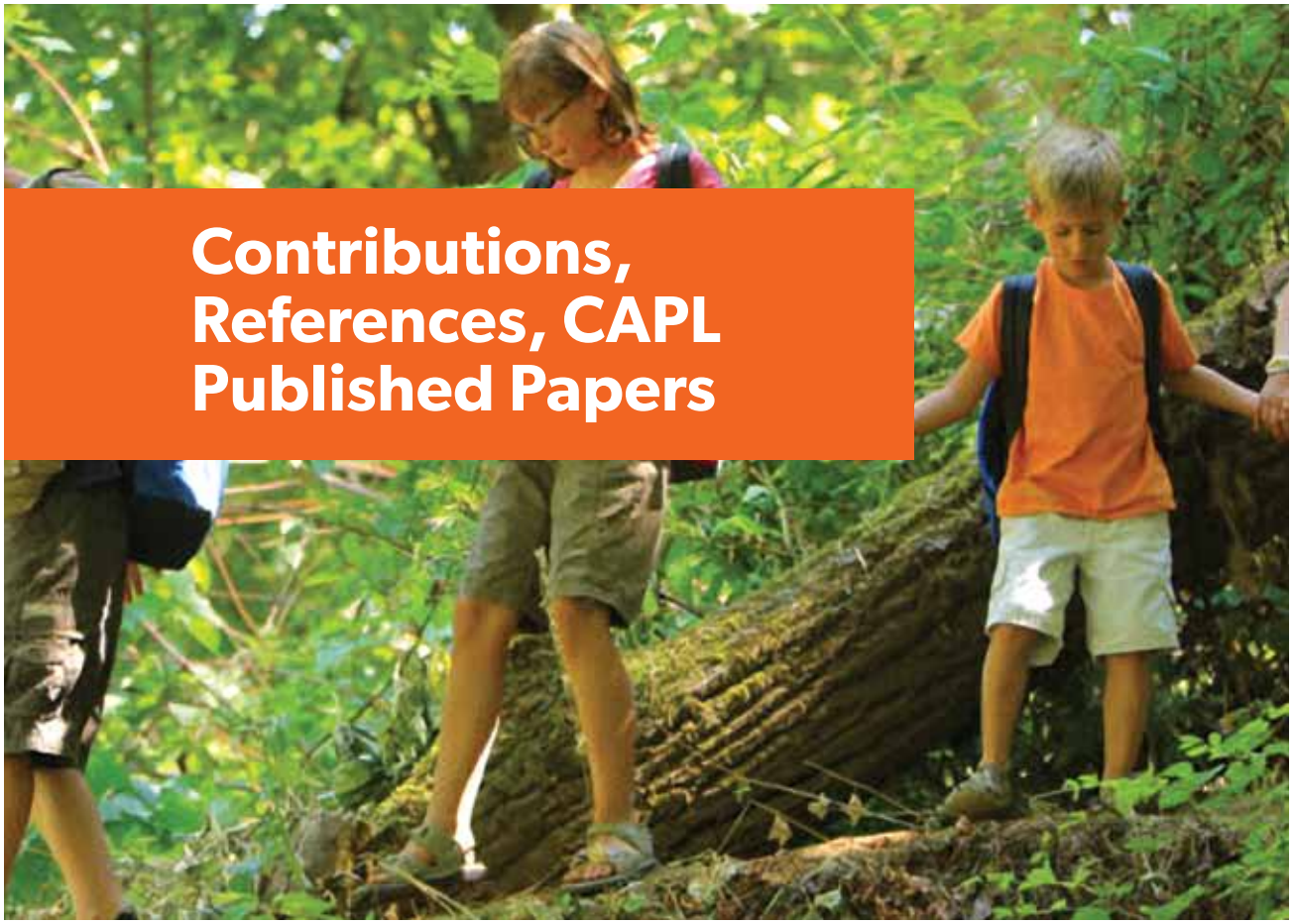
Beginning: You are beginning on your journey to have the motivation and confidence for physical activity that is needed for a physically active lifestyle. Have more fun and be healthier by trying to look for things you don't like about physical activity and for things you do like about physical activity.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



Contributions, References, CAPL Published Papers

Contributions

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

- Carleton University Sport Camp
- YMCA / YWCA of the National Capital Region
- City of Ottawa Summer Camp, Stittsville
- Randy Ruttan and staff from the Upper Canada School District
- Bob Thomas and staff from the Ottawa Catholic School Board
- Staff from the HALO Research Group: Meghann Lloyd, Emily Knight, Travis Saunders, Richard Larouche, Daun Lynch, Pete Breihtaupt, Allana LeBlanc, Charles Boyer, Joel Barnes, Pat Longmuir, Michael Borghese, Kim Gratton, Stella Muthuri, Allison McFarlane, Katie McClelland, Kendra Brett, Jacob Racek, Anne Marie Hospod, Laura Harding

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CAPL Published **Research Papers**

Boyer C, Tremblay MS, Saunders T J, McFarlane A, Borghese M, Lloyd M, Longmuir PE (2013). Feasibility, Validity and Reliability of the Plank Isometric Hold as a Field-Based Assessment of Torso Muscular Endurance for Children 8 to 12 Years of Age. *Pediatric exercise* science, 25(3), 407-422.

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The Healthy Active Living and Obesity Research Group (HALO) have been responsible for the systematic development of the CAPL 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. Charles Boyer, Research Assistant
Healthy Active Living and Obesity Research Group, CHEO- Research Institute
tel: 613-737-7600 x 4191,
email: cboyer@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 foot-ware 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:

- ☐ Obstacle Course – Includes jumping, running, hopping, catching, throwing and kicking balls while running
- ☐ Grip Strength – Squeezing a handle as hard as possible
- ☐ 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
- ☐ Sit and Reach - Reach toward the toes while sitting with their legs straight, to measure flexibility.
- ☐ 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.

- ☐ Body measurements - Have their height and weight and size of their waist measured while they are dressed in their gym clothes. Waist size will be measured while wearing their gym clothes, however the child will be asked to reveal their stomach for the appraisers to take an accurate measurement. The measurements will be done in a private area away from others.

- ☐ 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 every day 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 type 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 pedometer. 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. Children who participate in this research will perform each of the study activities 2 times. The first time they will do the activities with their regular instructor/leader/teacher. The second time will be when the researchers from the Children's Hospital of Eastern Ontario come to their recreation facility, health unit and/or school. All of the research activities for both test days 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.

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.

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 (except for measuring height, weight and waist circumference). 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, with the exception of measuring height, weight and waist circumference. 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 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 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 back-grounds. 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 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: **http://www.cheori.org/halo/**

Appendix B: CAPL 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 obstacle course with jumping, throwing and kicking a ball.
- ☐ Squeeze a handle as hard as you can with each hand.
- ☐ Keep a straight body while leaning only on your toes and elbows.
- ☐ Reach toward your toes while sitting with your legs straight.
- ☐ Run laps back and forth across the gym, starting slowly and then getting faster.
- ☐ Have your height, weight and waist size measured while wearing your gym clothes.
- ☐ Answer questions about physical activity.
- ☐ Wear a small step counter (smaller than a cell phone) every day for 9 days. It is worn clipped to 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 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: **http://www.cheori.org/halo/**

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 doctor ever told you that there are some types of exercises or physical activity that your child should not do? (please circle)

   ☐ Yes ☐ No

2. If you answered yes, please describe the types of exercises or physical activity that your child is not able do at this time:

Appendix D: Reporting Adverse Events

Each organization administering the CAPL 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:	☐ Height ☐ Weight ☐ Waist Circumference ☐ Obstacle Course ☐ 15m/20m PACER ☐ Grip Strength ☐ Flexibility ☐ Plank ☐ Questionnaires ☐ Other:	
What was the result of the injury:	☐ Broken bone ☐ Bruise ☐ Scratch ☐ Twisted ankle ☐ Exhaustion ☐ 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 team at **cboyer@cheo.on.ca

Appendix E: 15 m/20 m 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	98	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

Appendix F: CAPL Questionnaires

Physical Activity Questionnaire
(Canadian Assessment of Physical Literacy)

What school grade are you in: (please circle one)

1 2 3 4 5 6 7 8

Are you a: (please circle one) boy girl

What month is your birthday: (please circle one)

Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

How old are you: (please circle one)

5 6 7 8 9 10 11 12 13 14 15

In this project, when we talk about physical activity, we mean when you are moving around, playing or exercising. Physical activity is any activity that makes your heart beat faster or makes you get out of breath some of the time.

Why are we asking you these questions? We want to know what kids like you think about physical activity, sports and exercise.

Please remember:

- There are no right or wrong answers. We only want to know what you think.
- If you do not know an answer, please write your best guess.
- There is no time limit, so please take all the time you need.

1. **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 the time you should be active at home or in your neighbourhood.**

   a) 10 minutes
   b) 20 minutes
   c) 30 minutes
   d) 60 minutes or 1 hour

2. **Kids say there are many different reasons that they like to be active or play sports. Being active is anything that you do when you are moving, exercising or not sitting still. Below are some reasons that other kids have told us why they like to be active. For each reason, tell us what you think. If you think it is a good reason then you would "Agree a little" or "Agree a lot". If you do not think it's a good reason, then you would "Disagree a little" or "Disagree a lot". If you are not sure or you don't think the reason is good or bad then you are "in between".**

A reason that I might be active is because when I am active. . .	Disagree a lot	Disagree a little	In between	Agree a little	Agree a lot
…I look better	1	2	3	4	5
…I have more energy	1	2	3	4	5
…I feel happier	1	2	3	4	5
…I have fun	1	2	3	4	5
…I make more friends	1	2	3	4	5
…I get stronger	1	2	3	4	5
…I like myself more	1	2	3	4	5
…I get in better shape	1	2	3	4	5
…I feel healthier	1	2	3	4	5

3. **Kids say there are also reasons that make it hard for them to be active. For each reason, tell us what you think. If you think it is a good reason then you would "Agree a little" or "Agree a lot". If you do not think it's a good reason, then you would "Disagree a little" or "Disagree a lot". If you are not sure or you don't think the reason is good or bad then you are "in between".**

I might <u>not</u> be active if. . .	**Disagree a lot**	**Disagree a little**	**In between**	**Agree a little**	**Agree a lot**
…I didn't have enough time to be active	1	2	3	4	5
…I have too many chores to do	1	2	3	4	5
…I didn't have a good place to be active	1	2	3	4	5
…If the weather was too bad	1	2	3	4	5
…I didn't have the right clothes/shoes	1	2	3	4	5
…I didn't know how to do the activity	1	2	3	4	5
…I didn't have the right equipment	1	2	3	4	5
…I had too much homework	1	2	3	4	5
…I didn't have anyone to be active with	1	2	3	4	5
…I didn't like to be active	1	2	3	4	5

4. **Compared to other kids your age, how active are you? (circle one number)**

A lot less active Same A lot more active

1 2 3 4 5 6 7 8 9 10

5. **Compared to other kids your age, how good are you at sports or skills? (circle one number)**

Others are better Same I'm a lot better

1 2 3 4 5 6 7 8 9 10

6. **Sometimes children watch television, play video games or play on the computer or on a smart phone. What is the most time that children should look at a screen each day? Do not count the time that you have to look at a screen to do your homework.**

   a) 30 minutes
   b) 60 minutes or 1 hour
   c) 2 hours
   d) 4 hours

7. **There are many different kinds of fitness. One type is called endurance fitness or aerobic fitness or cardiorespiratory fitness. Cardiorespiratory fitness means… (circle the right answer)**

   a) How well the muscles can push, pull or stretch.
   b) How well the heart can pump blood and the lungs can provide oxygen.
   c) Having a healthy weight for our height.
   d) Our ability to do sports that we like.

8. **Muscular strength or muscular endurance means… (circle the right answer)**

   a) How well the muscles can push, pull or stretch.
   b) How well the heart can pump blood and the lungs can provide oxygen.
   c) Having a healthy weight for our height.
   d) Our ability to do sports that we like.

9. **Draw a line to all the words you think describe what "Healthy" means.**

10. This story about Sally is missing some words. Fill in the missing words below. Each word can only be used to fill one blank space in the story.

Fun	Endurance	Good	Pulse	Strength

Sally tries to be active every day. Running every day is good for her heart and lungs. Sally thinks that physical activity is _____ and is also _____ for her. At her sport team's practice she does more running to improve her _____. The team also does exercises like push-ups and sit-ups that increase her _____. After exercising, she checks her heart rate which is also called a _____.

11. Circle each activity that you do. If you <u>always</u> or <u>almost always</u> wear safety gear (like helmet or shin pads) when you do the activity, add a check mark inside the circle.

Snowmobiling

Swinging

Baseball

Sledding

Monkey Bars

Skipping

Swimming

Inline Skating

Skiing

Biking

Ice Skating

12. If you wanted to GET BETTER AT A SPORT SKILL like kicking and catching a ball, what would be the best thing to do? (circle one answer)

a) Read a book about kicking and catching a ball
b) Wait until you get older
c) Try exercising or being active a lot more
d) Watch a video, take a lesson or have a coach teach you how to kick and catch

13. If you wanted to IMPROVE YOUR FITNESS, what would be the best thing to do? (circle one answer)

a) Read a book about improving your fitness
b) Wait until you get older
c) Try exercising or being active a lot more
d) Watch a video, take a lesson or have a coach teach you how to improve your fitness

14. If you were allowed to pick what you do after school, which activity would you pick? (circle only one activity)

Play video/computer games

Read

Do homework

Play outside with my friends

Go to my sports team's practice

Walk my dog

Chat with friends online

Watch television

When answering the following questions (questions 15-21), please tell us about what you did LAST WEEK.

15. On a school day, how many hours did you watch TV?

☐ I did not watch TV on school days

☐ Less than 1 hour ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours ☐ 5 or more hours

16. On a school day, how many hours did you play video or computer games or use a computer for something that was not school work?

☐ I did not play video/computer games or use a computer other than for school work on school days

☐ Less than 1 hour ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours ☐ 5 or more hours

17. On a weekend day, how many hours did you watch TV?

☐ I did not watch TV on weekend days

☐ Less than 1 hour ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours ☐ 5 or more hours

18. On a weekend day, how many hours did you play video or computer games or use a computer for something that was not school work?

☐ I did not play video/computer games or use a computer other than for school work on weekend days

☐ Less than 1 hour ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours ☐ 5 or more hours

19. During the past week (7 days), on how many days were you physically active for a total of at least 60 minutes per day? (all the time you spent in activities that increased your heart rate and made you breathe hard)

a) 0 days
b) 1 day
c) 2 days
d) 3 days
e) 4 days
f) 5 days
g) 6 days
h) 7 days

20. On a school day how many hours did you spend sitting down doing non-screen based activities (e.g. reading a book, doing homework, sitting and talking to friends, drawing, etc.). Do not count the time that you sit at school.

☐ I did not spend time sitting down in non-screen based activities (e.g. reading a book, doing homework, sitting and talking to friends, drawing, etc.) on school days

☐ Less than 1 hour ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours ☐ 5 or more hours

21. On a weekend day how many hours did you spend sitting down doing non-screen based activities (e.g. reading a book, doing homework, sitting and talking to friends, drawing, etc.). Do not count the time that you sit at school.

☐ I did not spend time sitting down in non-screen based activities (e.g. reading a book, doing homework, sitting and talking to friends, drawing, etc.) on a weekend day

☐ Less than 1 hour ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours ☐ 5 or more hours

Thank you for your help!

What's Most **Like Me**

For the rest of the questions you have to read 2 sentences and then circle the sentence you think is **MORE LIKE YOU**.

Try the following **SAMPLE QUESTION:**

Some kids have one nose on their face!	**BUT**	Other kids have three noses on their face!

That shouldn't be too hard for you to decide! Once you have circled the sentence that is more like you, then you have to decide if it is **REALLY TRUE** for you or **SORT OF TRUE** for you.

Here is another sample question for you to try. Remember, first circle the sentence that is more like you and then put a check in the correct box if it is really true or only sort of true for you. THERE ARE NO RIGHT OR WRONG ANSWERS, JUST WHAT IS **MOST LIKE YOU**.

SAMPLE QUESTION #2:

Some kids like to play with computers		**BUT**	Other kids don't like playing with computers
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me ☐ SORT OF TRUE for me

Now you are ready to start filling in this form. Take your time and do the whole form carefully.
If you have any questions, just ask! If you think you are ready you can start now.

BE SURE TO FILL IN EACH PAGE!

What's most like me

Some kids can't wait to play active games after school	☐ REALLY TRUE for me	☐ SORT OF TRUE for me	**BUT**	Other kids would rather do something else after school	☐ REALLY TRUE for me ☐ SORT OF TRUE for me
Some kids don't like playing active games	☐ REALLY TRUE for me	☐ SORT OF TRUE for me	**BUT**	Other kids really like playing active games	☐ REALLY TRUE for me ☐ SORT OF TRUE for me
Some kids don't have much fun playing sports	☐ REALLY TRUE for me	☐ SORT OF TRUE for me	**BUT**	Other kids have a good time playing sports	☐ REALLY TRUE for me ☐ SORT OF TRUE for me
Some kids are good at active games	☐ REALLY TRUE for me	☐ SORT OF TRUE for me	**BUT**	Other kids find active games hard to play	☐ REALLY TRUE for me ☐ SORT OF TRUE for me
Some kids don't like playing sports	☐ REALLY TRUE for me	☐ SORT OF TRUE for me	**BUT**	Other kids really enjoy playing sports	☐ REALLY TRUE for me ☐ SORT OF TRUE for me
Some kids always hurt themselves when they play sports	☐ REALLY TRUE for me	☐ SORT OF TRUE for me	**BUT**	Other kids never hurt themselves playing sports	☐ REALLY TRUE for me ☐ SORT OF TRUE for me
Some kids like to play active games outside	☐ REALLY TRUE for me	☐ SORT OF TRUE for me	**BUT**	Other kids would rather read or play video games	☐ REALLY TRUE for me ☐ SORT OF TRUE for me

Some kids are among the last to be chosen for active games.		**BUT**	Other kids are usually picked to play first.		
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me	

Some kids do well in most sports		**BUT**	Other kids feel they aren't good at sports		
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for mee	☐ SORT OF TRUE for me	

Some kids learn to play active games easily		**BUT**	Other kids find it hard learning to play active games		
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for mee	☐ SORT OF TRUE for me	

Some kids think they are the best at sports		**BUT**	Other kids think they aren't good at sports		
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me	

Some kids find games in physical education hard to play		**BUT**	Other kids are good at games in physical education		
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me	

Some kids like to watch games being played outside		**BUT**	Other kids would rather play active games outside		
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me	

Some kids like to take it easy during recess		**BUT**	Other kids would rather play active games at recess		
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me	

Some kids aren't good enough for sports teams		**BUT**	Other kids do well on sports teams	
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me

Some kids like to read or play quiet games		**BUT**	Other kids like to play active games	
☐ REALLY TRUE for mee	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me

Some kids like to play active games outside on weekends		**BUT**	Other kids like to relax and watch TV on weekends	
☐ REALLY TRUE for me	☐ SORT OF TRUE for me		☐ REALLY TRUE for me	☐ SORT OF TRUE for me

Thank you for your help!