

# **SIMPLE STEPS TO SUCCESS**

A guide to using pedometers with young people



# FOREWORD



International recommendations state that children must participate in at least one hour of cumulative moderate activity on most days of the week. One hour a day is considered the minimum needed to provide direct health benefits, learn and practise a wide range of activities, and live actively as a daily habit.

In order to maximise the impact of these and other related programmes requires the commitment and joint-working of a number of individuals, groups and organisations. These partnerships, both local and national, are essential in the drive to improve the health and physical activity levels of Scotland's children and young people.

*The promotion of physical activity in children and young people is integral to preventing poor health and promoting positive health in both childhood/adolescence and adulthood. There is evidence that physical activity in childhood is related to general cognitive functioning and academic achievement in school. Studies show that active children are less likely to smoke or to use alcohol or illegal drugs than inactive children are.*

The Scottish Government is committed to continuing to improve activity levels in our children and has set a long-term target that by the year 2022, 80% of all children will be meeting the current physical activity recommendations.

Pedometers are increasingly being seen as an exciting and effective way of increasing physical activity levels in both adults and children. This resource seeks to offer guidance about effective ways of planning, implementing and evaluating a child-based pedometer project. It should prove invaluable to those either setting out on a new project or to those who are already using pedometers to encourage physical activity and I have no hesitation in recommending it as a tool that will help get our children more active.

To meet this ambitious target will require significant sustained investment. We continue to support the extremely successful Active Schools programme, will be supporting the roll-out of pre-5 Play@home physical activity resource, will be taking forward three national programmes to support physical activity in adolescent girls and will continue to invest in programmes and infra-structure that encourage children to walk or cycle to school.

*M. P. Lowther*  
**Mathew Lowther**

**National Physical Activity Policy Co-ordinator,  
Scottish Government**

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## INTRODUCTION

Welcome to 'Simple steps to success: a guide for using pedometers with young people'. This guide is aimed at all those, either in school or in a community setting, who are interested in using pedometers as a tool to support children and young people.

The guide draws from recommendations made within research published by the University of Edinburgh's Child and Adolescent Health Research Unit (see section 9) in May 2007. This recognised that many agencies are using pedometers with young people but that there have been limited opportunities to share that practice or its impact. The research included a literature review, scoping study and detailed case studies. The main findings were that:

- pedometers provide an easy-to-use, accurate, objective and low-cost measure of physical activity
- they are effective as motivational tools when used alongside personal goal-setting and feedback
- they are enjoyable tools that can increase both activity levels and awareness of the need for activity amongst young people.

However, the research did highlight some of the difficulties and uncertainties of using pedometers. This guide tackles those issues and suggests ways of overcoming them as well as highlighting the benefits of using pedometers with school-age young people.

It also reflects the views of a group of practitioners who have experience of using pedometers with young people and shares advice, ideas and examples of what makes pedometer use most effective.

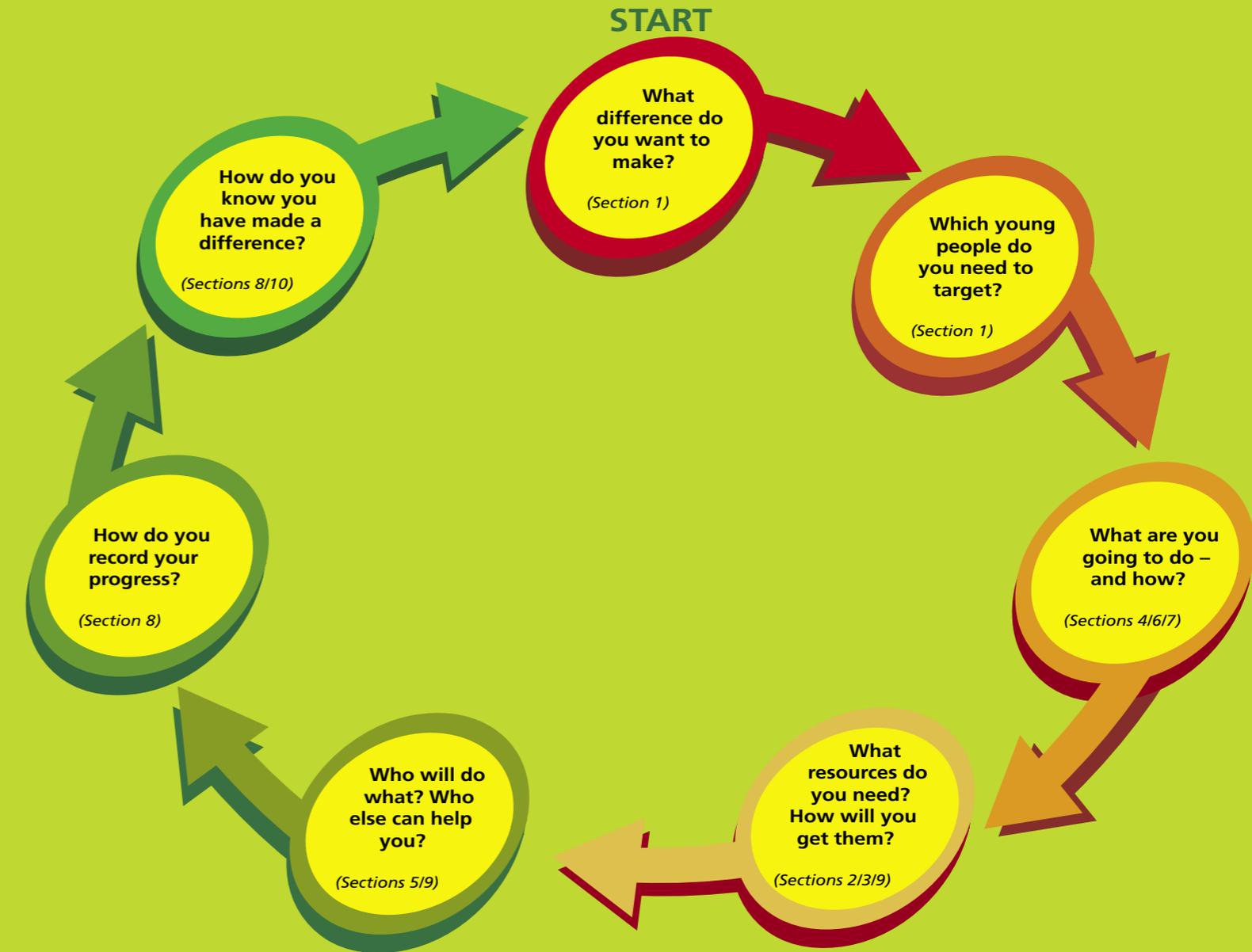
### How to use the guide

The guide is divided into ten sections that take you through the steps of planning, implementing and evaluating a pedometer project. Each section explores some key messages, information and ideas for schools and community settings as well as examples and quotes from practitioners.

In addition, the appendices offer templates and information to share directly with the young people and with their parents/carers. These templates can also be downloaded from [www.pathstohealth.org.uk/pedometers](http://www.pathstohealth.org.uk/pedometers) so that you can adapt them to suit your local setting.

In your eagerness to get going don't forget that effective projects need time for planning, preparation and follow up if they are to have the impact you desire. Use the following model to support your implementation process.

## IMPLEMENTATION MODEL



## SECTION 1

why use pedometers, and with which young people?

Before you decide which young people you are going to target, you need to be clear about why you are choosing to use pedometers.

Being clear about why you want to use pedometers will help you as you work through this guide. Pedometers are a useful tool if you:

- want to raise young people's awareness of the amount of physical activity they do
- want them to increase their levels of physical activity
- want to focus on walking, either recreational or as a means of transport
- want to make links between physical activity and other projects e.g. cross-curricular links, health promoting schools or environmental awareness
- are concerned about the health and well-being of a particular group e.g. inactive or overweight young people.

*"I don't think children realise how much physical activity they should be taking part in on a day to day basis. By measuring their steps and having an idea of how many they should be doing it gives them a clear indication of where they are and where they need to be."*

*Active Schools Co-ordinator*

The positive benefits of physical activity for young people are well known. It can:

- promote healthy growth and development
- maintain the energy balance (and so encourage a healthy weight)
- help avoid risk factors for coronary heart disease
- reduce anxiety and stress and raise self-esteem
- promote social interaction, achievement and mental well-being
- improve social and moral development
- help to improve cognitive functioning and academic achievement in school.

Current recommendations suggest that young people should take part in at least one hour of moderate-intensity physical activity each day to be healthy.

Walking is an ideal form of physical activity that can be easily integrated into young people's lives and pedometers provide a simple, effective way of measuring how much walking-type activity a young person does. They are relatively cheap, easy to use and provide immediate feedback on a young person's progress. Pedometers provide a good starting point in making young people aware of how much physical activity they do currently and in motivating them to increase their levels of physical activity over time.

Research\* has suggested that daily step counts of 12,000 (girls) and 15,000 (boys) are associated with normal weight for height and that, on average, young people achieving fewer steps than this on a daily basis are at a higher risk of being overweight. However, this is just a guide and section 6 explores the importance of each young person setting their own personal targets. This is more important than following national recommendations.

\*Tudor-Locke et al. 2002

*"There was evidence to suggest that the project particularly appealed to, and increased the activity levels of, the more sedentary children as the biggest increase in steps was found among the least active pupils."*

*Schools on the Move*

Once you know what you want to achieve, targeting the young people will be easier. Experience suggests that:

- all young people may benefit from using a pedometer especially the least active
- those who do not usually take part in PE or physical activity will engage through using pedometers to increase their activity levels
- younger children (under 8) may find the numbers confusing
- older young people (over 13) respond best if they're involved in designing and developing the whole project as they may find the pedometers per se less "cool"
- young people who have mobility impairments (e.g. walk with an uneven gait) may not register accurate steps (section 3 explores alternative options)
- wheelchair users need to use alternative methods of recording their progress (section 3 explores the options)
- it is feasible to involve a larger group of young people (e.g. a whole class) whilst providing additional support to targeted individuals within that group (e.g. the least active).

It is also worth remembering that one of the attractions of pedometers for young people is their novelty. If your targeted group has used them before, perhaps through other projects, they may no longer have the same freshness and effect. However, even if the novelty factor declines over time, there is some evidence to suggest that pedometers do instigate sustainable lifestyle changes.

Remember too that their attraction may depend on what you are using them for. A cross-curricular project (e.g. 16 year olds using them to support a maths project) will engage young people in a different way to a physical activity project (e.g. 10 year olds using them as part of a walking scheme).

*"Teachers in the school were impressed by one pupil in particular who is normally fairly lethargic and inactive. He was very keen on the project...the head teacher commented on how his energy levels had increased and that she could see a real difference in him."*

*Active Schools Co-ordinator*

Whoever you decide to work with, it is essential that they know what the project is about and what they are trying to achieve before you start issuing pedometers. Appendix 1 provides a simple information sheet that you can adapt and use with young people.



## SECTION 2

how do pedometers relate to the wider context?

Experience suggests that a pedometer project is most effective, and easier to manage, when it supports wider areas of work. Relating your project to other outcomes can help to:

- win support from managers and decision-makers
- raise the profile of your project
- find additional funds and resources
- involve colleagues and other partners
- gain support from parents/carers
- make it more relevant for the young people.

A pedometer project can help deliver outcomes from within key national strategies.

### Strategies for schools and community settings

- **Let's Make Scotland More Active:** the national strategy for physical activity has a vision that "people in Scotland will enjoy the benefits of a physically active lifestyle" and aims to increase and maintain the proportion of physically active people in Scotland. It emphasises that all children and young people should be encouraged to take part in physical activity for at least an hour a day including play, sports, dance, exercise, walking and active everyday tasks. Families, schools, leisure providers and voluntary organisations are recognised as key partners in achieving this goal. Visit [www.scotland.gov.uk](http://www.scotland.gov.uk) for the details.
- **Reaching Higher:** increasing participation is one of the two key outcomes of the national strategy for sport and encourages schools and community providers to ensure young people have the basic skills required to enjoy lifelong participation. Visit [www.scotland.gov.uk](http://www.scotland.gov.uk) or [www.sportscotland.org.uk](http://www.sportscotland.org.uk) for the details

### Strategies for schools

- **Curriculum for Excellence:** this is central to the government's education reform and aims to improve the learning, attainment and achievement of children and young people, on a broad front and not just in terms of exams. One of its key purposes is to enable all young people to become confident learners with a sense of physical, mental and emotional well-being and able to pursue a healthy and active lifestyle. It stresses that it is the responsibility of every teacher to contribute to learning and development in the area of health and well-being. For more information visit [www.curriculumforexcellencescotland.gov.uk](http://www.curriculumforexcellencescotland.gov.uk)
- **The Schools (Health Promotion and Nutrition) (Scotland) Act 2007:** came into being in January 2008 and imposes duties on the Scottish Ministers, education authorities and managers of grant-aided schools to endeavour to ensure that public schools and grant-aided schools are health-promoting. This involves a whole school approach to promoting the physical, social, spiritual, mental and emotional well-being of all pupils and staff. Guidance to support the implementation of the Act will be available in 2008 and includes guidance on the delivery of physical activity within a health promoting school. Visit [www.healthpromotingschools.co.uk](http://www.healthpromotingschools.co.uk) for more information.

*School travel plans: all schools should have a school travel plan that promotes healthy and environmentally-friendly travel choices, including walking (where appropriate) and involves pupils, parents and staff. For details visit [www.saferoutestoschools.org.uk](http://www.saferoutestoschools.org.uk)*

Whilst it is important to link pedometer use to health and well-being, don't forget to consider other ways in which pedometers can support young people's learning and development. (See section 6 for ideas of how links can be made.) They may include:

- **independent thinking and learning skills:** enabling young people to design, run and evaluate their own pedometer challenges
- **social and team work skills:** encouraging young people to work together in teams or as peer-mentors as part of a pedometer project
- **cross-curricular links:** using pedometers to generate data for maths and science; relating steps travelled to real journeys for geography or history; surveying travel trends for PSHE; designing data logs and maps for art and design etc.
- **environmental or cultural projects:** investigating walking as a means of sustainable travel; comparing lifestyles with young people from other countries and cultures etc.
- **family learning:** using pedometers to generate family interaction and activity by setting family step targets - encouraging young people to be role models for their siblings etc.
- **school to community links:** working with other partners on your pedometer project can help to raise young people's awareness of where and how they can take part in a wide range of activities.

### Example

One secondary school ran a pedometer project through geography as part of the Eco Schools Award scheme. The pupils, aged 16-17, used the pedometers to measure step counts, distance and calories burned as part of their investigation into the benefits of walking to school instead of travelling by bus or car. Pupils also plotted their home-school distances on a large-scale map in order to explore the concept of 'sphere of influence'. Some pupils expanded the project and set themselves personal challenges such as measuring distances travelled within the home compared to journeys outside.

This work linked to a number of policies such as Eco Schools, school travel plans, the Curriculum for Excellence, independent thinking and learning skills, cross-curricular links and community awareness.

For more information on Eco Schools go to: [www.ecoschoolsscotland.org](http://www.ecoschoolsscotland.org)



## SECTION 3

which pedometer to choose? how to use it?

A pedometer is a compact electronic gadget that records steps based on the body's movement. It accumulates steps until the counter is reset. All pedometers measure the number of steps taken; some may also convert this into distance travelled (e.g. in metres or kilometres) and/or energy expended (as calories burned). They can vary in price from around £4 up to £30.

There is a wide range of pedometers on the market so it is worth taking time to consider which pedometer is the best model for your project and how you will ensure the young people use it properly.

Generally, the more expensive the model the more features it will have e.g. steps, distance, calories, speed, time and memory. Unless your project wants to use a range of data, such as calories burned, it is best to opt for a simple but reliable model that just counts steps. It can be useful to use a model that shows distance as well as steps but be aware that, as each person's stride length differs, you will usually need to validate them before starting. This does require extra work, particularly if they are being used by younger children. If you do decide to use a model that provides a range of data, make sure you know how you will collect and analyse this data before you pay for something you don't need or have not time to use effectively.

Pedometers are often available in bright colours, which can be more attractive to young people, and, for some models, a lanyard can be attached for extra security in fixing it to clothes. Young people could also attach stickers to make them more attractive. Some models come with the battery inserted and an extra one supplied. This definitely saves time when you are issuing the pedometers for the first time!



When you are choosing a pedometer consider:

- if they will be kept by or loaned to the young people
- what data you want to collect (and can realistically use)
- how simple it is to use and read
- if you need 'child-friendly' extras such as bright colours or lanyards
- if the battery is already installed and a activation tab in place
- does the price include a spare battery

Then:

- check with local contacts what models worked (or did not) for them
- buy a trial batch; ask some young people to test them
- see if you can negotiate a reduced cost for a bulk order.

*"I've had pedometers that do kilometres and calories and all that and you can't work them properly. I'm just interested in how many steps I walk and that's it, it was nice and easy to work."*

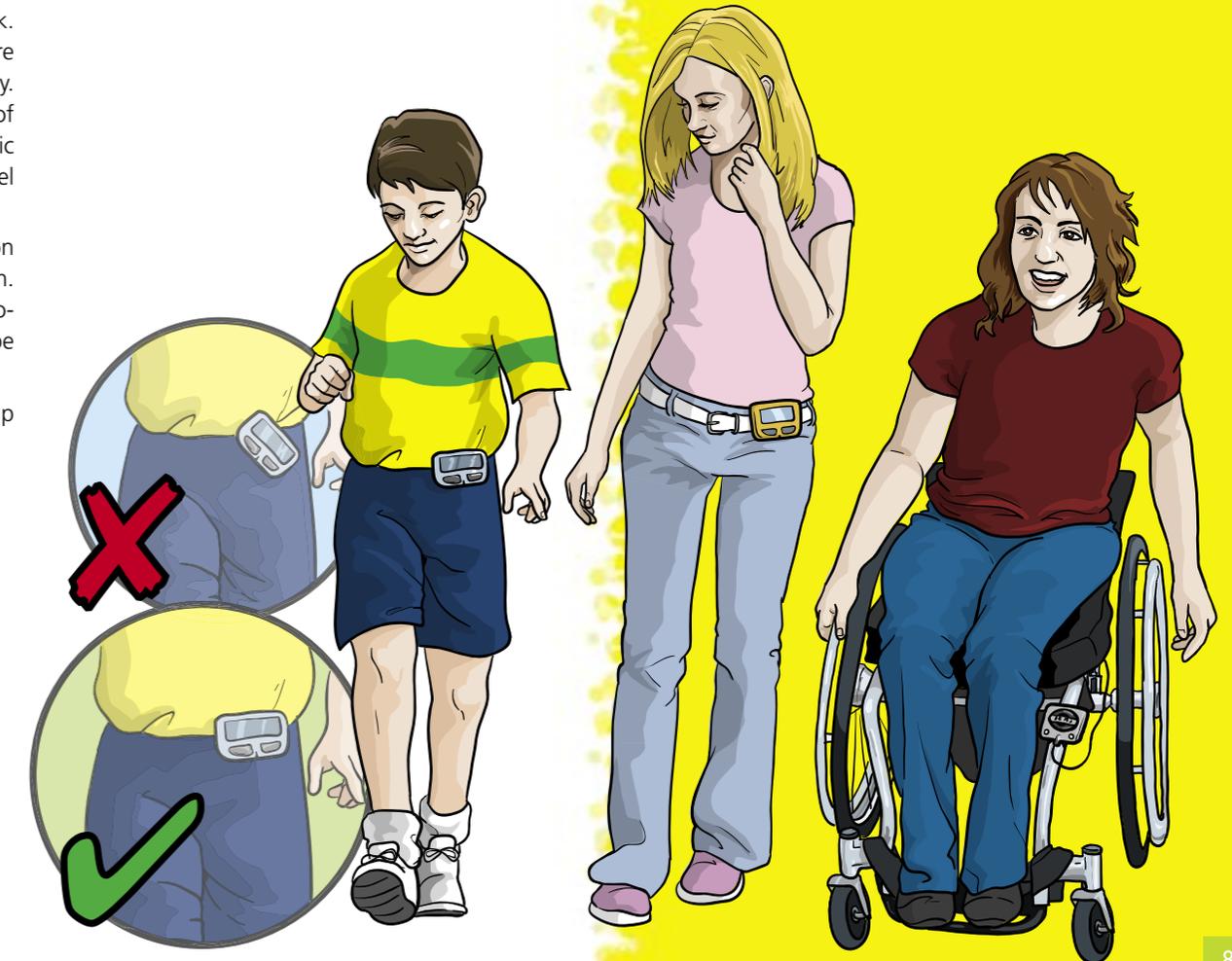
*Young person*

### Where do I wear my pedometer?

Pedometers are usually worn on the waistband, in line with the knee. Alternatively, they can be worn on the top of a knee-length sock or ankle sock. Ask the young people to check that their steps are registering and adjust the pedometer if necessary. Wheelchair users can use an odometer instead of a pedometer. An odometer is a similar electronic gadget that can be attached to the rim of a wheel to measure distance travelled.

Paths to Health (see section 9) can offer advice on which pedometers to use: [www.pathstohealth.org.uk/pedometers](http://www.pathstohealth.org.uk/pedometers) whilst an Active Schools Co-ordinator or School Travel Co-ordinator may be able to advise on sources of local funding.

Read the following questions and answers to help you to use the pedometers effectively.



### How do I get started?

Take time to explain how the pedometer works and enable the young people to test and become familiar with them before you start recording steps for real. You could do a short group walk, with checks along the way, to see if everything is working.

### How do I set up my pedometer?

Setting the pedometer depends on the type you are using and what data it collects. Simple pedometers do not require you to calculate stride length and you only need to test that it is registering step count. However, some pedometers will ask you to programme stride length; each pedometer will give you specific instructions on how to do this.

Regardless of the type of pedometer, you can test them by counting 100 steps and comparing it to the pedometer's count and adjusting accordingly. However, pedometers are 'consistently inconsistent'. If it over or under estimates steps, it will do it consistently so an individual's data will not be affected unless compared to other people's.

### What if it isn't registering?

The pedometer may not register steps if a young person has an uneven gait or walks particularly slowly e.g. if they have a mobility impairment. Similarly, a pedometer will only measure walking type activities; it cannot measure physical activities such as swimming or cycling. Nor does it measure intensity of activity. Furthermore, some schools or clubs may ask the young people to remove their pedometers as a health and safety precaution for activities such as invasion games (football, netball, rugby, hockey etc.).

### What about other types of activities?

If you want to encourage young people to record all of their physical activity you can use an activity converter as an alternative or addition. This assumes that 10 minutes of moderate-intensity activity equates to approximately 1,000 steps. So, if a young person cycles to school for 20 minutes she/he could add 2,000 steps to her/his daily step total.

### How long should I wear it?

This depends on your project. You may only want to wear it for one walk or during the school day. A pedometer should be worn from first thing in the morning until last thing at night if you are recording daily step counts or taking a baseline. It should not be worn in the shower, bath or while swimming! See section 4 for more information.

### How do I calculate baseline step counts?

Young people need to record their steps over a minimum of 4-5 days to establish a realistic baseline; ideally this will include weekend activity as well as weekdays. See sections 4 and 6 for more information.

### How do I record steps?

This depends on your project. Read section 6 for ideas and refer to appendix 3.

### How often do I re-set it?

Although the pedometer will continue to accumulate steps until it reaches its limit (on some models this may be 99,999), it is better to encourage the young people to record their daily total and reset the pedometer for the start of the next day.

### What if I cheat and just shake it?

Few measuring systems are foolproof so it is important that the issue is addressed at the start of the project. Make sure the young people are aware of the project's aim so that the step count has real meaning for them. Relate cheating to wider issues around fair play, honesty, integrity and citizenship. Stress the non-competitive nature of the project; it is about personal challenge and progress not comparing and competing against others. If a young person persists in cheating, limit or dock their number of steps (4,000 for a day) or ask the young people to suggest penalties that they all sign up to. Realistically, though, some young people will continue to cheat.

### What if I lose or break it?

No gadget is foolproof and it is very likely that you will need to replace pedometers that have been lost or broken. Some settings allow for 20% turnover. Try to use your initial budget to set aside some spares. Some ways to address these issues with the young people include:

- giving the pedometer project 'status' so the young people feel privileged in using one
- staggering the pedometer's use i.e. school/setting use only at the start, working towards the young people taking them home at evenings and weekends
- asking the young people to pay a small deposit towards the cost of the pedometer, which can be refunded at the end of the project if the pedometer is returned intact
- asking parents/carers to fund replacements, if appropriate
- buying the pedometers with funds raised by the young people; this may give them a greater sense of ownership and responsibility
- keeping a supply of spare batteries centrally
- using the activity converter as an emergency alternative or allocating the young person a set number of steps (4,500 for a day).

*"We decided that we would base our results mainly on the steps taken because this was easier for pupils to understand. The distances varied according to the stride length of the individual...at this point it gets very complicated. We then asked ourselves, regardless of stride length, would we all become more fit if we each walked more steps each day. The answer was yes. On this basis we decided to concentrate on steps only."*

*Principal teacher, PE*



## SECTION 4

when, and for how long, should they be used?

Clearly, the purpose of your project will help to determine when and for how long you run it. Is it just to raise awareness? In which case, a week may be sufficient. Is it to create long-term behaviour change? In which case, you may need to run the project over 12 weeks to see significant change.

*Primary schools in the Western Isles (Eilean Siar) identified September as ideal for their pedometer project as it is usually one of the driest months. Unfortunately, September 2005 was an exception and persistent rain affected the children's opportunities to be active. Creative ways, such as offering bonus steps for active playtime, swimming and PE, had to be found to counteract the effects of the bad weather.*

Experience suggests that:

- young people need to record their steps over a minimum of 4-5 days to establish a realistic baseline; ideally this will include weekend activity as well as weekdays
- including evening and weekend activity will provide a much more realistic picture of young people's overall activity levels
- it is more likely to engage parents/carers if young people use them at home
- novelty is a key motivator so don't expect the young people to use their pedometers daily over an extended period (no more than 12 consecutive weeks), however
- revisiting the pedometers is a good way to reinforce messages and/or assess behaviour change e.g. 6 weeks on/ 6 weeks off over an 18 week period
- linking the pedometers to other initiatives is a good way to encourage their use e.g. walk to school weeks
- the time of year may have a significant effect on young people's activity levels so think about what you are trying to show; should you revisit the project in a different season to compare behaviours?
- it needs to be built into longer term plans (e.g. school development plans, schemes of work etc.) if it is to have whole school ownership and impact so think about annual planning schedules.

*A secondary school ran a pedometer project as a means of assessing and raising pupils' fitness following staff's concern that fitness levels had fallen significantly. Participants wore their pedometers all day for as many days as possible for a month and recorded the results, noting differences between weekdays and weekends.*

*The evidence has helped PE staff to target their interventions and restructure the curriculum to meet the needs of less fit pupils. Originally the department planned to use the pedometers on an annual basis but had underestimated the work entailed in collating and analysing data.*

*Consequently, the pedometers will be used as part of a five-year cycle to track collective rather than individual progress. This will help the department to continue to adapt its practice.*



*One secondary school decided to target two different year groups: S4 and S1. The senior pupils took part in the project for the first month and then 'adopted' a junior pupil, supporting them through the next month of the project. In this way the older pupils helped with data collection and analysis (as part of their IT course) whilst the buddy system motivated both sets of pupils to take part in more physical activity as, generally, the younger pupils were more active. The school is now in discussion with a neighbouring primary school to look at the S1s supporting the P6 pupils as part of a primary/ secondary transition project.*

As with any new or additional project, using pedometers can create extra work for the organiser. In particular, once the project has started, there's a need to manage the pedometers (especially if you are collecting them in at the end of each day or session), support the young people to record their steps, collect and collate the data and analyse the results. You will also need help in promoting the project and keeping key people involved. Consider who else is available to help you before you even start. Use the guidance in section 2 to identify what broader outcomes your work will help to achieve and use those as advocacy or recruiting tools.

## SECTION 5

who else can be involved?

### In-school support:

- senior managers – to ensure profile and resources
- other teachers – all of whom have a responsibility for pupils' health and well-being
- primary physical education specialist
- classroom assistants – to help pupils record steps or collate data
- school nurses or other health practitioners – to support work with targeted pupils
- Active Schools Co-ordinator – to offer co-ordination, support, guidance and, sometimes, access to funding
- School Travel Plan Co-ordinator – to make links with walking to and from school
- older pupils – to act as buddies, mentors and role models for younger pupils
- parents and volunteers – to support their children and/or help manage the data.

### Community-based support:

- sports development officers – to link to other initiatives
- leisure facilities – to make provision for sport and physical activities
- youth workers/ leaders – to engage the young people and offer 'alternative' activities
- health workers – to identify young people and offer additional resources
- community dieticians – to make the links to healthy eating.

## SECTION 6

### what keeps the young people going?

Pedometers are useful tools but the research (see the introduction) shows that they are most effective when used in conjunction with individualised goal-setting and self-monitoring techniques. For longer projects, especially those that seek to increase young people's levels of activity, there is also a need to maintain the young people's interest over time. This section explores some ideas for engaging and maintaining young people's enthusiasm to use the pedometers.



#### Getting started

Involving young people from the start of the project is a good way to create commitment. Clearly this will vary according to the age of the young people but may include:

- talking to young people about the purpose of the project – why you are doing it
- providing the young people with information (see appendix 1)
- involving the young people in planning and designing the project e.g. agreeing when, where and for how long it will happen
- consulting with young people about the choice of pedometer; asking them to test some models and offer their views
- allowing the young people to customise their pedometers e.g. add stickers
- making sure the young people are familiar with the pedometer before you start
- introducing the pedometers as part of a fun activity session; depending on the group this could be aerobics, a nature walk, a trail, a 'nightline', orienteering or measuring the school perimeter in steps
- linking the pedometers to other initiatives e.g. walk to school week
- notifying parents/carers of the project (see section 7 & appendix 2)
- having a launch to give the project and participants, a high profile.

#### Setting goals

If you are using the pedometer as a tool to increase levels of activity, you will need to make sure that you establish a baseline (how many steps the young people do normally) so that they can set personal targets. It is advisable to record steps over a minimum of 4-5 days for an accurate baseline and, if the young people will be using their pedometers at home, ensure the baseline period includes evenings and the weekend (see sections 3 and 4).

*“They can be used not only to encourage exercise but the results can be gathered to improve numeracy through the processing of information.”*

*Secondary school teacher*

*“They would come up to me and they would ask ‘How many steps did you do today Miss?’”*

*Primary teacher*

The recommended step counts described in section 1 can be demotivating for those young people who are least active at the start of the project. It is essential to enable individuals to set their own goals rather than comparing themselves to others or a national recommendation. Break these targets into short-term and long-term stages e.g.

- what might your daily step count be by the end of tomorrow?
- what might your daily step count be at the end of next week?
- what might your daily step count be at the end of the project?

This will help the young people to set themselves achievable goals and be able to adjust them as they progress. Suggest the young people work with a buddy or mentor; someone to offer support, challenge and encouragement.

#### Keeping going

Practitioners have used a wide and creative range of incentives for motivating young people to keep using their pedometers. Many of these depend on the pedometer project being recognised by others in the school or community setting and/or being integrated into wider areas of work (see section 2). The main types of incentives are described below.

#### Role models

Feedback shows that the young people are most enthused about using the pedometers when that enthusiasm is shared and demonstrated by those around them. Involve:

- other staff and deliverers
- young people's parents/carers and families
- senior pupils as mentors and role models for younger pupils
- external role models such as sports celebrities.



*The Eilean Siar Active Schools team constructed an imaginary ‘Western Isles Way’ from the northernmost to the southernmost tips of the islands. Upper primary pupils were encouraged to walk enough miles to complete the virtual route during the month. Pupils were issued with a ‘Western Isles Passport’ including a step count table and a map of the route, along which they plotted their progress. The team also produced a resource pack for teachers including information about places of interest along the route and ideas for cross-curricular themes.*

### Positive feedback

Make sure that individuals' improvements are recognised and applauded, even if they fall short of actual goals. Do this through:

- one-to-one feedback
- other staff/deliverers
- a buddy or mentor (e.g. older young person or friend)
- group recognition e.g. reward for the person who's shown most improvement in a week.

The Schools on the Move website (see section 9 for details of the project) has interactive features on its website to offer individual feedback. For example, a young person can see how long they would last in a game of football based on their current step total. ([www.schoolsonthemove.co.uk](http://www.schoolsonthemove.co.uk))

### Visual recording

For some young people the number of steps means little unless it has a visual impact. Think about presenting progress visually. For example:

- graphs or bar charts (reinforcing learning in maths and science)
- stars awarded for passing milestones
- progress along a personal pathway.

### Group challenges

Although the individual use of pedometers shouldn't be competitive, many young people were motivated by class or group challenges. These could include:

- comparing different classes
- using steps to generate house points
- inter-school competitions.

### Creative challenges

Step progress is also more meaningful when it is linked to something 'real'. Consider converting steps into distance and mapping the group's progress against a journey. For example:

- around the world
- through the solar system
- up a mountain
- across a sea
- along a local route
- to a local or national landmark
- to a twin town.

This reinforces the cross-curricular potential of the pedometer project as the young people can investigate places along their route. On average 2,000 steps is 1 mile.

### Cross-curricular themes

The potential for cross-curricular links has already been referred to but is an ideal way to ensure that the young people's pedometer use is embedded in all aspects of their daily life. Think about:

- using steps as data for maths and science
- linking steps to maps or journeys for geography
- designing record charts in art and design
- exploring alternative transport (walking) for PSHE
- increasing fitness and exercise awareness in PE.

*“They really motivated the children to take part in Walk to School Week.”*

*School Travel Co-ordinator*

A selection of lesson ideas for linking pedometers to maths, science, geography, art and design, PE and PSHE are available from the Schools on the Move website. Although these have been designed for use with the national curriculum for English schools, the ideas are transferable to the curriculum for Scotland. (NB. KS2 is for 7-11 year olds; KS3 is for 9-13 year olds.) [www.schoolsonthemove.co.uk](http://www.schoolsonthemove.co.uk)

### Links to other initiatives

The project can also maintain or recreate momentum if it is linked to other initiatives and events. These may include:

- walk to school weeks
- school trips
- outdoor activity residentials
- sponsored walks
- fun runs and sports festivals
- membership of local sports clubs or coaching sessions
- major sporting events, e.g. Olympic and Paralympic Games.

### Links to technology

Many young people may be motivated to walk more if the project is linked to other technology, for example:

- creating playlists for iPods and MP3 players so there's music while they walk
- texting step counts to a buddy via a mobile phone
- plotting their progress on a Google map.

### Internet links

Visit the sites listed in section 9 for further ideas and resources for your project or encourage and enable the young people to visit the sites on their own.

### Celebrating achievement

Awards and rewards may be made at any stage of the project and could be for individuals or groups. Work with key partners to offer unusual or sponsored rewards and help young people make the links to further opportunities to be active. Examples of rewards include:

- 'golden boot' for house/ school
- announcement in assemblies
- wall of achievement, i.e. photo on school notice board
- link to other awards, e.g. John Muir Award
- free passes to leisure facilities, sporting events etc.
- day out/ trip, e.g. forestry walk, hill walk, gorge walk etc.
- keeping the pedometer after the project.

In the spirit of using pedometers, it is important to recognise and reward effort as well as achievement. Encourage the young people to identify criteria. Categories may include:

- most improved
- achieved personal goals
- most consistent use and recording
- most support to/ encouragement of others
- most creative representation of progress
- highest number of steps (in a day / week / project).

Don't forget to recognise and reward participating staff as well as the young people!



## SECTION 7

how do we get parents on board?

Research (see the introduction) shows that the home environment is one of the most important influences on children's levels of physical activity and experience suggests that involving parents/carers in pedometer projects can help to make them more effective.

*“The school has seen an increase in the number of children walking to school as the parents were also targeted as they were the ones driving. Now many parents drive to the local library and park the car there and walk the rest of the way with the children.”*

Methods of involving parents/carers could include:

- providing written information about the project (see appendix 2)
- encouraging parents/carers to support walking to and from school
- enabling the young people to use their pedometers at home
- setting up special displays for parents' evenings
- encouraging the young people to create their own family challenges
- promoting family activities e.g. local authority walking schemes, local clubs etc.
- involving parents' forums/ councils in designing and/or fundraising for the project

*“Kids loved wearing the pedometers; it really gave them a tangible piece of evidence as to the sort of distances they could cover. Parents and teachers were amazed at how much the children could achieve just by walking!”*

*School Travel Co-ordinator*

*Active Schools Co-ordinator*

There is anecdotal evidence to suggest that the pedometers also had an effect on other family members' levels of activity.

Many practitioners who ran pedometer projects commented that, the next time they did it, they would have a greater focus on involving parents/carers.

*One primary school briefed the 'lollipop lady' who staffed the zebra crossing near the school. She would ask the children about their step count as they waited to cross the road and this engaged parents who did not normally get involved in school activities.*



*“At weekends...I just used to watch TV...now with the pedometers we play football...and do more exercise and running around.”*

*Young person*

Clearly, your purpose in running the pedometer project will help to determine how you collect, collate, analyse and use the data generated from step counts. The most important message is to keep it simple and only collect what you will really use.

### Recording steps

Most record sheets allow the young people to log their step count each day for a week over the given number of weeks. See appendix 3 for an example. You may need to adapt this if the young people aren't logging all of their activity each day/week.

There are different ways to collect the results:

- the young people may keep their own log and hand it in or total it at the end of the week
- for younger children, it may be more practical to total steps as a group e.g. during class registration and/or collect their log on a daily basis
- where possible, young people could be encouraged and enabled to log their steps on an electronic spreadsheet e.g. through IT sessions (if regular).

As described in section 6, you may wish to use a visual record where progress is shown as a graph and/or you may prefer a creative record where young people convert their steps into distance and mark their progress on a journey or route. This will give them more immediate and meaningful feedback but they'll still need to record their step count for each day.

### Evidence

Think about the aim of your project and why you are collecting the data. For example:

- is it just to show individuals' progress where a personal log may be sufficient?
- do you want to show a group's performance by collating personal logs and comparing between groups?
- is it to show changes in behaviour. You will need to compare the final results to the baseline and, usually, show this as a percentage increase.

Consider how it will be used. For example:

- it may help colleagues such as a school nurse, PE teacher or community health worker to target their future interventions.
- should you share the results with parents/carers to increase their awareness of their child's activity levels?
- will the school or community setting revisit the project in future so that behaviour over a longer period of time can be assessed?
- will the evidence help you to obtain additional funds to increase physical activity provision?
- you may need to write a report if external funding was used to purchase the pedometers.

### Other evidence

Whilst the step count records will provide you with useful quantitative data, don't underestimate the importance of gathering qualitative feedback through discussion, surveys and interviews. For example:

- has the young people's awareness of physical activity, health and well-being changed?
- are they involved in new or more physical activities?
- do they feel better as a result of increasing their step count?
- what effect has it had on their sense of self-esteem and enjoyment?

Even those young people who had low step counts may have improved their sense of well-being if they have achieved their goals and are motivated to keep improving. Find out from young people and their parents/carers what their views are.

*“If you just have an hour, an hour and a half, of just using your pedometer and using it outside it can make all the difference and not only having fun but health-wise.”*

*Young person*

## SECTION 9

who else is around to support us?



**Learning and Teaching Scotland (LTS):** is committed to providing world-class teaching and learning experiences for Scotland's children and young people. As the lead organisation for curriculum development in Scotland, it offers support and guidance to teachers, early years practitioners, schools and education authorities to help improve achievement for all. The Health and Well Being team, within Learning Teaching Scotland supports the national Health Promoting Schools website which has information and resources to help schools take positive steps towards better health and well-being. It also has interactive sections for children and young people. [www.healthpromotingschools.co.uk](http://www.healthpromotingschools.co.uk)

**Paths to Health:** was established in 2001 to contribute to health improvement in Scotland through the promotion of walking for health. It now forms a key delivery mechanism for Let's Make Scotland More Active. Its website has a specific section on pedometers including a frequently asked questions document. It can also advise you on how to set up your own walking project and provide training and resources to help you to promote walking in your own area. Contact the Paths to Health Development Officer responsible for your area for more information. [www.pathstohealth.org.uk](http://www.pathstohealth.org.uk)

**Health Scotland:** the national agency for improving the health of the population. Its work covers every aspect of health improvement, from gathering evidence, to planning, delivery and evaluation, and spans the range of health topics, settings and life stages. [www.healthscotland.com](http://www.healthscotland.com)

**Child and Adolescent Health Research Unit (CAHRU) at Edinburgh University:** produced the research that gave rise to this guide. Contact [Jo.Inchley@ed.ac.uk](mailto:Jo.Inchley@ed.ac.uk)

*There are a number of national agencies that can support your work, either directly related to pedometers or through complementary resources and provision. As a starting point these include:*

**sportscotland:** is the national agency for sport dedicated to helping increase participation and improve performances in Scottish sport. It works with schools (through the Active Schools network), local authorities and Scottish governing bodies of sport to support the development of more and improved opportunities for young people. [www.sportscotland.org.uk](http://www.sportscotland.org.uk)

**Active Schools:** visit the sportscotland website for more information or your local authority may have its own website. [www.sportscotland.org.uk/activeschools](http://www.sportscotland.org.uk/activeschools)

**Living Streets:** is a national charity which campaigns to create better streets and public spaces for people on foot. The community street audit process helps groups and communities achieve better walking conditions. [www.livingstreets.org.uk](http://www.livingstreets.org.uk)  
'Walk to School' is an innovative campaign run by Living Streets which encourages parents, pupils and teachers to incorporate regular physical activity into their daily lives by walking to and from school whenever possible. The Campaign includes Walk to School Weeks and WoW (Walk on Wednesday/Walk once a Week.) To find out about the Walk to School campaign visit [www.walktoschool.org.uk](http://www.walktoschool.org.uk)

**Sustrans:** is the UK's leading sustainable transport charity. Its vision is a world in which people can choose to travel in ways that benefit their health and the environment. It provides information and resources on walking and cycling. [www.sustrans.org.uk](http://www.sustrans.org.uk)  
Sustrans runs a national Safe Routes to Schools information service, aimed at schools, parents, pupils, Local Authorities and all those who are interested in Safe Routes to Schools projects. Providing training, DVDs, newsletters, factsheets, teachers packs, resources and advice. [www.saferoutestoschools.org.uk](http://www.saferoutestoschools.org.uk)

**Youth Sport Trust:** its mission is to support the education and development of all young people through PE and sport. It has developed a range of programmes to support young people's participation in high quality PE, sport and physical activity. [www.youthsporttrust.org](http://www.youthsporttrust.org) It also manages the national schools pedometer project in England, Schools on the Move, which provides a range of ideas and resources for schools and includes an interactive website to log steps and motivate pupils. [www.schoolsonthemove.co.uk](http://www.schoolsonthemove.co.uk)

**British Heart Foundation:** the nation's heart charity provides information and resources to help people avoid heart disease by being active and staying healthy [www.bhfactive.org.uk](http://www.bhfactive.org.uk)  
It also has dedicated websites for young people: [www.yheart.net](http://www.yheart.net) for over 11s and [www.bhf.org.uk/cbhf](http://www.bhf.org.uk/cbhf) for under 11s.



## SECTION 10

### how do we sustain the impact?

Pedometers are a catalyst for change; they're not an end in themselves. Whilst they can be used to motivate young people to be more active, they need to be accompanied by other interventions to ensure all young people can be more physically active.

*"They motivated the children to do more activity throughout the day. Children who do not usually take part in activity were walking and running about."*

*Active Schools Co-ordinator*

Once the young people start to increase their daily steps they can be encouraged to think about the intensity of the activity and move towards the recommended hour a day of moderate-intensity physical activity (Moderate intensity is when you are feeling warm and breathing harder but can hold a conversation with someone).

If your pedometer project aimed to increase young people's levels of physical activity, think about the other steps you will need to take to support them. These may include:

- signposting young people to existing sport and physical activity provision by, for example, providing leaflets, posters and directories
- inviting local providers or coaches to visit your school or setting to promote their activities
- linking with your Active Schools Co-ordinator or and local sports development officer
- visiting websites to discover new ideas for getting active (see section 9)
- sharing ideas with other colleagues and partners involved in pedometer projects through local networks and forums
- consulting with young people to ensure that provision really meets their needs and interests
- keeping physical activity, health and well-being high on your school or community setting's agenda.

*"I see it very much as a new way of doing things and I won't go back now."*

*Young person*



As an example, at the end of the Schools on the Move pilot, 35% of students reported that they will "definitely" maintain their new levels of activity over the next year. It is your responsibility to help young people to do that.

## APPENDIX 1

### a sample brief for young people

Welcome to our pedometer project. The reasons we are choosing to use pedometers are to:

- see how much physical activity you do at the moment
- encourage you to do more physical activity
- look at the benefits to your health and well-being of being physically active.

Together we are going to set your own goals by looking at how many steps you do now and trying to increase them over time.

You will be measuring your level of physical activity by wearing a pedometer. This is an electronic gadget that records how many steps you take when you are walking or running. You wear it on your waistband, in line with your knee, or, if you prefer, on the top of your sock. Make sure your pedometer works by seeing how many steps it takes to walk around the room. Check with your teacher if it doesn't seem to be counting your steps.

We would like you to wear your pedometer all day, every day, so you record all of the activity you do. Put it on when you get up in the morning and check how many steps you've done at the end of the day. Remember to attach it to your new clothes if you get changed.

Write down the number of steps on the log sheet you've been given. Keep this somewhere handy. Then re-set the pedometer so it returns to 0 and is ready for the next day.

Unfortunately the pedometer can't measure all of the activity you do as it won't work whilst you are doing activities like cycling, rowing and swimming. You may also have to take it off for some sports if your teacher or coach thinks it is a safety hazard. In this case, you can still earn steps by giving yourself 1,000 steps for each 10 minute block of moderate intensity activity you do. Moderate intensity is when you are feeling warm and breathing harder but can still hold a conversation with someone.

You can achieve this by taking part in lots of different types of physical activity. For example:

- walking to and from school, to friends' houses, to the shops or going for a walk with your friends and family
- climbing stairs instead of using the lift or escalator
- playing out with your friends or family
- cycling to and from school or on cycle trails
- swimming
- taking part in sports and exercise
- dancing
- doing active everyday tasks such as gardening or cleaning the house.

Being more physically active should help you to protect your heart, have strong muscles and bones, maintain a healthy weight, be less stressed and anxious, make friends, concentrate better in lessons and feel good about yourself. Enjoy the project!

## APPENDIX 2

### sample letter to parents/carers

Dear parent,

Your child has been chosen to take part in our pedometer project, a new and exciting initiative designed to make physical activity more fun. The project will focus on the use of pedometers, a gadget worn on the waistband that measures the number of steps taken, to raise awareness of the importance of being active to your child's health and well-being.

Pupils will be loaned a pedometer to wear every day, all day, and encouraged to log their steps, set themselves goals and take part in challenges and competitions to recognise their progress and achievements. Staff will also be taking part to motivate the young people.

The project aims to help young people make informed choices about leading a healthier lifestyle. Becoming more active and watching what they eat can go a long way to helping them become healthier. For example, regular participation in physical activity can benefit your child's health by protecting their heart, developing strong muscles and bones, helping to maintain a healthy body weight, reducing stress and anxiety, and making them feel good. Some of these benefits can even extend into adulthood.

It is not just about health though. Research shows that increasing activity levels has a positive effect on academic achievement and improves concentration. It is also a great way for your child to develop socially and make new friends, take a break from studies, unwind and chill out, as well as providing an opportunity for them to feel good about themselves.

We have a key role in helping your child to become more active and encouraging young people to meet the recommended hour a day of moderate intensity activity. However, we do not have the time to provide all of the daily activity young people need. Therefore, if your child is to enjoy all the benefits of being active they'll need to be active at home and during their leisure time too. This includes active play, walking, cycling, swimming, playing sports and doing active everyday tasks. That's why we will be encouraging your child to wear their pedometer at home too.

We appreciate your support of our project and hope that you will be eager to get involved by supporting your child to be active and record their steps. It is also recommended that adults take part in at least 30 minutes moderate intensity activity each day so you may like to motivate your child by taking part in family activities and benefiting yourself.

If you have any questions about the project or would like to find out more, please contact

Yours faithfully,

## Monday

**PEDOMETER READINGS** - Make sure you are at 00000 to start

**00000**

**Reading 1**.....  
When you arrive at school

**Reading 2**.....  
Before lunch

**Reading 3**.....  
After lunch

**Reading 4**.....  
When you arrive home

**Reading 5**.....  
Before you go to bed

**Total steps**.....  
DAY 1 – Final reading  
when you take the pedometer off

### PHYSICAL ACTIVITY RECORD

How did you travel to school? (Tick box please)

**Walked**

**Cycled**

**Car/Bus**

List any physical activity during today. For example – PE lesson, walk at lunchtime.

How did you travel home from school?

**Walked**

**Cycled**

**Car/Bus**

Did you take any physical activity after school/on the way?

For example - Basketball training – 1 hour, walked the dog – 30 minutes.

## APPENDIX 3

### log sheet

**WHAT HAVE I EATEN TODAY? – be honest!**

Breakfast

Lunch

Dinner

Snacks

Snacks

**MOODS**

How do you feel today? Tick **one** box for how you feel in the morning, **one** for lunchtime and **one** in the evening.

	I feel very good.  (10)	I feel good.  (8)	I feel okay.  (6)	I do not feel good.  (4)	I feel bad.  (2)	I feel terrible.  (0)
Morning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lunchtime	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**EXTRA READINGS**

Time	What I was doing.	Before	After
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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