

# Physical Literacy in Youth and Adolescence

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**SPORTS MEDICINE**  
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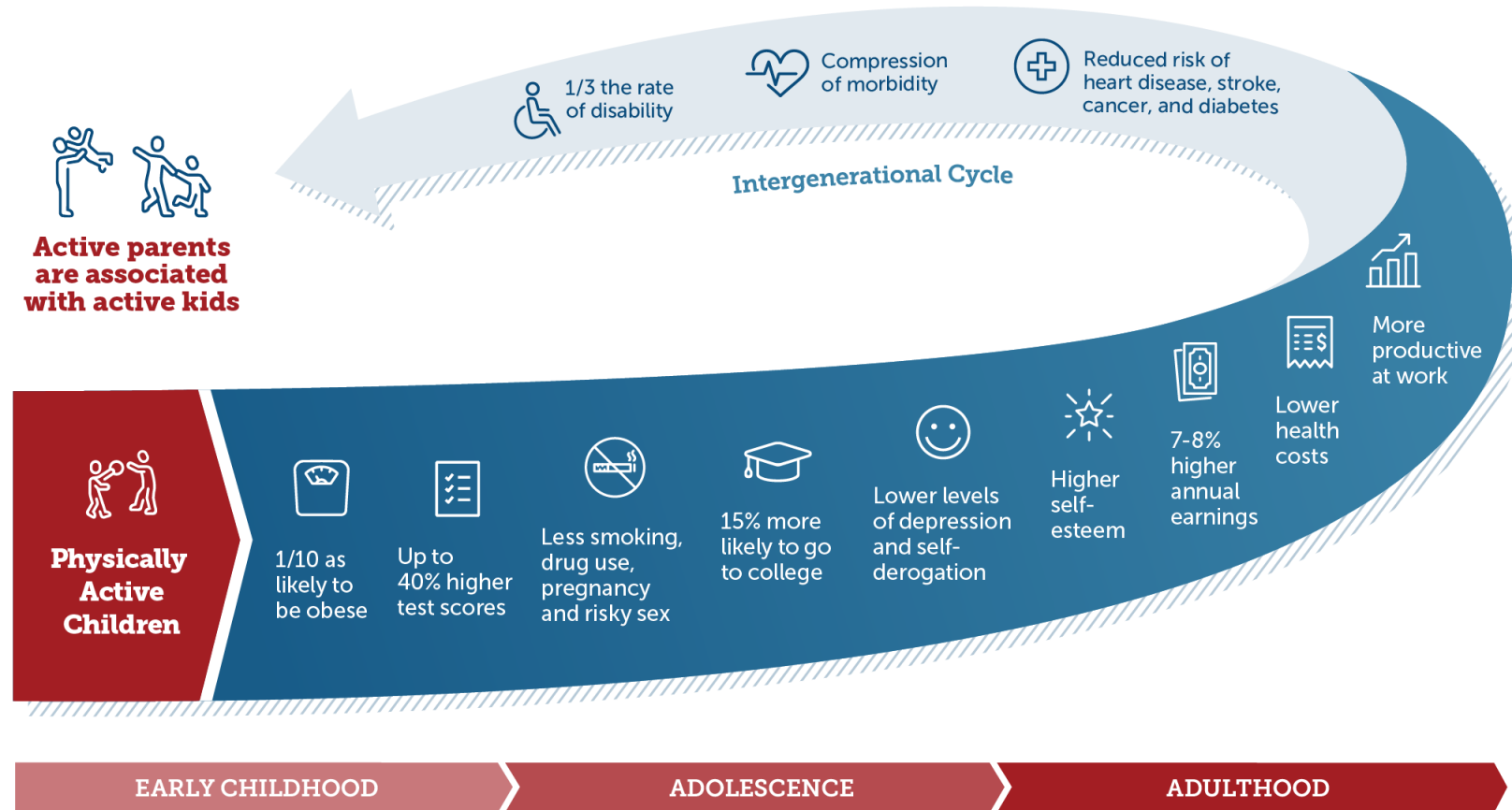
Children's Hospital Colorado

# Objectives

- Understand long-term effects of physical activity in youth
- Understand and define physical literacy
- Understand how to implement physical literacy from a variety of vantage points
- Understand role of sports sampling and long-term effects

# ACTIVE KIDS DO BETTER IN LIFE

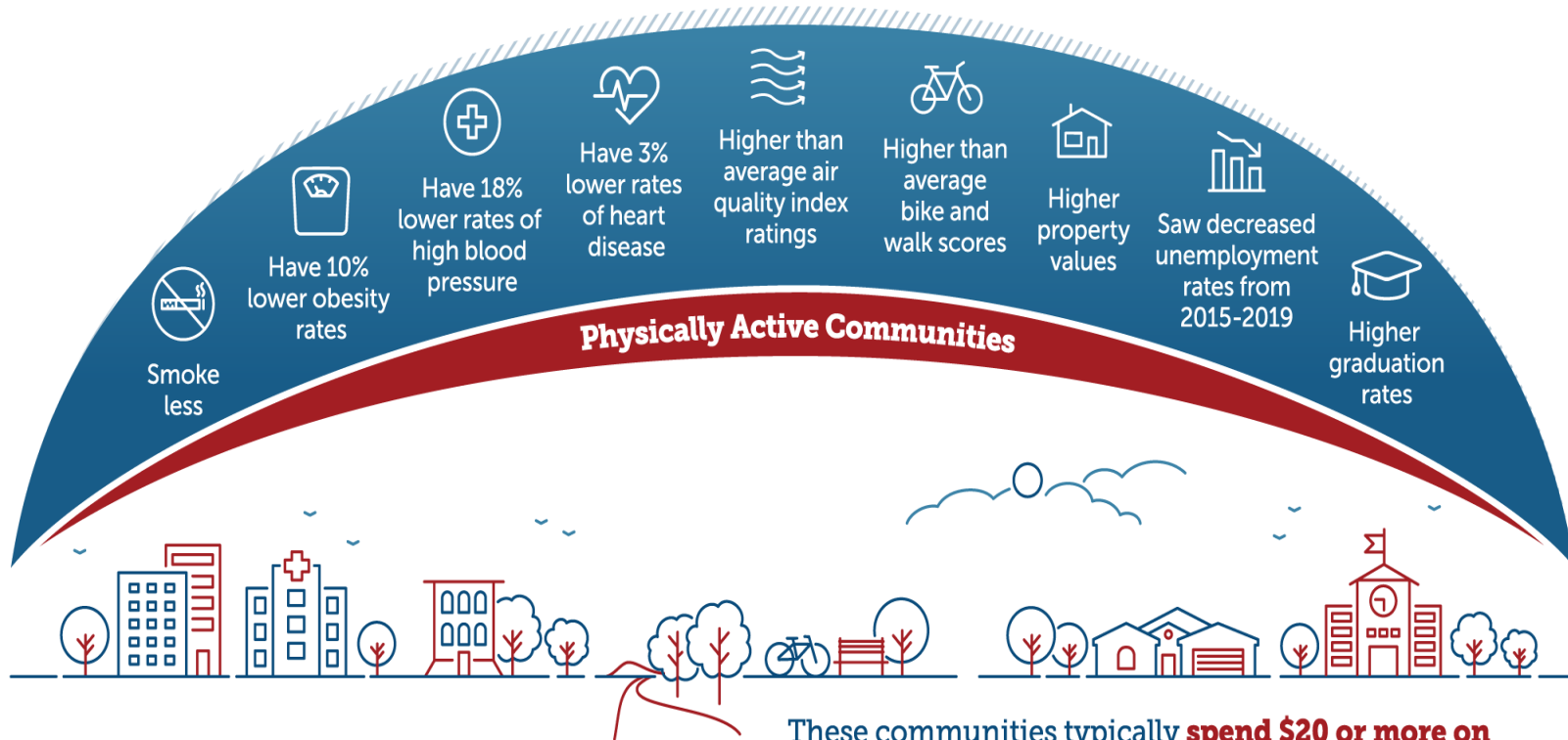
What Research Shows on the Lifetime Benefits



Learn more at [as.pn/sportsfacts](https://aspeninstitute.org/sportsfacts)

# ACTIVE COMMUNITIES DO BETTER

What Research Shows on the Benefits to Residents



Learn more at [as.pn/sportsfacts](https://aspeninstitute.org/sportsfacts)

These communities typically **spend \$20 or more on parks per resident** and are more likely to support low-cost physical activity and sport experiences for kids

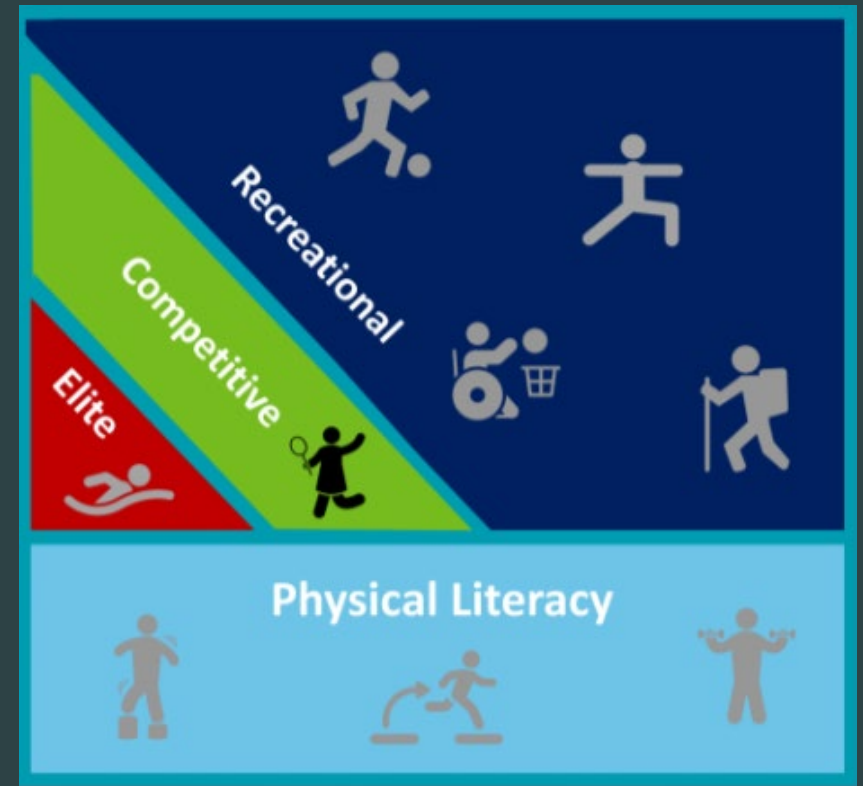
# Physical Literacy

- *"Physical literacy is the motivation, confidence, physical competence, knowledge, and understanding to value and take responsibility for engagement in physical activities for life."*
  - The International Physical Literacy Association, May 2014

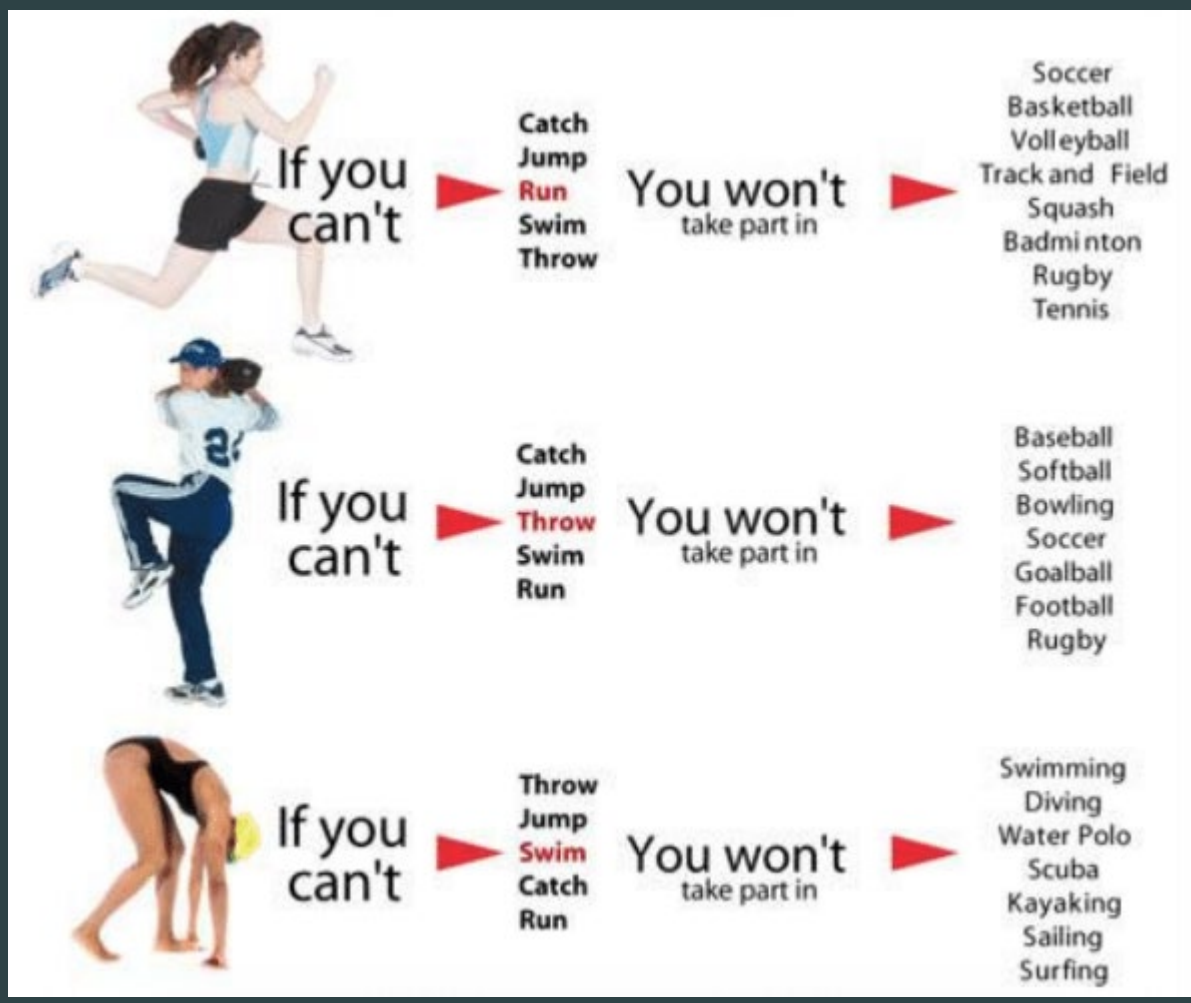


# The Domains of Physical Literacy

- **Affective (Motivation and Confidence)**
- **Physical (Physical Competence)**
- **Cognitive (Knowledge and Understanding)**
- **Behavioral (Engagement in Physical Activities for Life)<sup>1</sup>**



# The Domains of Physical Literacy



# Physical Literacy

- Physical literacy is shown to be important in maintaining physical activity throughout life<sup>2</sup>
- An indirect determinant of health<sup>3</sup>
- Found to be significantly associated with percent body fat, treadmill time, 60 s heart rate recovery, systolic blood pressure, and quality of life
  - Aerobic fitness mediated by moderate to vigorous physical activity<sup>4</sup>
- Significant association between cardiorespiratory fitness and all four domains of physical literacy<sup>5</sup>
- Children meeting physical activity guidelines
  - higher Physical Competence and Motivation & Confidence domain scores<sup>6</sup>



# Measuring Physical Literacy

- Canadian Assessment of Physical Literacy (CAPL / CAPL-2)
  - 8-12 year olds
- Physical Literacy Assessment for Youth (PLAY) Tools
  - Recommended for children ages 7-12
- Preschool Physical Literacy Assessment Tool (Pre-PLAy)
  - 18 months - 4 year olds

# Measuring Physical Literacy

- CAPL / CAPL-2
  - 30-40 minutes<sup>7</sup>

**What's Most Like Me?**

Some kids don't like playing active games	BUT	Other kids really like playing active games
<input type="checkbox"/> REALLY TRUE for me		<input type="checkbox"/> REALLY TRUE for me
<input type="checkbox"/> SORT OF TRUE for me		<input type="checkbox"/> SORT OF TRUE for me

Some kids are good at active games	BUT	Other kids find active games hard to play
<input type="checkbox"/> REALLY TRUE for me		<input type="checkbox"/> REALLY TRUE for me
<input type="checkbox"/> SORT OF TRUE for me		<input type="checkbox"/> SORT OF TRUE for me

Some kids don't have much fun playing sports	BUT	Other kids have a good time playing sports
<input type="checkbox"/> REALLY TRUE for me		<input type="checkbox"/> REALLY TRUE for me
<input type="checkbox"/> SORT OF TRUE for me		<input type="checkbox"/> SORT OF TRUE for me

Some kids do well in most sports	BUT	Other kids feel they aren't good at sports
<input type="checkbox"/> REALLY TRUE for me		<input type="checkbox"/> REALLY TRUE for me
<input type="checkbox"/> SORT OF TRUE for me		<input type="checkbox"/> SORT OF TRUE for me

Some kids don't like playing sports	BUT	Other kids really enjoy playing sports
<input type="checkbox"/> REALLY TRUE for me		<input type="checkbox"/> REALLY TRUE for me
<input type="checkbox"/> SORT OF TRUE for me		<input type="checkbox"/> SORT OF TRUE for me

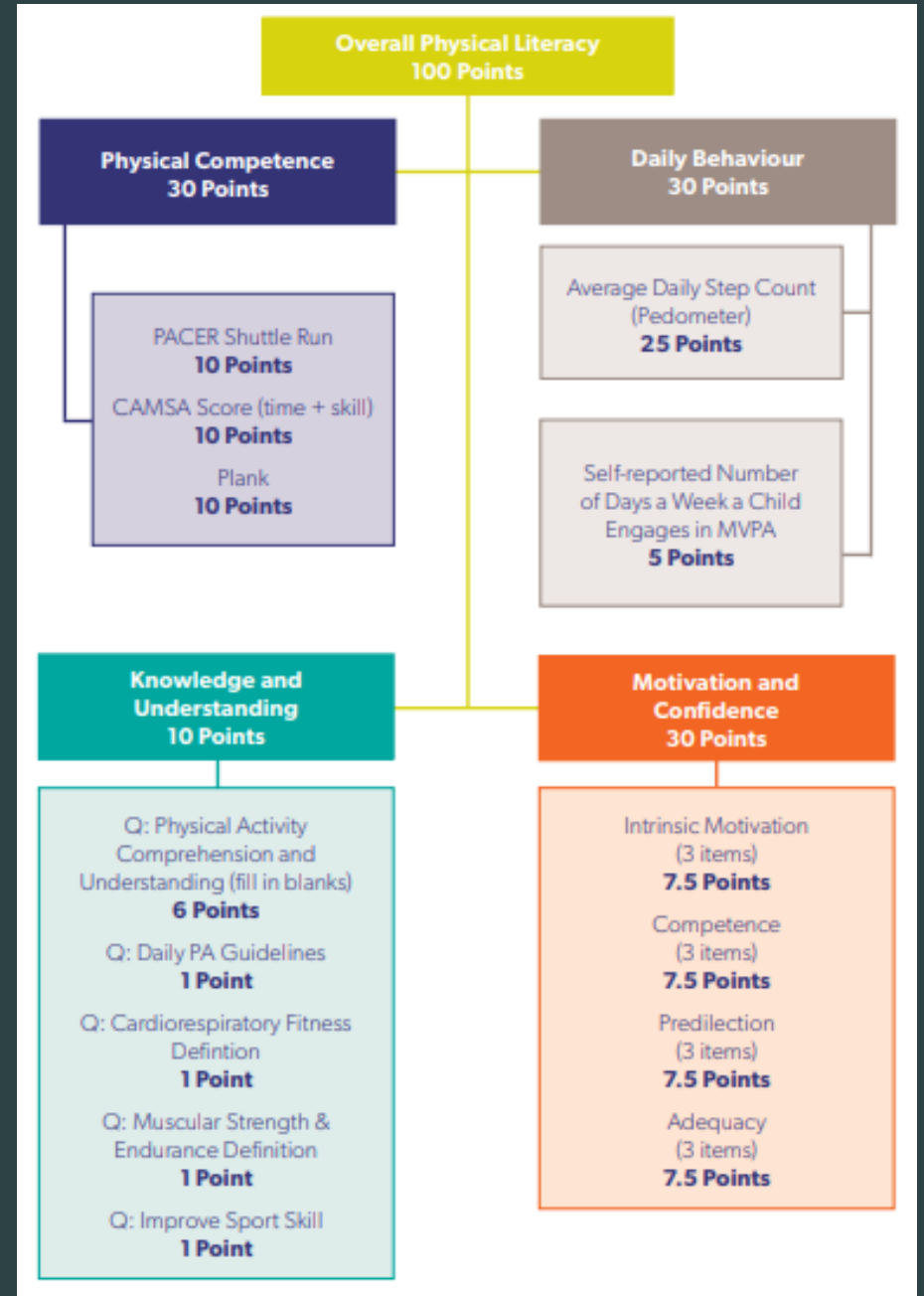
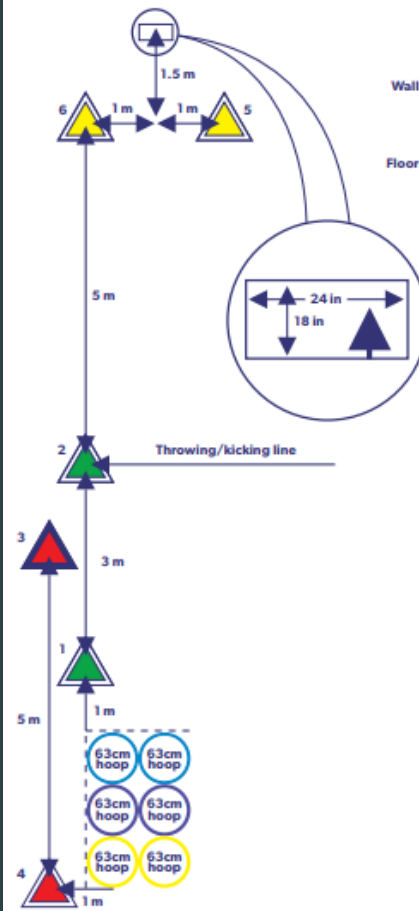
  

Some kids learn to play active games easily	BUT	Other kids find it hard learning to play active games
<input type="checkbox"/> REALLY TRUE for me		<input type="checkbox"/> REALLY TRUE for me
<input type="checkbox"/> SORT OF TRUE for me		<input type="checkbox"/> SORT OF TRUE for me

**Thank you for telling us which kids are most like you!**

We just have a few more questions. Please turn to the next page.

## CAMSA Layout

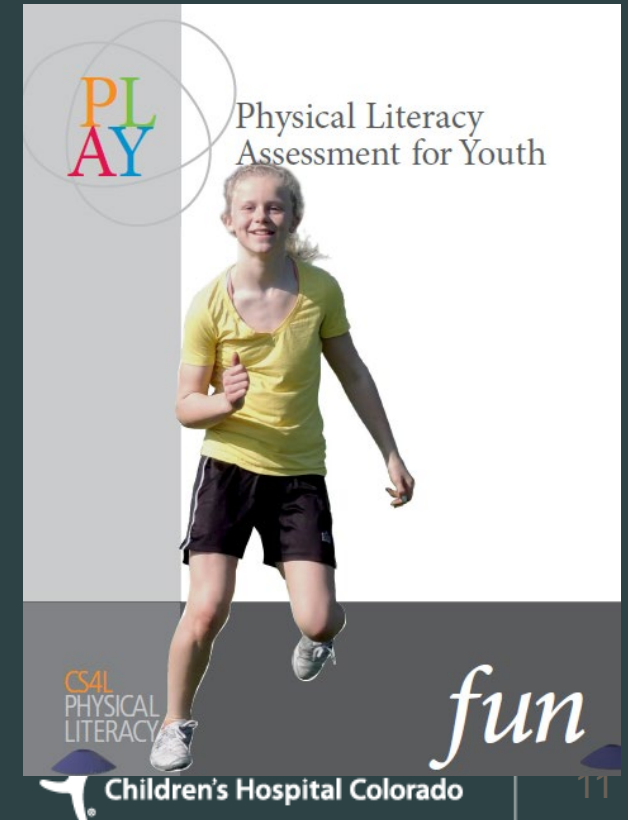
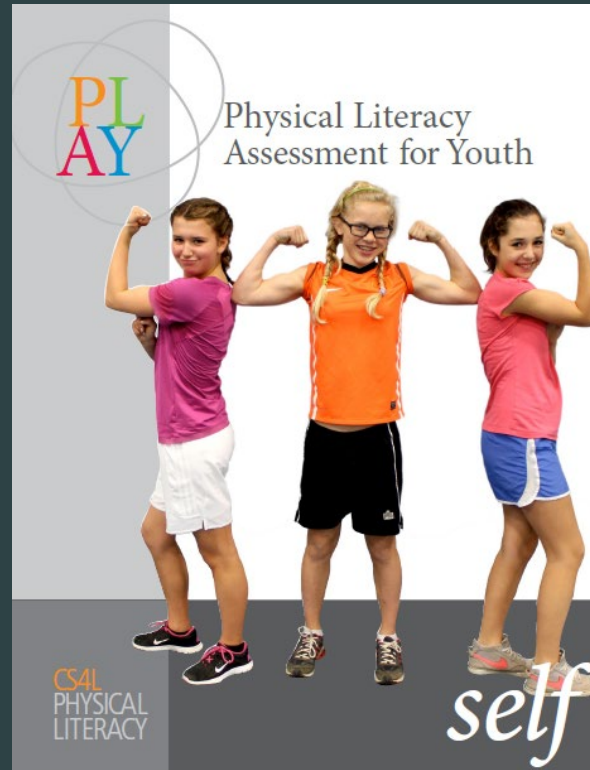


# Measuring Physical Literacy

- Physical Literacy Assessment for Youth (PLAY) Tools
  - Recommended for children ages 7-12<sup>8</sup>

- PLAYfun\*
  - PLAYbasic\*
- PLAYself\*
- PLAYparent
- PLAYcoach
- PLAYinventory

\*only Playfun/basic and PLAYself are necessary



# Measuring Physical Literacy

## PLAYfun

### Physical Literacy Assessment for Youth

PLAYfun is intended for children aged 7 and up.

[canadiansportforlife.ca](http://canadiansportforlife.ca)  
[playphysicalliteracy.ca](http://playphysicalliteracy.ca)

Participant's Name \_\_\_\_\_ Gender: M F Age: \_\_\_\_

Place a mark in the box that best represents the child's ability. Indicate if the child had low confidence, or needed a prompt, mimic, description, or demonstration for each task.

Task	Competence				Confidence	Comprehension			
	Developing		Acquired			Confidence	Prompt	Mimic	Describe
	Initial	Emerging	Competent	Proficient					
1. Run in square									
2. Run there and back									
3. Run, jump, then land on two feet									
4. Crossovers									
5. Skip									
6. Gallop									
7. Hop									
8. Jump									
9. Overhand throw									
10. Spike with stick									
11. One-handed catch									
12. Hand dribble stationary & moving forward									
13. Kick ball									
14. Foot dribble moving forward									
15. Balance walk (heel-to-toe) forward									
16. Balance walk (toe-to-heel) backward									
17. Drop to ground & back up									
18. Lift and lower									

## PLAYbasic

### Physical Literacy Assessment for Youth

PLAYbasic is intended for children aged seven and up.

[canadiansportforlife.ca](http://canadiansportforlife.ca)  
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Task	Competence				Confidence	Comprehension			
	Developing		Acquired			Confidence	Prompt	Mimic	Describe
	Initial	Emerging	Competent	Proficient					
1. Run there and back									
2. Hop									
3. Overhand throw									
4. Kick ball									
5. Balance walk (toe-to-heel) backward									

You can score and track your assessment online at [play.physicalliteracy.ca](http://play.physicalliteracy.ca). There you'll be able to create groups and input PLAYbasic scores for any number of children.



# Measuring Physical Literacy

PLAYself

Physical Literacy Assessment for Youth

Physical Literacy Score Sheet

Environment

Use the following scale: Never tried = 0 Not so good = 25 OK = 50 Very good = 75 Excellent = 100

How good are you at doing sports and activities...

	Never tried	Not so good	OK	Very good	Excellent	Score
1. In the gym?						
2. In and on the water?						
3. On ice?						
4. On snow?						
5. Outdoors?						
6. On the playground?						
<b>Total</b>						

Physical Literacy Self-Description

For all questions except question 13, use the following scale:

Not true at all = 0 Not usually true = 33 True = 67 Very true = 100

For question 13, use the following scale: Not true at all = 100 Not usually true = 67 True = 33 Very true = 0

	Not true at all	Not usually true	True	Very true	Score
7. It doesn't take me long to learn new skills, sports or activities					
8. I think I have enough skills to participate in all the sports and activities I want					
9. I think that being active is important for my health and well-being					
10. I think that being active makes me happier					
11. I think I can take part in any sport/physical activity that I choose					
12. My body allows me to participate in any activity I choose					
14. I understand the words that coaches and PE teachers use					
15. I'm confident when doing physical activities					
16. I can't wait to try new activities or sports					
17. I'm usually the best in my class at doing an activity					
18. I don't really need to practice my skills - I'm naturally good					
Subtotal					
<b>Total</b>					

PLAYparent

Physical Literacy Assessment for Youth

Child's Name \_\_\_\_\_ Gender: M F Age: \_\_\_\_\_

If individuals are physically literate when they have acquired the skills and confidence to enjoy a variety of sports and physical activities, how would you rank your child's overall level of physical literacy? Place a tick anywhere along the box.

Not Physically Literate \_\_\_\_\_ Perfect Physical Literacy

Assess your child using the table below:

	Low	Medium	High
1. Confidence to participate in physical activity and sport			
2. Motivation to participate in physical activity and sport			
3. Understands movement terms like skip, gallop, hop and jump			
4. Desire to participate in activities alone			
5. Desire to participate in activities with others or in groups			
6. Knowledge related to healthy physical activity			
7. Coordination when moving			
8. Safety while moving in the environment relative to others			
9. Number of movement skills acquired			
10. Ability to balance during movement			
11. Ability to run			
12. Ability to start/stop and change direction			
13. Ability to use hands to throw, catch and carry objects			
14. Ability to use feet to kick or move objects			
15. Left side is as capable as the right side			
16. Amount of participation in water activities			
17. Amount of participation in indoor activities			
18. Amount of participation in outdoor activities			
19. Amount of participation in snow/ice activities			
20. Overall fitness level			

Please list physical activities or sports that your child routinely participates in:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PLAYcoach

Physical Literacy Assessment for Youth

Participant's Name \_\_\_\_\_ Gender: M F Age: \_\_\_\_\_

I am a (check all that apply):  coach\*  exercise professional  therapist  other

\* I coach this athlete/participant in the following sport/activity: \_\_\_\_\_

If physical literacy is defined as the ability to proficiently execute a repertoire of movement tasks in multiple environments, then how would you rank this person's overall level of physical literacy? Place a tick anywhere along the line.

Not Physically Literate \_\_\_\_\_ Perfect Physical Literacy

Judge the ability of the participant based upon an ideal athlete being excellent.

	Poor	Fair	Good	Very good	Excellent
1. Confidence to participate in sport and physical activity					
2. Motivation to participate in sport and physical activity					
3. Comprehension of movement terms					
4a. Able to participate in the gym					
4b. Able to participate outdoors					
4c. Able to participate in and on the water					
4d. Able to participate on snow and ice					
4e. Able to participate in the air					
5. Awareness of the environment and others					
6. Possesses a diverse movement skill set					
7. Ability to select and sequence skills suitable to setting					
<b>Movement Competance</b>					
8. Basic balance					
9. Collisions					
10. Stumble recovery					
11. Hands					
12. Feet					
13. Ability to use left and right sides equally					
14. Start/Stop					
15. Running					
16. Agility					
17. Overall fitness level					

What physical activities and sports are you aware of that this person participates in?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Measuring Physical Literacy

- PLAY tools
  - Moderate associations between one another
  - Strong interrater reliability and
  - good construct and convergent validity<sup>9</sup>
- PLAYfun
  - Found to have very good interrater reliability<sup>10</sup>
  - Significant predictor of objectively measured physical activity<sup>11</sup>

# Developing Physical Literacy

- Parents:
  - Play alongside them



# Developing Physical Literacy

- Parents:
  - Play alongside them
  - Exposure to several activities





# Developing Physical Literacy

- Parents:
  - Play alongside them
  - Exposure to several activities
  - Create space



# Developing Physical Literacy

- Parents:
  - Play alongside them
  - Exposure to several activities
  - Create space
  - Encouragement

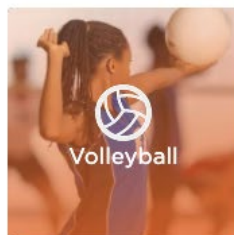
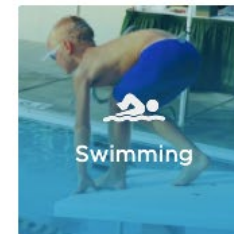
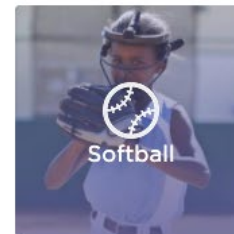
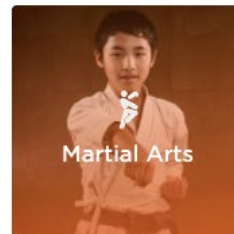
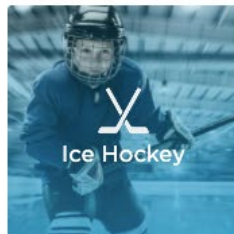
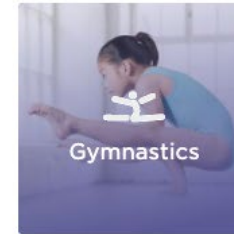
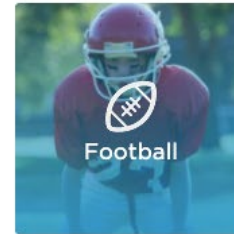
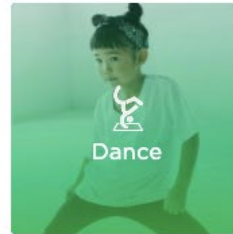
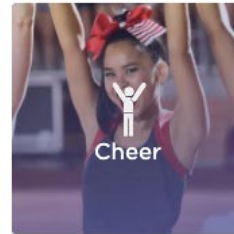
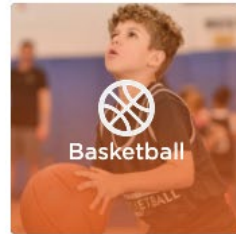
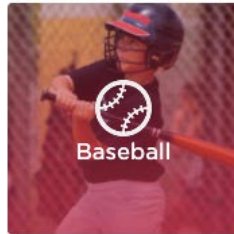


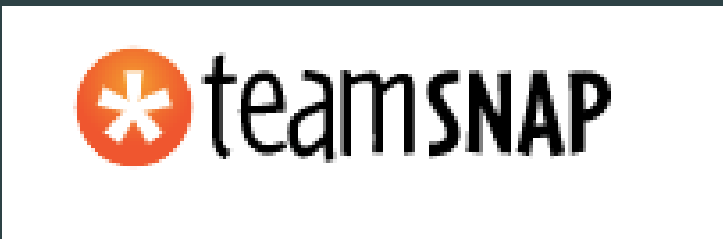
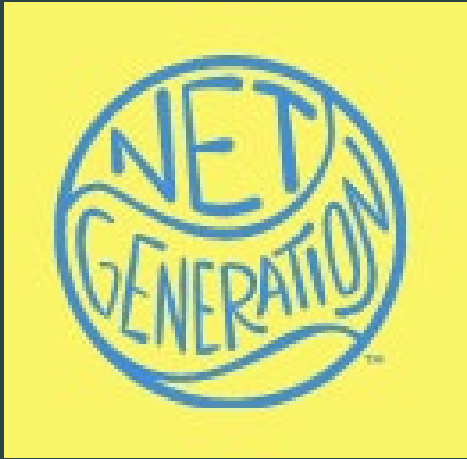
# Resources For Activity



# sport**se**ngine

## Featured Sports







# Healthy Sport Index

# What Matters Most to You?

## Physical Activity



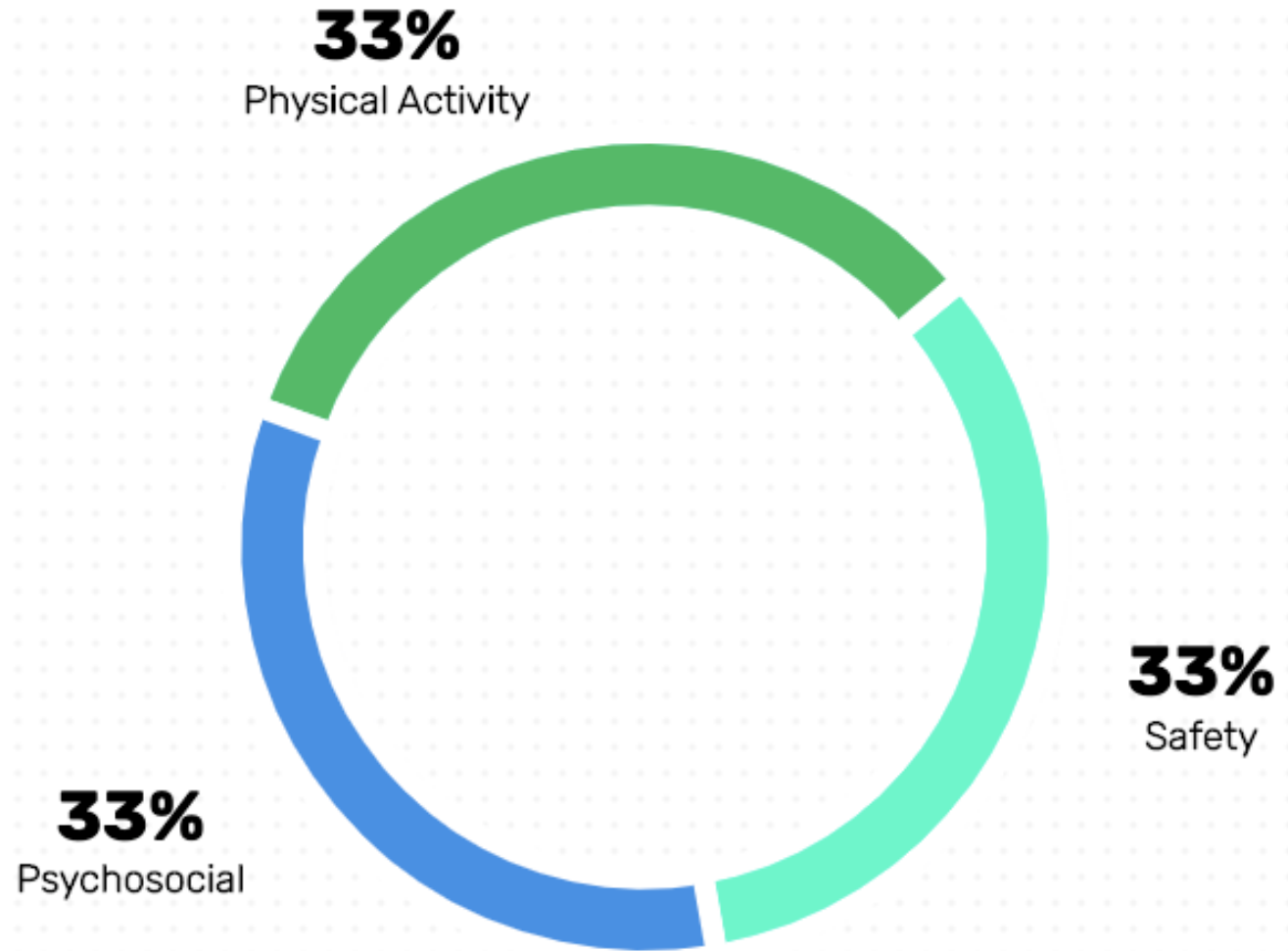
## Safety



## Psychosocial



Reset All Sliders





# Healthy Sport Index

**SPORTS MEDICINE** CENTER



## **Cross Country**

### **Boys**

Cross country is a sport that involves extensive running for long distances and periods of time, and it requires great endurance and the ability to embrace solitude. Recommended complementary/alternate sports for runners include swimming, soccer and tennis.



## **Swimming**

### **Girls**

Swimming is a sport that keeps the heart rate up but takes some stress off the body, while also building endurance, muscle strength and cardiovascular fitness. Recommended complementary/alternate sports for swimmers include gymnastics, track and field, volleyball and cross country.



# What Matters Most to You?

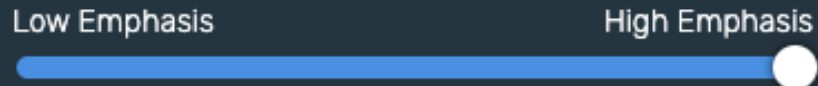
## Physical Activity



## Safety



## Psychosocial



Reset All Sliders

**32%**  
Physical Activity



**14%**  
Safety

**54%**  
Psychosocial



# Healthy Sport Index



## **Soccer** **Boys**

Soccer is a sport that rewards footwork, stamina, leg strength, and teamwork, and requires a great amount of endurance, plus vision and balance. Recommended complementary/alternate sports for soccer players include tennis and track and field.



## **Soccer** **Girls**

Soccer is a sport that rewards footwork, stamina, leg strength, and teamwork, and requires a great amount of endurance, plus vision and balance. Recommended complementary/alternate sports for soccer players include tennis and track and field.



# Summary

- Physical literacy:
  - A life long process
  - Appears to be associated
    - Physical activity
    - Overall health
- Limited tools available to assess physical literacy
- Additional research needed
  - Longitudinal outcomes
  - Injury rates
  - Success of school and community interventions

# Questions?

- [alex.altenburger@childrenscolorado.org](mailto:alex.altenburger@childrenscolorado.org)



# Resources

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