

# USING PEDOMETERS WITH CHILDREN AND YOUTH



## An Information Sheet for Teachers and Children/Youth Leaders

Pedometers are an excellent tool to help you teach children and youth about the importance of being physically active on a regular basis!

This information sheet explains how pedometers work and how to use them correctly. It also offers practical tips on using pedometers when working with children and youth.

### What is a Pedometer?

A pedometer is a simple, cost-effective device used to measure the number of steps taken by a person each day. By keeping track of steps, children and youth can discover how far they travel as a result of their activities.

However, pedometers cannot measure the **intensity** of the activity, such as how fast the person walks or how hard they are breathing.

### How Does a Pedometer Work?

Inside every pedometer, there is a small mechanism that detects when a step has been taken.

This mechanism can be a pendulum, a spring or a sensor. Movements causing the hip to raise or lower, such as walking, cycling or running, trigger the pedometer mechanism to count a step.

### How to Correctly Wear a Pedometer

To measure steps accurately, the pedometer must be positioned correctly. Wear your pedometer on your belt or waistband near the front of the hip bone and in line with the kneecap. The pedometer must sit upright to work correctly.

Always test the pedometer, to make sure it is accurately measuring steps (refer to Testing a Pedometer on the next page).

### What if the Pedometer Cannot be Worn Correctly?

Sometimes a person's body shape or clothing choice (e.g., a dress) will inhibit the pedometer being worn accurately. When this happens, it is okay to wear the pedometer in an alternative position. However, it is important to note that a pedometer worn in an alternative position may not be as accurate and should be tested before use.

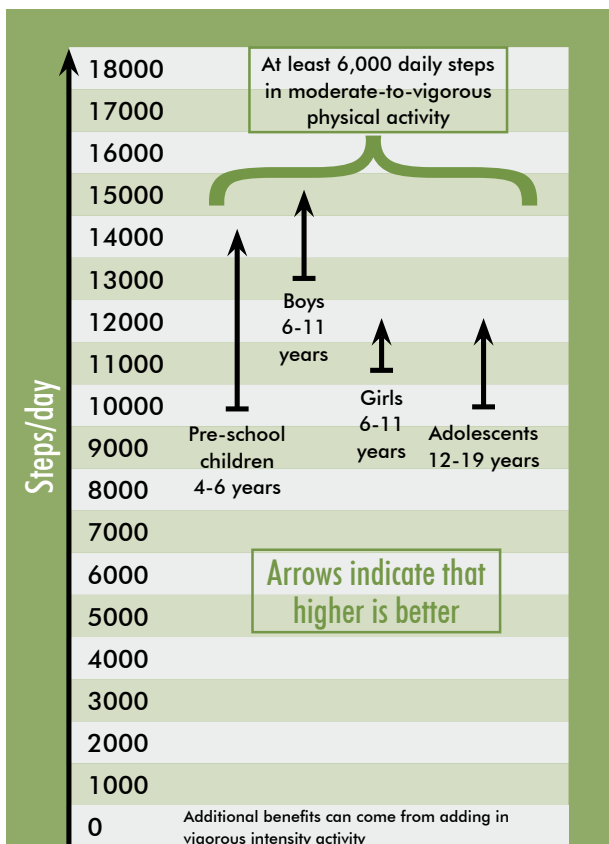


Figure 1. Steps/day scale schematic linked to time spent in MVPA.

Source: How many steps are enough? For children and youth. Tudor-Locke et al. 2011. Adapted and used with permission.



Alternative positions could include clipping the pedometer to the side or back of a waistband or belt, a pocket that sits below the waistband, or a shoe.

## Testing a Pedometer for Accuracy

Use this test to see if the pedometer is in a position where it will work correctly:

1. Clip the pedometer in place.
2. Set it to zero. If it has a cover, close it.
3. Without looking at the pedometer display, walk 20 steps.
4. Check the pedometer reading to see how many steps it recorded, compared to the number of steps you actually took.
5. Was the pedometer right? If not, reposition the pedometer and try again.

Note: the pedometer should be placed in a position where it gives the most reliable results for that person.

## How Many Steps?

There are no official step-count recommendations for children and youth. The number of steps taken should be part of an overall plan to boost the physical activity levels of a child or youth.

It's helpful to consult recognized resources, such as the *Canadian Physical Activity Guidelines for Children and Youth*.

These guidelines recommend that *children and youth should accumulate at least 60 minutes of moderate-to-vigorous physical activity daily*.

A good goal for children and youth is 13,500 steps/day. You may also refer to the recommendations shown in the figure above.<sup>1</sup>

Remember, pedometers do not measure intensity of movement, e.g., how fast you are moving. It's a good idea to encourage the children and youth you work with to walk or be active at a moderate-to-vigorous level.

**Moderate activities** are those that cause increased breathing and heart rate, and a warm, slight sweat.

- Examples: brisk walking, swimming, cycling.

**Vigorous activities** are those that result in shortness of breath, a rapid heart rate and sweating.

- Examples: running, basketball, soccer.

## Choosing a Pedometer

Choose a pedometer that fastens securely to clothing and is simple, easy-to-use and accurate.

Generally, a pedometer in the “middle” price range (approximately \$15-\$30) will offer an adequate level of performance. Note that lower-priced or lower quality pedometers can often lead to frustration due to lack of accuracy and durability.

Test your chosen pedometer for accuracy before you make the purchase. (Follow the instructions from this information sheet, and/or those provided in the packaging from the manufacturer.)

You may also be able to select pedometers in a variety of colours, which may be more appealing to children and youth.



## Reducing Sedentary Time

Reducing sedentary time is another great strategy to ensure overall levels of physical activity are high enough.

You can use pedometers to encourage children and youth to reduce the amount of time they spend sitting (sedentary time).

You can refer to the *Canadian Sedentary Behaviour Guidelines for Children and Youth*.

These guidelines recommend:

- limiting recreational screen time to no more than 2 hours per day; and
- limiting sedentary (motorized) transport, extended sitting and time spent indoors throughout the day.

You can also refer to the Canadian Paediatric Society’s 2003 position statement *Impact of media use on children and youth*, which recommends no more than 1 to 2 hours of screen time per day.

## Tips on Using Pedometers with Children and Youth<sup>2</sup>

- **Keep a Pedometer Log.** Invite each child or youth to record their step count for one week. With a baseline count in hand, each child or youth can work towards increasing their step count.
- **Reduce screen time!** Encourage each child or youth to limit their “screen time”. Have them track their steps before they reduce their screen time and after, so they can see how many more steps they take.
- **Make it fun!** Encourage kids to use their pedometers in fun or unique ways. Check out the listed resources for some great ideas!
- **Do a step count challenge.** Challenge children and youth to guess how many steps it will take to get to a favourite destination.
- **Post a chart to record steps.** Get individuals or teams to keep track of their steps and see who has the most.
- **Take a walk across Alberta.** Convert steps to kilometres and tally how many kilometres each child walks. For more ideas and Alberta destinations see the *Trek Across Alberta* resource.
- **Lead by example!** While working with children or youth, leaders should always be seen wearing their own pedometer.
- **Set targets.** Challenge each child to set a target daily step count; encourage them to meet or beat their goal!
- **Enhance cross-curricular lessons.** Teachers can use pedometers in math classes to measure distances and link health outcomes to help students identify the number of steps needed to “walk off” a certain number of calories.
- **Lead the kids on a brainstorming session.** Challenge them to think about ways they can decrease their sedentary time, so they can increase their step counts. Later, discuss which ideas worked best!



## Pedometer Resources

- Buyer Beware: Pros and Cons of Pedometers — [www.centre4activeliving.ca/](http://www.centre4activeliving.ca/)
- Canadian Paediatric Society position statement: Impact of media use on children and youth — [www.cps.ca/english/statements/CP/pp03-01.pdf](http://www.cps.ca/english/statements/CP/pp03-01.pdf)
- Canadian Physical Activity Guidelines for Children and Youth — [www.csep.ca/english/view.asp?x=804](http://www.csep.ca/english/view.asp?x=804)
- Canadian Sedentary Behaviour Guidelines for Children and Youth — [www.csep.ca/english/view.asp?x=804](http://www.csep.ca/english/view.asp?x=804)
- MapWalk — [www.mapwalk.com](http://www.mapwalk.com). One example of an online tool you can use to map out walking routes in your area, e.g., to and from school, to nearby parks, or around your neighborhood.
- Pedometer Activity Ideas — [www.pecentral.org/lessonideas/pedometer/pedometerlessonindex.html](http://www.pecentral.org/lessonideas/pedometer/pedometerlessonindex.html). A web page from PE Central that offers a variety of fun pedometer activities.
- Pedometer Kits for Loan — In Alberta, the Alberta Centre for Active Living has pedometer kits available for loan. Check for similar resources from organizations in your region.
- Trek Across Alberta — <http://education.alberta.ca/teachers/program/pe/programs.aspx>. This guide encourages Kindergarten to Grade 6 teachers and students to explore the province through 30 sites.
- Walking-related Resources — [www.centre4activeliving.ca/resources/](http://www.centre4activeliving.ca/resources/). Check out the many resources under the *Schools* and *Walking/Pedometers* categories, within our collection of resources.

<sup>1</sup> Tudor-Locke, C., Craig, C.L., Beets, M.W., Belton, S., Cardon, G.M., Duncan, S., Lubans, D., Olds, T.S., Raustorp, A., Rowe, D.A., Spence, J.C., Tanaka, S., & Blair, S.N. How many steps are enough? For children and adolescents. *International Journal of Behavioral Nutrition and Physical Activity*, 2011, 9:78. Link to open access article: <http://www.ijbnpa.org/content/8/1/78>.

<sup>2</sup> Some of these ideas are adapted from Barb Gormley's *Together Magazine* article "Get in Step: Pedometers Help Get Kids Moving" available at: [http://barbgormley.com/archive/Together\\_pedometers.pdf](http://barbgormley.com/archive/Together_pedometers.pdf)

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