Healthy Schools
in motion

Recess Toolkit

One window of opportunity

in motion™
Physical Activity - do it for life!

Manitoba

Contents

Manitoba *in motion*

In motion is a provincial strategy to help all Manitobans make physical activity part of their daily lives for health benefits and enjoyment. Our vision is to make Manitobans healthier by increasing everyone's level of physical activity.

Most of us already know the importance of active living. Physical activity increases energy, reduces stress, strengthens the heart and lungs and helps us reach and maintain a healthy body weight. The result is a better quality of life for people of all ages.

Yet less than half of all Manitobans get enough physical activity to gain those health benefits. What's needed is the motivation to get each other and ourselves "in motion". That is why the provincial government has joined with community partners in the areas of physical activity, health, healthy living, recreation, sport and education to raise activity levels and reduce barriers to physical activity.

In motion activities focus on families, children, youth, adults and older adults in the school, home, community and workplace settings. Support is available to help schools, workplaces and communities develop action plans to become "in motion".

Healthy Schools *in motion*

Healthy Schools and Manitoba ***in motion*** have worked together to offer Healthy Schools ***in motion***. Encouraging schools to become ***in motion*** is one way to promote physical activity to children and youth.

About Healthy Schools

Healthy Schools is Manitoba's provincial school health initiative promoting the physical, emotional and social health of school communities. The Healthy Schools initiative recognizes that good health is important for learning and that schools can have a positive influence on the health of children, youth and their families. Working in partnership with school divisions, schools and community partners, Healthy Schools supports progress towards positive health and education outcomes for all students. The initiative focuses on six priority health areas within the context of the school community:

- physical activity
- healthy eating
- safety and injury prevention
- substance use and addictions
- sexual and reproductive health
- mental health promotion

For more information about Healthy Schools, visit: **www.manitoba.ca/healthyschools**

About Healthy Schools *in motion*

A Healthy School ***in motion*** values the benefits of physical activity and ensures that it is a visible priority in the daily life of the school. An ***in motion*** school commits to working towards the goal of providing 30 minutes of daily physical activity for each student. This is achieved through any combination of physical education, physical activity breaks, physical activity programs, intramurals and special events. By registering your school, you are making the commitment to work towards this goal.

Why promote physical activity at school?

Schools are in a unique position to have a positive influence on the health of children, youth and their families. Plus, the growing body of research from Canada and around the world shows that children and youth who engage in regular physical activity have improved academic performance. Promoting physical activity at school is a win-win. Children and youth need daily physical activity for healthy growth and development. The *Canadian Physical Activity Guidelines* recommend that children and youth accumulate at least 60 minutes of moderate to vigorous-intensity physical activity every day. Yet research shows that only nine per cent of boys and four per cent of girls accumulate 60 minutes of moderate-to-vigorous intensity physical activity per day.

Benefits of being a Healthy School *in motion*

Physical activity has many benefits and affects all aspects of a child's growth and development. Regular physical activity is an important part of every child's daily life.

Schools that promote physical activity not only benefit the health and well-being of their students, but also encourage and benefit their staff and community. It is important to educate, encourage and motivate children to participate in regular physical activity. The benefits of physical activity stay with children as they become adults, and the positive behavioural traits of active children may transfer to adulthood. For children, being regularly active:

- enhances academic performance. Basic classroom skills including arithmetic, reading, memorization and categorization improve with sufficient physical activity.
- is beneficial psychologically, improving self esteem regardless of the child's weight.
- improves skeletal health, which in turn reduces the risk of developing osteoporosis in the future. Daily weight-bearing activities, of even brief duration during adolescence, are critical for enhancing bone development that affects skeletal health throughout life.
- has a positive impact on behaviour and healthy lifestyles. Among young people, high levels of fitness are associated with a decline in smoking and drinking behaviour, and healthier eating habits.
- results in having less body fat.

Contact Us

For more information on Healthy Schools ***in motion***:

Call 204-945-3648 in Winnipeg; toll free 1-866-788-3648;
or visit **www.manitobainmotion.ca/schools**.

Preface

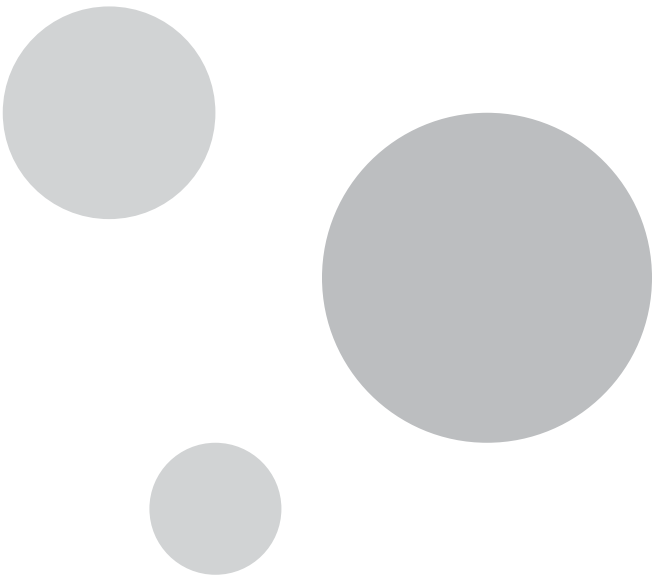
Recess is a very important and essential component of the scholastic day. There has been an erosion of time devoted to recess in some parts of North America, as well as use of recess withdrawal as a form of punishment. Research clearly shows the importance of recess for children in terms of improving time on task—leading to improved learning, a decrease in incidents, enhanced social interaction, and an offer of time to develop fitness and physical literacy through physical activity.

First, recess is a time for play. This is time away from the otherwise structured school day and world in which our children live in. Play at recess is vital to maintain. There are ways to manage this wonderful opportunity to meet many pressing requirements through appropriate planning and enrichment. Remember, recess is a piece of the puzzle, not the entire solution to the health of our children. Remember … recess is a child's favourite class.

Over the course of a year, a child spends more than 50 per cent of days in school. In Manitoba, a child (K to Grade 5) will accumulate 715 hours of instructional time across many subjects, and 130 hours devoted solely to recess over the scholastic year. Arguably, recess isn't something that just happens. It must be considered purposefully.

A quality recess setting permits a child to bloom. A quality recess setting involves quality supervision by trained, caring adults with suitable unfixed equipment, well-maintained grounds with lines and markings and a year-long recess plan. This recess toolkit is designed to help caring adults make this time all it can be for every child. Recess enrichment is a community operation and requires well orchestrated planning and activities by all in the school. It can't be an afterthought.

Want to jump-start? Go to the section Recess 101.



The Need

Physical Activity

Physical activity has been measured with accelerometers to assess the actual amount of physical activity of our children, not the self-assessed perception of activity level. These studies (one US and one Canadian) reveal that less than 50 per cent of children 11 and under meet the minimum guidelines for physical activity of 60 minutes per day of moderate or greater intensity of physical activity, and this plummets to less than 10 per cent after the age 12.

It is also very clear that boys are more active than girls are at these pre-pubescent ages. Table 1 shows the difference in moderate and vigorous physical activity levels in young children (grades 5 and 6).

Without physical activity, it is impossible to develop:

- adequate cardiovascular fitness
- adequate bone quality
- good muscle strength and endurance
- movement competence

Recess offers a wonderful opportunity to assist in these essential components of healthy childhood development. It offers a window of time where–with appropriate enrichment–it will increase physical activity levels.

	Boys	Girls
Height (cm)	136.7 (7.8)	136.1 (7.7)
Mass (kg)	33.8 (9.1)	35.3 (10.3)
Body Fat (%)	19.2 (8.0)*	23.5 (7.4)
Body Mass Index (BMI) (kg/m2)	17.9 (3.6)*	19.1 (4.5)
Moderate Physical Activity (MPA) (min/d)	33.3 (20.0)*	24.5 (17.0)
Vigorous Physical Activity (VPA) (min/d)	8.7 (9.4)*	4.9 (5.6)

Note: *indicate statistical differences between boys and girls

Table 1. A comparison between boys and girls from grades 5 & 6 for body composition (BMI, skinfold derived percentage BF) and physical activity (MPA – moderate physical activity, VPA – vigorous physical activity) measured by accelerometer.

Physical Literacy and Fundamental Movement Skills

Children are not meeting the curricular expectations for developing fundamental movement skills, even ones as basic as running, throwing and kicking. Girls demonstrate a gap in upper limb skill development starting at grade 4. Physical activity during recess offers time to try out new movement skills and practice them through playful repetition. In this way, recess is complementary to physical education (PE) instruction. Natural play and low organized games in enriched recess environments will aid in motor skill development of our children. Having competency in basic movement skills is a gateway to participation in recreation and sporting activities. It is also essential for safe execution of activities of daily life.

Childhood Obesity

According to Statistics Canada, childhood obesity rose from 1.85 per cent in 1981 to 9.55 per cent in 1996 and has shown further increases to 11.7 per cent in 2009[1]. The percentage of children that were overweight and obese was 31.5 per cent in 2009.[1] This obesity normally follows a child to adulthood. In fact, the adult rate of obesity and overweight is now exceeding 65 per cent of our population.[2] Healthy children need adequate physical activity on a per-day basis along with appropriate nutrition. Recess is one avenue to increase physical activity of children, contributing to a healthy child.

1. http://www.statcan.gc.ca/pub/82-003-x/2012003/article/11706/tbl/tbl1-eng.htm
2. http://www.statcan.gc.ca/pub/82-625-x/2012001/article/11708-eng.htm

Life Expectancy of Children

The World Bank and Statistics Canada calculate the life expectancy of children each year. Below is a plot of the life expectancy of Canadian children, which for the first time since 1961, has shown a statistically significant downtrend for 2009 and 2010. This has likely come from sedentary behaviour and over-consumption of food. This historically unprecedented downtrend highlights the pressing need to enhance the health of our children.

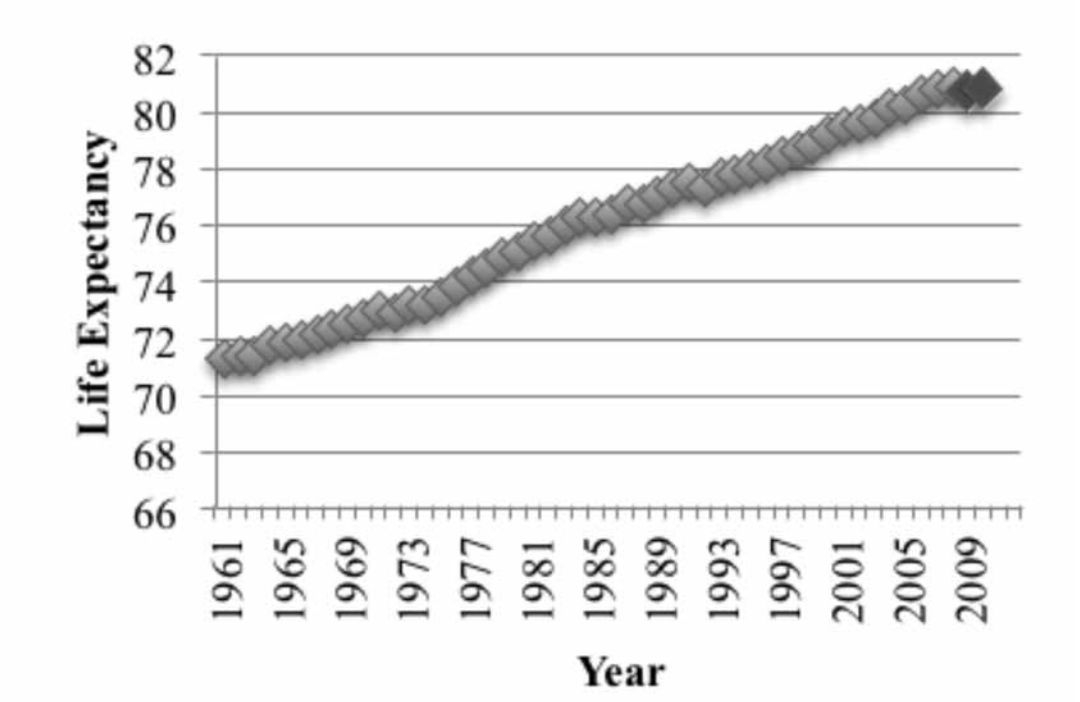


Figure 1. Life expectancy of Canadian children (World Bank, 2013). A statistical downtrend has occurred starting at 2009 (running t-tests, with a 2SD deviation of p values at 2009 and 2010).

What Can Recess Do for Children?

Enriched recess can develop the following capacities:

1. Social

- improved interpersonal skills
- decreased inappropriate behaviour at recess and in classroom
- teamwork
- good sportsmanship

2. Intellectual

- improved classroom learning
- improved time on task
- improved problem solving

A recent review article examines the evidence for the relationship between physical activity and academics. Arch Pediatr Adolesc Med. 2012;166(1):49-55.

3. Emotional

- improved self-esteem
- improved confidence
- improved self-efficacy

4. Physical

- physical literacy
- fitness
- helps achieve physical activity guideline goals
- improved body composition

What is Recess?

Recess is a time for recreation, where play is the primary component. All the potential positive benefits to physical, emotional, intellectual and social skills can be achieved at recess using an enriched environment and activities promoted by caring, trained supervisors and leaders. These activity plans can vary from recess to recess, creating active options for a child.

Play, by definition, is engaging in activity for no particular purpose. During play, a child chooses what they participate in for the sheer enjoyment of participating in the selected activity, no particular endpoint in mind. Play has limited structure and constraints through rules, where the imagination can take flight. A child should feel engaged, but removed from the daily chore.

Pragmatically, we as adults with our endpoints in mind will mould the play environment but we should not over structure the activity, thereby removing the vitalizing elements of play itself.

For a psychologist's view of play, visit **http://www.psychologytoday.com/blog/freedom-learn/200811/the-value-play-i-the-definition-play-provides-clues-its-purposes?page=2**

Recess and Daily Physical Activity (DPA)

Many provinces have adopted a daily physical activity (DPA) allotment for children in schools. Approaching recess **solely** as a means to increase DPA violates the foundation of recess—that being play. It is recommended to foster activity through thoughtful playground design (structures, lines and markings) and by providing a variety of unfixed equipment. The allocation of a percentage of recesses to address physical activity deficits in children is certainly acceptable through games and activities. And research is showing that it is possible to increase physical activity without structured activities.

Recess and Physical Literacy

Often the pressing need to enhance physical activity overshadows the fundamental need to impart competence and confidence in our children's ability to move. Children need to have a diverse repertoire of movement skills—termed **movement vocabulary** and including:

- upper limb skills like throwing and catching
- lower limb skills like hopping and jumping
- transport skills like running and dodging
- balance and stability skills like stumbling and falling

Recess is a perfect time to deploy newly taught skills in an environment different from a gym and in less predictable circumstances. Recess allows for execution of the skills in different seasons. Learning to move requires exposure to different surfaces including snow, gravel, grass and ice. Recess is a prime time to develop general movement skills. More research is needed to understand the role of recess in aiding in developing physical literacy.

What Recess is Not

There is consensus in research articles and in editorials, that the practice of restricting recess as a form of punishment, or for accumulation of time to perform **homework** is unacceptable. Provincial, school division or school-based policies should be created to prevent these practices. There is enough evidence in the scientific literature to conclude reasonably that recess provision enhances learning and may in fact reduce disruptive behaviours and incidents.

> "But equally important is the fact that safe and well-supervised recess offers cognitive, social, emotional and physical benefits that may not be fully appreciated when a decision is made to diminish it. Recess is unique from, and a complement to, physical education--not a substitute for it. The American Academy of Pediatrics believes that recess is a crucial and necessary component of a child's development and, as such, it should not be withheld for punitive or academic reasons."

Pediatrics. 2013 Jan; 131(1):183-8. The crucial role of recess in school.
Murray R, Ramstetter C; Council on School Health; American Academy of Pediatrics.

An Example Policy on Withholding Recess

http://cspinet.org/new/pdf/Alternatives_to_Withholding_Recess.pdf

The Play Structure

Recess is not simply the play structure. Often schools focus on fixed equipment, such as the play structure, as the means of recess improvement. The literature informs us that unfixed equipment (balls, discs, skipping ropes, etc), lines and markings, well-maintained grounds, and well-trained supervisors are keys to achieving quality recess.

The cost of fixed equipment ranges from $8,000 to $65,000 depending upon school size. A fraction of this cost should be devoted to a yearly, unfixed equipment budget (not part of the PE budget), with replacement costs per year (due to lost or broken equipment). Good planning is all it takes.

Recess in Manitoba

In a traditional school day, there is a 15-minute morning recess and a 15-minute afternoon recess. This offers 150 minutes of opportunity per week. If one includes a nominal duration of 30 minutes at lunch for recess, then we increase opportunity time to 300 minutes per week. Not all schools have children staying for lunch recess, and if these children are walking home and back to school they will accumulate about 2,000 steps per day, on average. Therefore, at lunch recess, we certainly want to maintain a good level of physical activity.

Given between 194 and 196 school days per year, less ten for non-instructional days we are left with 184 days with recess (about 26 weeks). Instructional time per week is 1,650 minutes from kindergarten to Grade 8 (including PE class), and recess (AM+lunch+PM=60 minutes nominally) represents 300 minutes per week (18 per cent of instructional time).

Recess	School Day (Minutes)	School Year (# of episodes)
AM	15 (20)	184
Lunch	30 (40)	184
PM	15 (20)	184
Total	**60 (80)**	**552**

Weather and Recess

On average in Manitoba, there are about 27 days with a wind chill value of -30 C or lower. In Winnipeg, indoor recess is indicated at values of -28 C or lower. On average, there are 28 days with substantive rainfall in May, June and September. As such, it is prudent that a year-long recess plan allows for 55 days of enriched indoor recess (not supervised study time).

Reverse Lunch-Recess

An interesting option for lunchtime is to have recess prior to the consumption of food. Anecdotally, schools that have reversed lunch-recess have reported improved food consumption, less food wasting, improved behaviour during recess, less food swapping, and increased milk and fruit consumption.

What Research Tells Us

Manitoba Recess

The simple bar graph (Figure 2) illustrates the **sum** of steps accumulated during morning, afternoon and lunch recess in comparison to PE class. This study of Grades 4 and 5 children simply described the average amount of physical activity accumulated during these times. Of course, step counts don't tell us about intensity but do inform us of overall activity. As might be expected, with 60 minutes of opportunity for activity during all recesses, the total number of steps accumulated represents a large proportion of the total steps in a day for a child. Not all schools have children staying for lunch recess, so this is an important consideration. In these schools, where children return home for lunch, they will have a walk home and walk back to school. We know from other studies that this walk to school and back averages around 2,000 steps. From a physical activity standpoint, recess offers the greatest chance to increase the level toward meeting daily guideline minimums. But, this is **not** the sole purpose of recess.

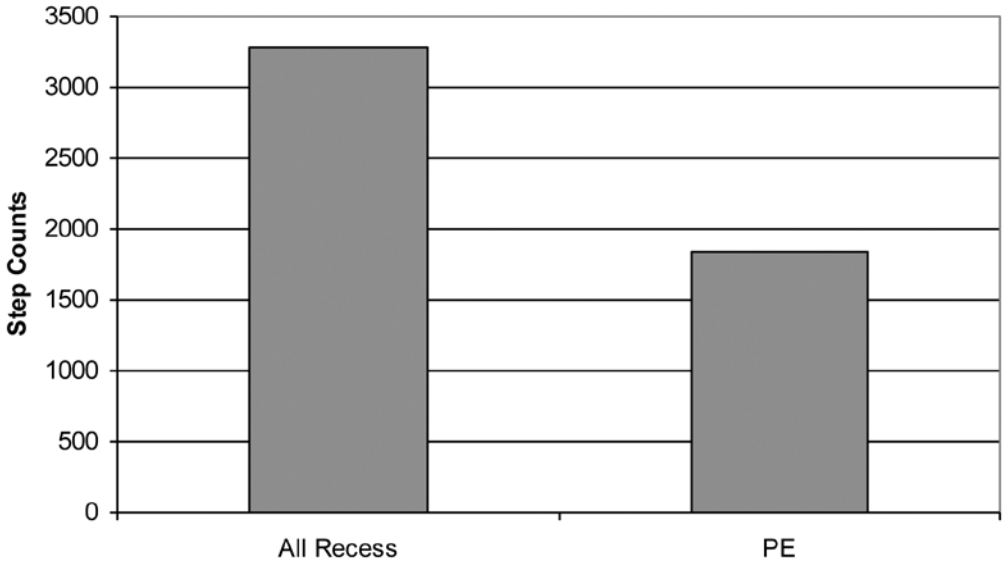


Figure 2. Step count comparison of the sum of all recesses (morning, lunch and afternoon=60 minutes) to a 40 minute PE class for grade 4 and 5 children.

Figure 3 illustrates the dramatic reduction in step counts accumulated when recess occurs indoors due to inclement weather (about 55 of 184 days per year). The indoor step counts are less than 1/3 of that which would occur outside. Remember these pedometer measurements were in schools with standard playgrounds, where there were no recess interventions or enrichments.

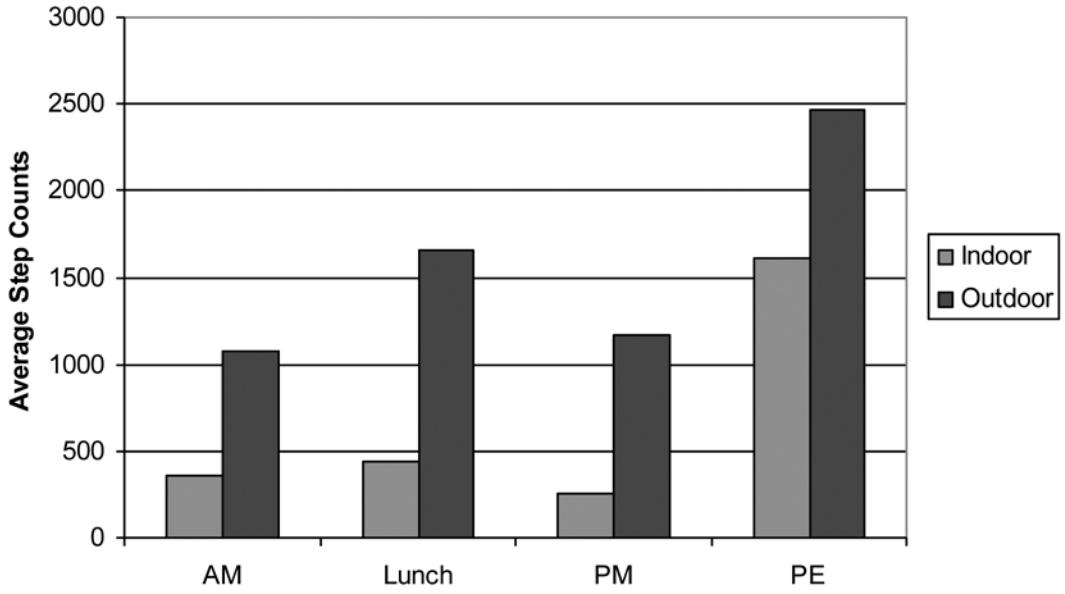


Figure 3. Comparison of indoor and outdoor recess step counts for Grade 4 and Grade 5 children.

Figure 4 illustrates the effect of simply adding 10 minutes to lunch recess (40 minute recess, 20 minute lunch) and doubling the PE classes within a school (2x/week to 4x/week) for Grade 4 and Grade 5 children. This resulted in a statistically significant increase of about 2,000 steps per day for the intervention school. Over the course of a school year, this would represent a substantial increase in average energy expenditure, even when accounting for indoor recess leading to enhanced health of children.

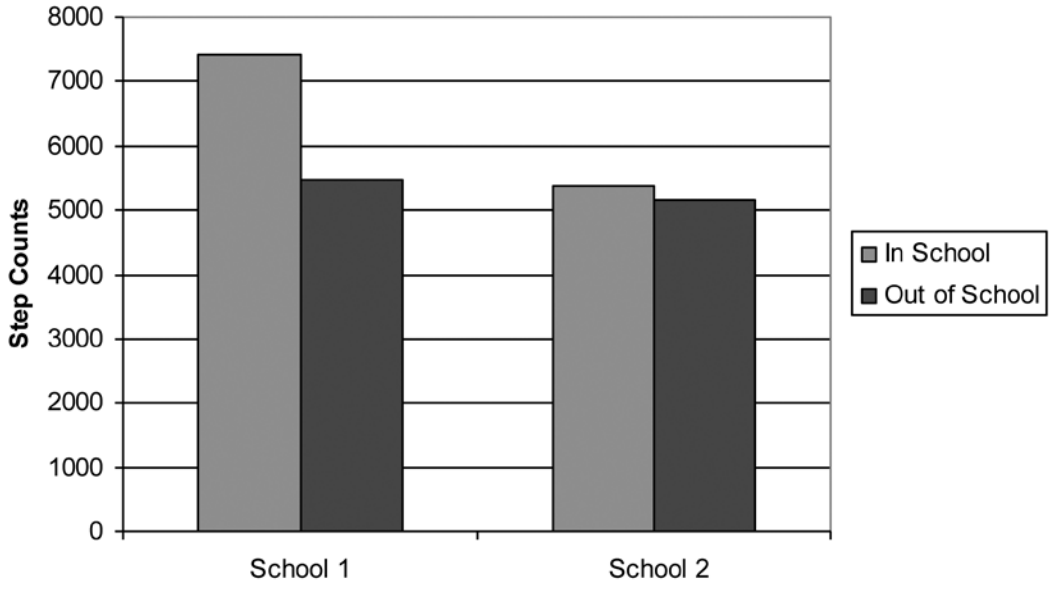


Figure 4. Comparison of average daily steps counts from a school (4X/week PE, plus 70 min day recess) with a school (2X/week PE, 60 minute recess). Approximately 2000 step/day increase ($P<0.01$).

Activity Level of Girls and Boys

Many studies have shown that girls have substantially lower physical activity during recess in comparison to boys. Manitoba data reveals that girls have only 2/3 of the step counts that boys accrue during recess. This differential activity level is associated with lower cardiovascular fitness and higher body fat in girls (Table 1). This certainly needs to be put right. Thankfully, many recess studies have shown very good responsiveness by girls to a variety of interventional approaches.

An Active Child

What does an active child look like? Figure 5 illustrates the activity pattern of a boy that nearly achieves the minimum guideline of 60 minutes of moderate or vigorous intensity activity (54 minutes) within the school day. This child would represent the 99th percentile in activity level.

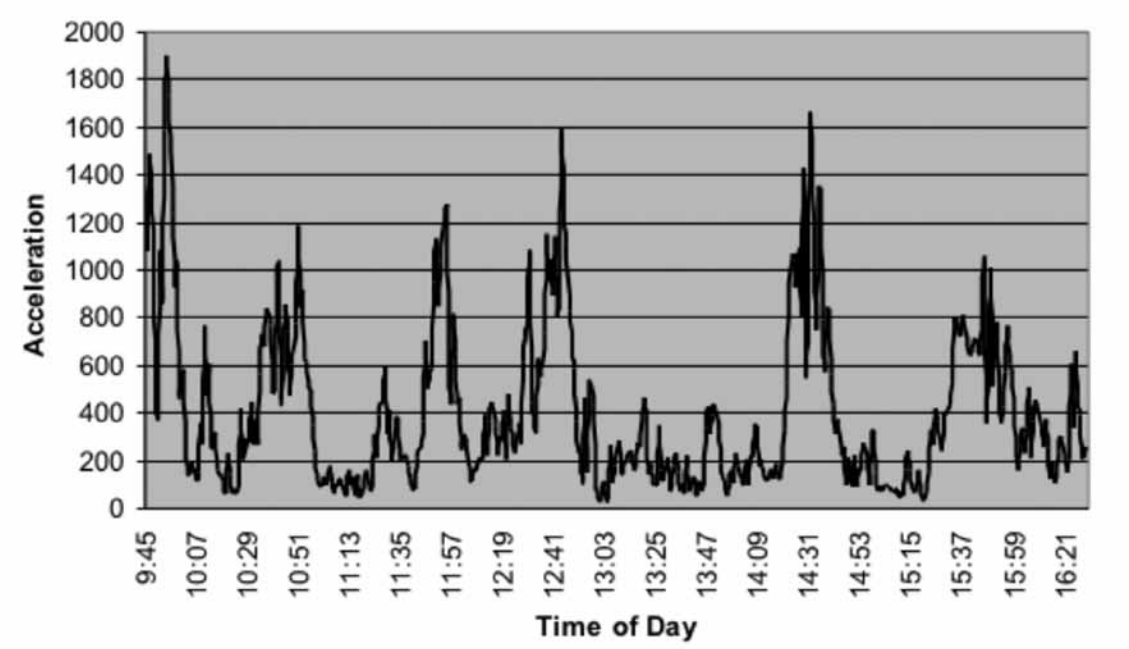


Figure 5. Physical activity levels of an active child during the school day. The activity was measured by accelerometer. The amount of acceleration is proportional to intensity of activity. Activity bouts are evident for a PE class (first class of the morning), AM recess, lunch recess, a classroom activity break at 13:47, PM recess and after dismissal at 330.

Recess Research

Research on recess is still in its infancy. There are just over 195 articles in the Pubmed database dating back to an article in 1954 in Russian by LV Mikhalova, entitled *Effect of active recess of school children in the open air on school work*. This is still typical by today's standards. Nonetheless, the majority of these works (54 percent) have come in the last five years.

Below is a compilation of primary findings and conclusions extracted from over 125 recess related articles. Manitoba research, along with these studies, was used in conjunction with best practice experiences to develop this recess toolkit. The reader is advised to peruse these studies to obtain a sense of the current state of recess literature. There are a substantial number of controlled trials ongoing at this time that should provide further evidence and guidance over the next few years.

"Outdoor activities during class recess in school have a significant effect on onset of myopia onset and myopic shift."

Ophthalmology. 2013 Feb 22.

"Supervision, if not interactive, may be detrimental to PA participation, especially in girls. Research related to staff training for encouragement and promotion of PA coupled with appropriate use of equipment during recess is warranted."

J Phys Act Health. 2013 Jan 30.

"Environmental modifications are only as strong as the staff that implements them for increasing MVPA."

J Phys Act Health. 2013 Jan 30.

"Deficiencies in PE and recess time are not likely to be effectively addressed through policy adoption alone."

Ann Behav Med. 2013 Feb;45 Suppl 1:131-41.

"Restructuring the playground by playground markings and by encouragement of the active use of the playground, through the provision of play equipment and educational measures such as adult encouragement and supporting physical education classes. During the intervention an average of 77.3% of the children engaged in moderate-to-vigorous physical activity in the intervention group and 38.7% in the control group. The effect of the intervention was significantly stronger for girls than for boys (p<0.001)."

Br J Sports Med. 2013 Jan 4.

"Students took on average 724 more steps on PE days than on non-PE days and 490 more steps on days with outdoor recess than non-recess days (P < .05 for both)."

Pediatrics. 2013 Jan;131(1):e81-7.

"When compared with youth at schools in denial, youth at schools in vague awareness and pre-planning demonstrated significant increases in moderate/vigorous PA. Ready for Recess strengthened this association. This is the first study to demonstrate that school community readiness (CR) may explain changes in PA at recess after a school-based PA intervention. Low CR levels may contraindicate interventions. Efforts to increase school CR a priori may be critical to increasing PA among youth."

Health Educ Res. 2012 Oct 29.

"Of the included studies (13), 95% demonstrated positive outcomes as a result of the recess intervention." "equipment/materials, markings, zones, teacher involvement, active video games, activity of the week, and activity cards."

J Phys Act Health. 2012 Oct 9.

Children's higher daily RMVPA was associated with newer schools, schools with a higher number of grassed surfaces per child and fewer shaded grassed surfaces, and the physical education coordinator meeting Australian physical activity guidelines. "Characteristics of the school physical and social environments are strongly correlated with children's MPVA during recess."

Aust N Z J Public Health. 2012 Oct;36(5):469-77.

"Positive associations were found of overall facility provision, unfixed equipment, and perceived encouragement with recess physical activity. Results revealed that boys were more active than girls."

Am J Prev Med. 2012 Sep;43(3):320-8.

"The intervention was associated with an adjusted increase of 4.7 minutes (P <.001) in moderate/vigorous PA during recess. There was no evidence that this effect varied by gender (P = .944) or race (P = .731). The intervention was also associated with an adjusted increase of 29.6 minutes (P < .001) in moderate/vigorous PA during rest of the school day. While this effect did not vary by gender, there was some evidence (P = .034) that nonwhites benefited more from the intervention than whites."

J Public Health Manag Pract. 2012 Sep-Oct;18(5):416-22.

"Participants felt PA was important but believed several factors impacted children's ability to be more active: (i) lack of time due to increasing academic demands, (ii) peer pressure (especially in girls) not to be active and (iii) lack of space and equipment. When discussing recess, staff felt that their encouragement of or active participation in PA with children resulted in more activity. Furthermore, even though participants were aware of PA benefits, they noticed eliminating recess was often used as a punishment for misbehavior."

Health Educ Res. 2012 Dec;27(6):986-95.

"Moderate-to-vigorous physical activity during recess increased significantly in intervention school children from 6.9±0.8 to 14.9±0.9 min pre- and post-intervention, respectively (adjusted mean change 8.0±1.1; P<0.0001), with no differences by gender or body mass index (BMI). In-school, moderate-to-vigorous physical activity also increased significantly more for intervention compared to control children (adjusted mean change 14±4 min vs. 3±3 min; P=0.014, respectively)."

Pediatr Obes. 2012 Feb;7(1):82-8.

"Adequate PE time was inversely associated with recess and vice versa, suggesting that schools are substituting one form of physical activity for another rather than providing the recommended amount of both recess and PE. CONCLUSION: By mandating PE or recess, policy makers can effectively increase school-based physical activity opportunities for youth."

Arch Pediatr Adolesc Med. 2012 Apr;166(4):311-6.

MVPA levels were higher during climbing/sliding activities (40-50%) and when the activity setting was supervised and equipped (30%) at recess. Boys more than girls.

Pediatr Exerc Sci. 2011 Nov;23(4):585-99.

"Students in classrooms engaged in Instant Recess exhibited statistically significant increases in light (51%) and moderate-intensity (16%) PA and increases in time spent in on-task behavior (11%)."

Prog Community Health Partnersh. 2011 Fall;5(3):289-97.

"Recess accounted for 17% to 44% of school-day step counts. There was a significant main effect for grade level, but not for BMI or gender, on the percentage of school-day steps accumulated during recess. 1268 and 914 steps for boys and girls, respectively, within a 15-minute time period"

J Phys Act Health. 2012 Mar;9(3):442-8.

"The highest level of PA at recess, lunchtime and after school was associated with higher HRQoL scores indicating that these behaviours deserve substantial attention."

Qual Life Res. 2012 Aug;21(6):1085-99

"Recess contributed 17.9% and 15.5% toward boys' and girls' school day moderate-to-vigorous physical activity, respectively. CONCLUSION: Children engaged in physical activity during recess, though interventions may be needed to increase the intensity of activity in this context."

J Sch Health. 2011 Sep;81(9):545-51

"The teachers (n = 5) who complied with the recommended 1 activity break per day had students who accrued 33% more mean school steps/day at follow-up (1100) and post follow-up (1350) compared to controls."

J Sch Health. 2011 Aug;81(8):455-61.

"Boys and girls (n=2782) aged 5-6 years and 10-12 years participated in baseline (T0) measures. Physical activity (n=2490) was measured every 60 s for eight consecutive days using hip-mounted accelerometry. Subsequent measurements were taken at 3-year (T1; n=773) and 5-year (T2; n=634) follow-up. Physical activity levels during recess and lunchtime decreased in both cohorts over time. Decreases in the contribution of recess and lunchtime to older children's daily physical activity were also observed. Interventions are needed in both primary and secondary schools to promote physical activity levels during recess and lunchtime, particularly during the early years of secondary school."

Br J Sports Med. 2012 Aug;46(10):741-6.

"The number of permanent play facilities in school playgrounds is associated with higher physical activity in children, whereas no relationship was observed for school policies relating to physical activity. Increasing the number of permanent play facilities may offer a cost-effective long-term approach to increasing activity levels in children."

Int J Behav Nutr Phys Act. 2011 Apr 27;8:38.

"RESULTS: The multiple regression results demonstrated increases of 2.5 minutes of MPA ($p < .001$) and 2.2 minutes of VPA ($p < .001$) at recess and an increase of 18.7 minutes of MPA ($p < .001$) and 4.7 minutes of VPA ($p < .001$) during the school day. These represent respective increases of 51.2% and 112.2% in the adjusted means of MPA and VPA during recess and respective increases of 92.2% and 71.6% in the adjusted mean of MPA and VPA during school day. CONCLUSION: Staff training, recreational equipment, and playground markings are inexpensive, simple ways to increase PA during recess so that children can accumulate minutes of PA to meet the recommended guidelines of 60 minutes per day."

J Sch Health. 2011 May;81(5):251-7

"Results revealed children engaged in moderate-to-vigorous physical activity for at least half of the intervals observed. Incidents of physical antisocial behavior significantly decreased, while incidents of verbal antisocial behavior and time spent alone increased across Study 1."

Health Educ Res. 2011 Aug;26(4):586-95

"Early Childhood Longitudinal Survey-Kindergarten Cohort which included 8246 children in 970 schools Meeting the NASPE recommended time for recess was associated with a 0.74 unit decrease in BMI (body mass index) percentile for children overall. Meeting the NASPE recommendation for physical education was associated with 1.56 unit decrease in BMI percentile among boys but not girls. CONCLUSIONS: We find evidence that meeting the national recommendations for PE and recess is effective in mitigating body mass increase among children."

J Phys Act Health. 2011 Feb;8(2):174-81.

"Because of the positive effects of physical activity on attention-to-task, it is recommended that elementary school teachers consider implementing physical activity sessions throughout the school day in the form of recess and classroom-based physical activities"

Prev Med. 2011 Jun;52 Suppl 1:S60-4.

"Using three-level growth curve modeling with a sample of approximately 11,400 children … More breakfasts typically eaten per week with their families and greater minutes of recess (free time for activity at school) were each associated with decreases in the rate of BMI growth over time"

Soc Sci Med. 2011 Mar;72(5):677-84.

"The search yielded a range of articles, from those focused on specific aspects of recess to those that examined multiple factors, including how to structure and conduct recess. Several themes emerged supporting recess as beneficial for children's cognitive, social, emotional, and physical functioning. Optimal recess was well-supervised and safe. Crucial components were well-maintained playground equipment and well-trained supervisors. CONCLUSION: Recess serves a critical role in school as a necessary break from the rigors of academic challenges. Recess is a complement to, not a replacement for, physical education. Both promote activity and a healthy lifestyle; however, recess–particularly unstructured recess and free play–provides a unique contribution to a child's creative, social, and emotional development. From the perspective of children's health and well-being, recess time should be considered a child's personal time and should not be withheld for academic or punitive reasons."

J Sch Health. 2010 Nov;80(11):517-26.

"Girls engaged in 13.8% more sedentary activity and 8.2% less vigorous activity than boys during recess. Children with no equipment provision during recess engaged in more sedentary activity and less moderate activity than children provided with equipment. In addition, as play space per child increased, sedentary activity decreased and vigorous activity increased"

Int J Behav Nutr Phys Act. 2010 Oct 12;7:74.

"Children accrued a substantial amount of voluntary PA during leisure time at school. Their PA would likely be increased if school playground equipment was more readily available and if supervisors were taught to provide active games and promote PA rather than suppress it."

J Sch Health. 2010 Oct;80(10):470-7.

"Different factors may determine school wellbeing in boys and girls, but for both genders, factors relevant for lessons may be more important than factors related to recess. Especially in boys, the student-teacher relationship may be of particular importance."

BMC Public Health. 2010 Sep 1;10:526.

"Recess activities of the week (RAWs) would make a difference in children's discretionary time physical activity levels. METHODS: Children (N = 65: 30 boys, 35 girls; 32 first and second graders; 33 third and fourth graders; 45 healthy body mass index [BMI], 20 overweight BMI) at 1 Midwest elementary school wore pedometers for each 15-minute morning recess period for 4 weeks. Following 1 no RAW (#1), a new RAW was introduced each subsequent week: #2, circuit course; #3, obstacle course; and #4, Frisbees. RESULTS: Repeated measures factorial analysis of variance results revealed that children were significantly more active during the no RAW and circuit course week than the Frisbee week. Males were significantly more physically active than females during the obstacle course week. Older children were significantly more active during the Frisbee week than younger children. Healthy BMI children were significantly more physically active during the circuit course week than children in the overweight/obese BMI category.

CONCLUSIONS: Results imply that it is important for schools to consider demographic factors in the creation of recess opportunities to increase physical activity."

J Sch Health. 2010 Sep;80(9):436-44

"A playground markings and physical structures intervention had a positive effect on intervention children's morning and lunchtime MVPA and VPA when assessed using heart rate and accelerometry, but this effect is strongest 6-months post-intervention and decreased between 6 months and 12 months."

J Phys Act Health. 2010 Mar;7(2):167-75.

"A significant contribution of adding the policy index to the prediction of recess physical activity above that provided by the individual-level interests and the physical environment was demonstrated. The results are encouraging and give scientific support to policy documents recommending the implementation of school policies to increase physical activity."

Health Promot Int. 2010 Mar;25(1):63-72.

"Since sedentary activity accounted for the largest proportion of recess, interventions may be needed across all recess periods to promote physical activity during the school day."

Prev Med. 2009 Nov;49(5):410-2.

"Although variation existed across observations for each child, on average, children met and exceeded recommendations for 60 min of MVPA during the day. Theses findings suggest that through allocation of time for APE and RE, coupled with programming designed to maximize activity opportunities, students with ID can achieve recommended levels of MVPA."

Med Sci Sports Exerc. 2009 Aug;41(8):1580-6

"The PA of students in public schools in Mexico City can be improved by increasing the quantity and quality of PE and increasing opportunities for activity during recess."

Salud Publica Mex. 2009 Mar-Apr;51(2):141-7.

"The physical activity requirement was most often met through recess, physical education, classroom Energizers, and intramural sports. School districts reported numerous positive effects of the policy in elementary and middle schools. Benefits included increased student focus on studies, physical activity participation, awareness of healthy habits, alertness and enjoyment, and higher staff involvement. Implementation challenges to the policy included lack of time in the school day, teacher participation, and concerns about academics."

J Sch Health. 2009 May;79(5):231-8

"Providing playground markings or play equipment is not sufficient to increase activity levels and decrease levels of sedentary activity during pre-school recess. More activating supervision and the inclusion of more structured physical activity seem needed."

Prev Med. 2009 Apr;48(4):335-40

"Results offered evidence that body mass index is a valid proxy measure for fitness levels and that fitness programs are necessary to effectively combat the obesity epidemic. Evidence-based changes need to be implemented to address obesity-related factors in schools, because children spend many of their waking hours in that setting. Physical activity during recess and physical education classes could help to increase energy expenditure and develop sound minds and bodies. Schools should consider the development of school-based wellness teams to advise and advocate improved school-based wellness policies."

MCN Am J Matern Child Nurs. 2008 Mar-Apr;33(2):104-10

"Children with ASD were less active during overall recess, lunchtime, first and second morning recess compared to those without disabilities ($p < .01$). All children in this study did not achieve 40% of recess time in physical activity, suggesting that interventions for increasing physical activity of children during inclusive recess settings are warranted."

J Autism Dev Disord. 2008 Aug;38(7):1292-301.

"Overweight boys were significantly less active than their normal-weight male counterparts; this difference did not hold true for girls. Even though nearly double the number of normal-weight children achieved the 40% of MVPA during recess compared with overweight children, physical activity promotion in school playgrounds needs to be targeted not only at overweight."

Obesity (Silver Spring). 2007 Jun;15(6):1513-9.

"The playground redesign intervention resulted in small but non-significant increases in children's recess physical activity when school and pupil level variables were added to the analyses. Changing the playground environment produced a stronger intervention effect for younger children, and longer daily recess duration enabled children to engage in more MVPA following the intervention."

Int J Behav Nutr Phys Act. 2007 May 21;4:19.

"Statistically significant intervention effects were found across time for moderate-to-vigorous and vigorous physical activity assessed using both heart rate and accelerometry.

CONCLUSIONS: The results suggest that a playground redesign, which utilizes multicolor playground markings and physical structures, is a

suitable stimulus for increasing children's school recess physical activity levels."

Prev Med. 2007 May;44(5):393-7.

"The results revealed no significant variation in children's recess physical activity levels across days and seasons. Whilst children were free to choose their recess activities in school, the results suggested that children were relatively consistent in their choices, limiting physical activity variability." "Research Institute for Sport and Exercise Sciences, Liverpool"

Prev Med. 2006 May;42(5):372-4

"During lunch break, children's moderate and vigorous physical activity significantly increased in the intervention group (moderate: from 38 to 50%, vigorous: from 10 to 11%), while it decreased in the control group (moderate: from 44 to 39%, vigorous: from 11 to 5%). At morning recess, providing game equipment was effective in increasing children's moderate physical activity (from 41 to 45%), while it decreased in the control group (from 41 to 34%). CONCLUSION: Providing game equipment during recess periods was found to be effective in increasing children's physical activity levels. This finding suggests that promoting physical activity through game equipment provision during recess periods can contribute to reach the daily activity levels recommended for good health."

Eur J Public Health. 2006 Aug;16(4):415-9

"Time spent in MVPA and VPA increased significantly in intervention schools as a result of playground painting. Boys were more active than girls, and activity decreased with age, but neither difference reached significance."

"Multicolor playground markings can be a low-cost method of increasing children's daily physical activity levels in the short term."

Prev Med. 2005 Nov-Dec;41(5-6):828-33.

"The results of this study suggest that school recess time is an important setting to promote MVPA and contributes to daily physical activity in young children, especially in girls."

J Sports Sci. 2005 Mar;23(3):269-75.

"Boys engaged in higher intensity activities than girls. The results suggest that recess can contribute 28 min for boys and 21.5 min for girls toward the accumulation of recommended daily physical activity. However, the physical activity intensities that children engaged in were low during recess. On average, children in this study did not achieve 50% of recess time in physical activity."

Prev Med. 2005 Jul;41(1):102-7

"With growing concern about children's physical activity (PA), school playgrounds offer an opportunity to increase children's MVPA engagement especially among girls. Consideration may be given to the lengthening of recess periods in order to increase PA levels."

Prev Med. 2001 Nov;33(5):402-8.

"The highest injury rate of was recorded in 12-year-olds (21.7%). Upper extremities were most common site of injury (52.8%), whereas the most common type of injury was contusion (45.2%). The rate of head injuries was 3.2 times higher in younger (aged 7-10) children, whereas the rate of sports injuries was 3.5-fold higher in older (aged 11-14) children (p=0.001). Entropy classification revealed younger school-age children to be at the highest risk of contusion due to a blow from a ball, an object, or contact during sports activities. CONCLUSION: In Koprivnica County, most school-related injuries occurred during sport activities (42%) and play during recess (55%), with specific differences in age and sex."

Croat Med J. 2001 Feb;42(1):58-63.

"Video analysis of playground injury-risk situations"

"Results indicate that boys were more involved than girls, playground equipment was frequently used improperly, aggressive behaviors were sometimes a factor, situations occurred more frequently with nonteacher than teacher monitors, and children infrequently took action to stop the situations. Other children were more likely to react to the target child than the monitor."

Res Nurs Health. 1991 Apr;14(2):129-36.

Making Recess All That It Can Be

It takes a school community approach to make recess all that it can be. This section provides suggestions targeted to specific groups and individuals for improving recess.

Superintendent

The superintendent has a key role in:

1. providing leadership in promotion of recess by setting recess enrichment as a divisional goal and bringing this forward to the board of trustees
2. creation of recess policy that:
   a. mandates recess and classroom activity breaks
   b. prevents recess time from being eroded
   c. prevents teachers from using recess withdrawal as a punitive measure
   d. allocates budgets specifically to recess enhancements including unfixed equipment and training of recess supervisors

Principal

Principals and senior school administration have an important role in:

1. creation of a school culture and environment that is supportive of recess
2. creation of an ad hoc recess committee:
   - creation of a recess plan
   - creation of a parental letter on the role of recess (see template)
3. release of staff for professional development specifically for recess enrichment based upon the recess plan
4. provision of parental training for recess supervision:
   - for instance, High Five Training
5. budget expenditures to unfixed recess equipment, maintenance of recess grounds, creation of lines and markings on grounds
6. dissuading unrealistic liability concerns which may drive inactivity at recess

Teacher

Teachers have a direct impact on recess quality. Teachers can facilitate student growth by:

1. timely preparation of children for recess
2. inventive transport of children to recess
3. preparation and planning for indoor recess activities:
   a. indoor recess lesson plans
   b. creation of classroom enriched environments
4. support of hallway enriched environments
5. increased knowledge of outdoor/indoor/classroom physical literacy games
6. increased knowledge of outdoor/indoor/classroom physical activity games
7. support and co-operation with other staff in delivery of quality recess (custodial, PE teacher, etc)

PE Teacher

The physical education specialist teacher has an opportunity to aid the development of an active and healthy school by:

1. aiding in the creation of enriched hallways and classrooms for indoor recess and child transport
2. aiding in the selection of recess specific equipment that preferably is not part of the PE equipment inventory
3. being an advisor to recess supervisor through their special training in physical development of children
4. aiding in the creation a year-long recess plan
5. aiding in creation of compilation of recess activity plans
6. co-ordinating PE class strands and educational objectives to the recess plan
7. participating on the parent advisory council insuring that an active healthy environment is created

Custodian

Unfixed equipment ends up on rooftops. Fixed equipment or grounds often need repairs. Custodian and grounds maintenance personnel are vital in the creation of active and healthy schools through support at recess.

Parent

Parents need to be informed of the role of recess. A statement at the start of the year as to the schools perspective is important (see appendix for draft letter). If parent volunteers are available, this can help to muster them.

Providing the opportunity of training is helpful. The High Five Program with the principles of healthy child development is a wonderful starting point for training.

Parent Advisory Council

The parent advisory councils (PAC) of schools have direct impact on the school and the most important constituents of the school, the students.

The parent advisory council usually works directly with the principal, the school board and staff of the school. Strong PAC have been associated with greater accomplishment in assessments on math and English, greater student and parent satisfaction, and decreased dropouts. Quality education and a healthy environment are two pillars that form the foundation of PAC involvement.

Physical activity is a means to achieve many health goals, as well as a means to achieve educational objectives within the health education (HE) and physical education curricula.

Physical literacy is a foundation for allowing children to be physically active during school time, during recess and in extracurricular activities. All HE/PE curricula in Canada are designed to provide an adequate level of physical literacy as an educational objective—this is no different from educational objectives for numeracy and literacy.

The first step is to engage the PAC to have physical activity and physical literacy on the agenda. This is the BACK PAC concept – the Parent Advisory Council is the Physical Activity Council. In other words a PAC within the PAC – hence a BACK PAC. In the initial stages of a BACK PAC program, it is important to:

1. Get physical activity as a standing item on the agenda of PAC.
2. Get the principal on side.
3. Invite the PE teacher, PE specialist or classroom teacher responsible for PE to the PAC meetings:
    a. Increase the parental understanding of the HE/PE curricular objectives.
    b. Ask who is not being engaged in the ongoing physical activity opportunities in the school—existing programs (like school sports) work for many children but not for all—often the ones at greatest risk of unhealthy behaviours (sedentary and over-consumption of food) are the ones not being engaged.

4. Engage recess as a time for physical activity for all elementary schools. The addition of unfixed equipment, well-maintained grounds with lines and markings, and volunteer training can make dramatic improvements in making recess fun, safe and **active**.
5. Discuss the role of PE in the development of physical literacy for children and how the school and the surrounding community (recreation, sport, etc.) can be engaged to achieve educational objectives.
6. Getting good fuel for an active lifestyle—often schools focus on healthy eating, which is an important element of a healthy lifestyle but it misses the joint importance of adequate PA each day for a child.
7. Explore other provinces and schools' approaches and select one item that you think you can bring to your school.

Manitoba Association of Parent Councils

The Manitoba Association of Parent Councils meets to enhance the quality of the school experience. Resolutions can be passed by the MAPC related to recess provision.

http://www.mapc.mb.ca

Manitoba Physical Education Teachers Association (MPETA) and Manitoba Physical Education Teachers Supervisors (MPESA)

1. Support PE teachers in their role in providing an active healthy school community including recess.
2. Create educational opportunities for PE specialists in relation to recess support.

Supervision and Leadership

Teachers or parent-volunteers normally provide adult supervision at recess.

Normally, recess supervisors are trained to enhance safety and reduce bullying.

Recess supervision training should be expanded to include activity leadership for promoting physical activity through play—a naturally fun experience.

Balancing safety and bullying with an active recess is a challenge, but without activity leadership training, the physical development of children will not be promoted at recess.

Musculoskeletal Injuries

Physical activity is associated with a higher risk of injuries such as cuts, scrapes, bruises, bleeding noses, sprains and strains. Even fractures and concussions will occur periodically after a certain number of hours of activity. It is important to minimize the risk of injury without restriction of physical activity levels. This is possible, and some steps to minimize risk include:

- a code of conduct for student play at recess
- a code of conduct for supervisors at recess
- training for recess leaders in fostering low organized games and activities
- explanation and demonstration of games prior to recess
- maintenance of play grounds
- availability of developmentally appropriate unfixed equipment (balls, ropes)
- creation of activity zones where certain activities are permitted

Parent Volunteers

Parent volunteers are offering their free time to assist in supervision. Clearly, they are performing this task with the intent to be a caring adult. Most parents will not be trained in methods to foster play in structured or unstructured ways. There are excellent training programs for activity leaders, which incorporate safety (injury and bullying) and active participation based upon the principles of healthy child development. To provide an enriched recess period it is strongly advised to provide parent volunteers with **play** training. Play training would mean they have an understanding of how to foster the participation in low organized games and activities that are suitable to each grade. Play training will provide the parent with games and activities that are participation oriented and inclusive.

One of the best ways to develop activity leadership for children is to encourage High Five (http://www.highfive.org) program certification.

Minimally, the parent volunteer or teacher responsible for recess supervision should have training in fostering games and activities, and have a suitable repertoire of games or activities at hand for the equipment dispensed at recess.

Teachers

Teachers acting as recess supervisors should have basic play training, which provides leadership skills in fostering play through games and low organized activities. Many online resources offer a variety of low organized games and activities suitable for recess. The High Five program (http://www.highfive.org) offers many games and basic training on fostering play at the recess age group. In addition, this type of training is helpful for in class activity breaks and indoor recess in the classroom.

PE Specialist Teachers

The PE specialist teacher has specialized training in conducting games and activities at this age group. The PE teacher has an opportunity to provide assistance in enriching the recess environment, assistance in development of recess activity plans, aid in training staff and volunteers, and advice on recess equipment. Choosing the PE teacher as a primary recess supervisor is not advised.

Recreation Leaders

Some schools have adopted the use of recreation play leaders, as a form of scholastic assistant, to supervise play during recess. These recreation leaders have typically completed play leadership training, such as provided by High Five.

A Recess Plan

Recess should not be an afterthought. The number—and timing—of recesses is known in advance. It is known that about 30 per cent of recess periods will be indoors. Planning is a key to provision of an enriched recess whether it occurs outdoors, in the hallway, the gym or the classroom.

Year Long Plan

The first step in event planning is the scheduling of the planning meeting itself and invitation of the appropriate staff, which should be well in advance of the school year. The first year, this will require additional time, but the time commitment will lessen as successful features of the plan reoccur.

The planning meeting should establish a yearlong recess event calendar. As well, this planning meeting can involve the creation of a:

1. recess code of conduct
2. recess bulletin or notification board:
    a. the code of conduct complete with disagreement resolution methods (rock-paper-scissors)
    b. major recess events
    c. the daily recess schedule
    d. a playground zone map
3. parent advisory letter on the recess plan
4. student recess suggestion process

Major recess events can be planned including, but not limited to:

- recess week:
    - a week celebrating the role of play during recess
    - all about kids having fun at recess
- recess games week:
    - a week featuring introduction of new, and refreshing old games
    - this could be performed a few times a year using a few recess periods
    - this is a critical element to recess success—teaching games and conduct—it should not be left to chance
- recess pedometer challenge:
    - a week of accumulating recess steps counts toward a school goal

- recess movement skills week:
  - a week of physical literacy programming using movement through obstacle course
- jump rope recess
- recess winter festival:
  - a week celebrating fun games and activities in the snow
- recess journaling:
  - a week/month of journaling in class after recess about the experiences during recess

Day-to-Day Recess Planning

A daily recess schedule should be created. This schedule can be simple at first, even if no major recess events have been identified. This schedule should list:

1. supervisors
2. student or adult activity leaders
3. students responsible for equipment collection
4. the games or activity motifs
5. the equipment provision
6. the zones for activities
7. the indoor recess contingency plan
8. linkages to the PE curricular offering

A day-to-day schedule should allow for rotation of equipment, rotation of games and activities, seasonally appropriate activity and equipment.

Indoor Recess

Indoor recess can come in many forms. It can occur in a gym, it can be hosted in the hallways, it can occur in the classroom. Where and how it occurs is dependent on the school and the supervision available.

The gym may not be a place where recess can occur due to disruption of equipment set for instructional use. Therefore, we have to think of novel ways to make recess a time to play in the classroom or hallways.

Fortunately, learning how to have a classroom activity break is similar to learning how to have an indoor recess. There are many resources emerging on the web for fostering in class activity breaks (ex: Instant Recess).

If one wishes to use the hallways, a rotating schedule of classes can avoid crowding. This would mean that on a specified rotation, some classes would have the hallways and some classes would have in class recess simultaneously. Knowing that about 50 indoor recesses will occur will mean that all classes will have the ability to play hallway games and activities, or perhaps choose the activities that interest them most.

Many basic items can be used for in class activity, such as:

- cup stacking kits
- juggling scarves
- giant cards for walking relays
- rubber floor spots with the alphabet or numbers
- plastic hoops
- cloth ladders
- foam blocks and bean bags with a catch bin

Each class can be equipped with an indoor activity break/recess kit.

Making a Hallway an Enriched Environment

Certainly, floor tape can be used to establish hopscotch patterns, ladders and lines for basic games. Walls can be painted to create movement patterns. Interestingly, if one enriches the hallway space, the transport of children from one class to another can become yet another opportunity to instil good social behaviour and enhance physical literacy, while providing an activity break between classes. Numerous class transport games can be used.

Walking the halls could be done around pylons, where the child executes a different movement between pylons (hop, skip or even follow the movement leader). The children could gather straws for laps completed (an indoor straw walk). This certainly fits within the activity enhancement mandate, but strays from it being play. Certainly, children would welcome occasional use of this type of approach.

A Recess Activity Plan

Below is an example of a winter recess activity plan for a single day. Creating a binder of recess plans will provide a legacy for changing recess supervisors.

AM recess

1. free play with a selection of dispensed unfixed equipment (winter recess bin)
2. free play using winter games of the month that students have learned

Adult goals:

- self-directed play for enhanced physical literacy, exposure to activity in snow
- social interaction opportunity and teamwork through games

Child:

- self-directed in activity, they may freely choose to participate in games

Lunch Recess

1. snow field stomp, and everyone scores snow soccer
2. options for opt out with unfixed equipment in an activity zone

Adult Goals:

- develop fitness—strength and endurance, cardiovascular fitness
- develop physical literacy while moving in snow
- accumulate moderate to vigorous physical activity

Child:

- free to choose snow stomping in any pattern or speed
- very low structure in game, option to come in and out of participation
- opt out for children with access to snow zone activity with supplied equipment

PM Recess

1. Straw walk—walk a 400 meter loop marked by pylons—straws dispensed for each lap completed (max three straws).

Adult Goals:

- Increase physical activity levels of children (complete laps).
- Increase physical literacy of children (different locomotor options between pylons).

Child:

- has option to choose movement patterns used to complete course sections
- has option to complete any number of laps
- has option to select company

End of Year Recess Review

A yearly meeting should be convened to discuss issues specific to recess including:

- recess mapping
- ground maintenance issues:
  - lines and markings
  - zone identification
  - fixed equipment
- unfixed equipment needs:
  - new equipment ideas
  - replacement of worn equipment
- training requirements:
  - new ways to encourage play:
    - positive messaging
    - getting active yourself
  - new games:
  - identification of student activity leaders and rotation of leaders:
- linkages to physical education

- indoor recess activity inventory:
  - classroom recess
  - hallway recess

Recess Mapping Exercise

Staff should observe recesses in fall, winter, spring and summer looking for general activity patterns:

1. What part of the playground is being used? What part is not?
2. Look for which activities are happening and identify what is not occurring that should be.
3. Where is the inactivity zone? Consider creating zones for different activities (skip rope area, line markings for four square, etc.) that are based upon the natural tendencies. These zones will change with the season, so make sure you take a look during winter as well.

Children should be involved in the process—ownership of the process leads to commitment and they will often have great ideas.

Recess Games

There are a multitude of recess games and activities available online, on DVD and in book form. Schools can create a resource binder or an online repository of games and activities. Most important is to have the recess leaders skilled in the promotion of the games, which means they would have had experience in playing the game. They should be familiar with activities that can evolve with the equipment dispensed at recess.

Learning games and activities, and how to facilitate them, are **key** to successful recess. Below is a section devoted to resources on suitable games for recess. In-services should be created to teach supervisors games and suitable adult-child interactions for fostering play.

Games and Activity Resources for Recess

Healthy schools ***in motion*** resources, pedometers, Geocaching Loaner Program, and equipment
www.manitobainmotion.ca/schools

Push to play games
www.sk.bluecross.ca/push2play

Tips to make recess work
www.playworks.org/make-recess-count/parents/six-tips

Recess games
www.playworks.org/games

Playground layout
www.mels.gouv.qc.ca/sections/viragesante/pdf/fiche5_en.pdf

Equipment and games
www.ciraontario.com/content/RecessRevival.pdf

Recess procedures document
www.montgomeryschoolsmd.org/uploadedFiles/schools/maryvalees/about/pbis/Cougar_Code_Outline(2).pdf

Recess guardians
www.recessguardians.com/games.html

Games
www.movementskillsmanitoba.com/index.html

Old school games
www.ciraontario.com/content/downloads/ActivePlaygrounds.pdf

Games with a Purpose DVD, Coaching Manitoba
www.coachingmanitoba.ca/page.php?id=112

More Games, Coaching Manitoba
www.coachingmanitoba.ca/page.php?id=112

Action schools BC playground circuits
www.actionschoolsbc.ca/Content/Quick%20Links/ASBC%20Playground%20Circuits.asp

Chicago Recess Readiness Guide – Chicago Public Schools
http://cps.edu/News/Newsletter/Documents/Recess%20Readiness%20Guide%20-%20A%20Comprehensive%20Guide%20to%20Effective%20Recess%20Implementation%20(v1.0%20-%208.3%20-%20FINAL)%20(1).pdf

Equipping the Recess Environment

The outdoor recess environment (playground) includes open areas (grass, gravel or asphalted surface), the play structure(s) and other fixed equipment (basketball hoops, tether balls, etc). In the winter, some of this equipment becomes unusable, and snow can be used to create playground features (berms, rinks, etc.).

There is good evidence and plenty of anecdotes to support the idea that unfixed equipment and markings enhance physical activity during recess.

Unfixed Equipment

Unfixed equipment comes in many forms and a perfect recess kit does not exist. The recess kit should not come from the PE inventory. The recess equipment must be standalone. Budgets should be created to maintain these kits. Storage of the items is important to consider. Storage normally consists of large plastic bins on wheels, large equipment bags, caged carts, etc. The storage containers should be easy to move, easy to empty and easy to load. Verifying contents should also be easy. An equipment checklist should be affixed to the container.

Normally, kits contain items like:

- basketballs
- rubber volleyballs
- flying discs
- foam soccer balls
- foam footballs
- rubber play balls
- rubber bases
- flexible pylons or cones
- short skipping ropes
- long Dutch jump ropes
- hula-hoops
- sidewalk chalk

All registered ***in motion*** schools have received an activity bin full of equipment—this can be part of your recess kit.

Visit Action Schools BC at **http://www.actionschoolsbc.ca/Images/Top%20Menu/Classroom%20Action%20Bin%20%28K%29.pdf** for an example of what your recess equipment bin content checklist could look like.

Lines and Markings

On asphalted surfaces, as well as walls, the addition of colourful markings suitable for activity or games has been shown to enhance the recess experience. These can take the form of four square, number line, hopscotch, ball hopscotch, multi-use circle, targets on large walls, bean bag toss, number square, balance beam lines, permanent ladders, etc. Non-permanent markers such as pylons and poles are also very valuable in setting activity zones or courses (a route for walking or running, or an obstacle/activity course).

Grounds

The more green space the better is the general rule. The surfaces should be well maintained and free from divots and cracks. Creating courses through a playground with marker poles or pylons can be handy for activity sessions during recess.

In winter, snow can be used to create berms of a meter or less in height (not hills—**avoid** king of the castle) for play. Snow can also be packed down by students (snow stomp) to create wonderful winter soccer fields. Regions of a field can be coated with a light layer of water, to create frozen surfaces for jam pail curling. Many games can be played on snow, including cricket, soccer, snowball rolling, sculpture creation, snowshoeing, etc.

Pedometers at Recess

Having classroom size pedometer kits in a school has many advantages. These devices are very useful for learning in PE class, for general physical activity tracking during the school day (has science, numeracy, health and physical education elements), as well as useful in recess settings.

The modern day pedometer uses an electronic device to detect steps when worn around the waist. Caution—not all pedometers are created equal. Older pedometers have a mechanical device inside akin to a jellybean that is used to detect steps. These older mechanical pedometers are not as accurate as the new electronic ones. They don't detect slower steps. They detect different numbers of steps depending on whether you wear them on right or left sides. Getting pedometers for your class that fit securely and read accurately will prevent frustration.

You can get electronic pedometers in wonderful classroom kits. Visit **www.manitobainmotion.ca** or **www.stepscount.com**.

What grades can use a pedometer?

Pedometers are well suited to Grade 4 and up. However, for a single recess or possibly for a school day, it is feasible to have the Grade 2 and 3 students wear them.

How to use a pedometer at recess

During recess, it is best to use the pedometers one class at a time. Teachers should instruct children on how to use them in a classroom setting. It is best to learn to use a pedometer for the first time in the gym or the hallway. Teach them how to affix it to their pants or clothing, then teach them to **zero** the pedometer (reset it). Then have them take 20 steps (counting quietly to themselves). They should then open it and see how many steps the pedometer actually counted. As long as it is close—you are good to go.

Get the children to reset the pedometer just as recess starts (typically done indoors). Then ask them to see how many steps they can get during recess.

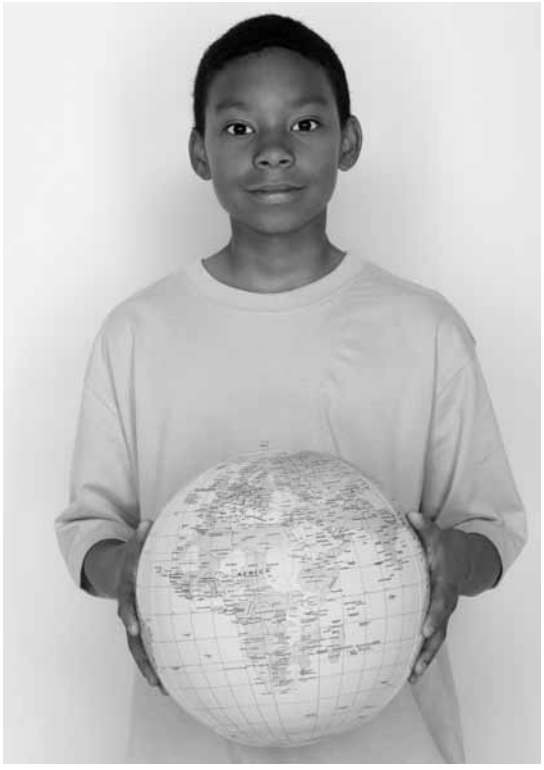
Tallying all the steps taken by all students during recess and converting this to a distance (how far they collectively walked) can be helpful. You can create a challenge to walk to a location as a class (walk around the world—ambitious, walk to another city, walk across a lake, etc.). All the steps from all the children are summed and converted to distance travelled. Over a series of recesses, you can track progress in class on a map—teaching numeracy and geography in the process.

Helpful Info: You can estimate the length of a step of a person by simply multiplying their height by 0.4. Therefore, a one-metre tall 10 year-old, would have an estimated step length of 0.4 meters.

Student	Steps
1	650
2	1253
3	1710
4	845
5	555
6	490
7	902
SUM	6405
AVG HT	1.1
AVG STEP	0.44
DIST (KM)	2.8

Pedometer Challenges

Pedometer challenges are handy to run each year to promote physical activity. A school could have a collective objective of walking around the world at recess. Some level of rivalry is permissible (but not between classes). Below is a rivalry based pedometer challenge that ran for 16 weeks between three schools in three different countries. The challenge ended when the three schools walked the circumference of the earth. You can easily see the result was a dramatic increase in physical activity. The step count guideline for children is to exceed 15,000 steps a day. Your pedometer challenges do not need to be as prolonged as this.



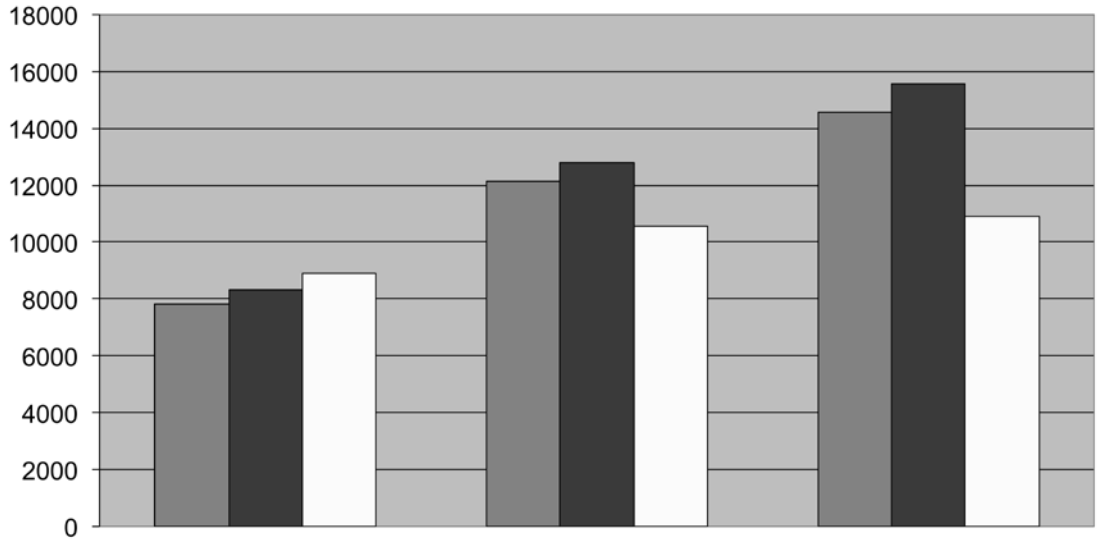


Figure 6. A 16-week pedometer challenge to walk around the world. Clusters of bars represent start, middle and end of the program. Three schools participated. One from Sweden, one from USA, and one Canadian. The children in Grade 6 wore pedometers and recorded the school day steps each day, resulting in an increase in steps from 8000 steps per day to over 14000 per day for both USA and Canadian schools.

Recess 101

The following are key steps to providing an enriched recess.

1. Purchase unfixed equipment (ball, ropes, etc.) using a recess equipment budget. Seek advice from the PE teacher on appropriate equipment.
2. Purchase a moveable storage bin (wagon, plastic drum on a dolly, bag, cage on wheels) for storage of equipment. Find a storage location. Establish a method with students to secure equipment at the end of recess.
3. Create a code of conduct for recess and have classroom teachers explain the code in a class.
4. Recess supervisors should have training in fostering games, as well as activities that are possible with the playground equipment (fixed and unfixed). Learning how to foster games can occur in less than an hour.
5. Create a binder of recess games and activities. The binder should contain various single-sheet **activity plans** for a typical recess.
6. Recess games should be taught to the students during instructional time.

7. Equip teachers with indoor games and activities that can be performed in class or in hallways for indoor recess days.
8. Make recess bullying free and safe while still making it fun and active.

BOTTOM LINE

Learn games and recess activities for both inside and out-of-doors. Provide unfixed equipment. Be encouraging.

Date

Dear Parent,

The school year has started, and what a great time to tell you about our enriched recess plan.

Recess is an important part of your child's day, and we are working to create an enriched environment at recess for all the students in our school.

Recess is a time for play, but recess also offers a window of opportunity to develop social, intellectual, emotional and physical abilities! Research has shown that an active recess will improve children's behavior in class, as well as reduce negative events such as bullying. Research has also shown numerous positive benefits physically (movement skills), intellectually (problem solving) and emotionally (self-esteem).

Our recess supervisors have training in anti-bullying, as well as leadership training for facilitating play and low structured games. We want you to know that we do not withhold recess for punishment or for homework.

We are asking you to assist us in making recess a fun, safe and active time for your child. This can be as simple as asking your child about his or her recess experience. We have a recess code of conduct that is attached for your review.

This year our recess plan involves:

Insert your recess enhancements here ... you only need a few. Below are some examples.

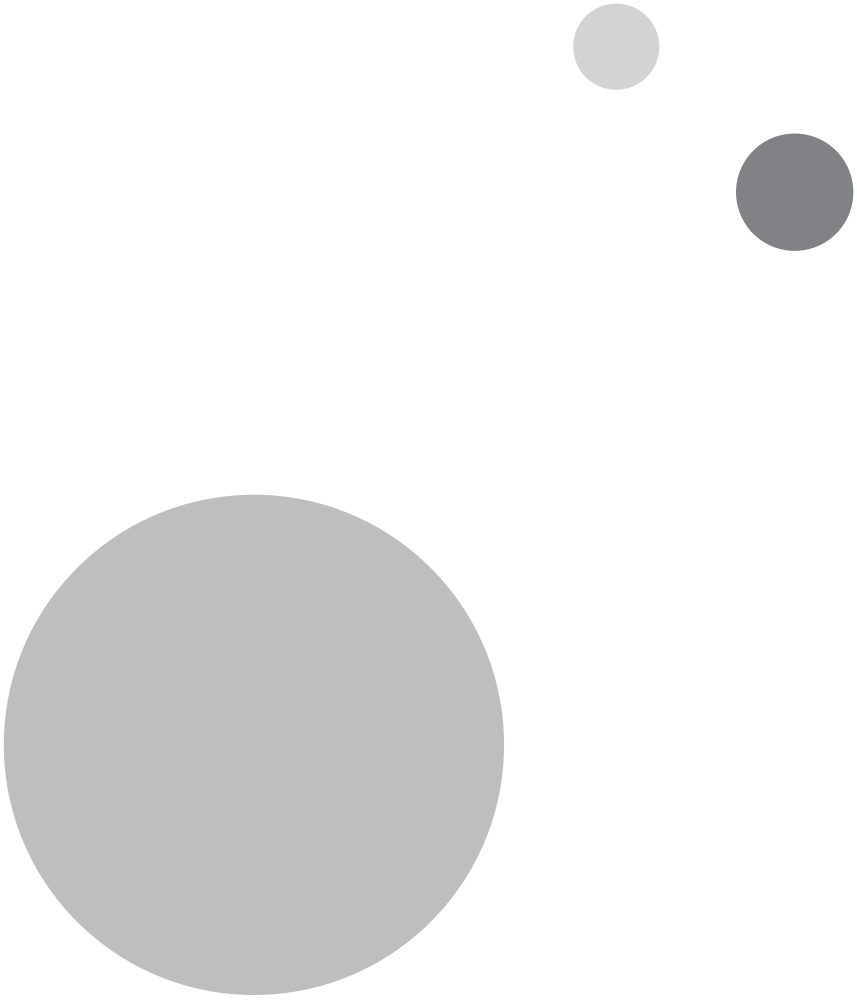
- Recess before lunch (reverse recess)
- A recess map showing activity zones (attached if you have one)
- New unfixed equipment like balls and ropes
- Recess ambassadors (children from Grade 5 responsible for equipment and games)
- Recess Games Week
- New asphalt markings (four square, hop-scotch, etc)
- Winter recess carnival
- Recess Straw Walk
- Jump Rope Recess
- Indoor recess activity plan (cup stacking, hallway activities, etc).

We welcome any feedback that you might have about recess, and encourage you to attend recesses, and if your time permits to participate in improving our schools recess experience through our parent advisory council.

Actively yours in education,

_____ _____

Principal Parent Advisory Council



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