PROMOTION OF HEALTHY LIFESTYLES IN SCHOOLS: EUMOVE PROJECT

EUmove

Co-funded by the
Erasmus+ Programme
of the European Union

UNIVERSIDAD DE EXTREMADURA

Edition: Universidad de Extremadura. Servicio de Publicaciones
C/ Caldereros, 2 - Planta 3ª. 10071 Cáceres (España).
Tel. 927 257 041; Fax 927 257 046
E-mail: publicac@unex.es
http://publicauex.unex.es

I.S.B.N.: 978-84-9127-163-5

Cáceres, 2022

Co-funded by the
Erasmus+ Programme
of the European Union

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PROJECT SUMMARY

Physical inactivity is a worldwide public challenge and a leading risk factor for weight gain and obesity. Despite the well-recognized benefits of physical activity (PA), only 29% of European youth meet recommended guidelines of at least 60 minutes of daily moderate-to-vigorous PA. The school setting provides an ideal environment to promote healthy lifestyles among young people as initiatives can target all students and the whole school community.

The EUMOVE project is an Erasmus+ Project awarded under the Erasmus+ Sports 2020 call for proposals. The main goal of the EUMOVE project is ***to design and implement a comprehensive set of strategies and resources to enable the educational community to promote healthy lifestyles in order to reduce risk factors for non-communicable diseases***. This is a 3-year project delivered by a collaboration between 14 academic and non-governmental institutions from Spain, Portugal, France, Italy, Belgium, and the United Kingdom (Northern Ireland).

Through this e-book, the aim is to share with the educational community some of the resources generated from the project. Specifically, the book is divided into four chapters. The ***first chapter*** presents a set of strategies for the promotion of active recess in schools, as well as general recommendations for their implementation. This chapter also offers recommendations for the promotion of physical activity through the modification of the physical environment of the school.

The ***second chapter*** focuses on the promotion of active travel to/from school. This includes a series of recommendations for schools, teachers, parents, and authorities to encourage students to use active forms of travel.

In the ***third chapter***, a set of learning units have been developed to promote healthy habits in the out-of-school period. These units are divided according to educational stage; primary or secondary, and are aimed at promoting physical activity, reducing sedentary time, and optimizing eating patterns and sleep time.

Finally, ***chapter 4*** is specifically for parents. This chapter offers a series of recommendations for the promotion of healthy habits by parents. The chapter is divided into different sections that address physical activity, sedentary lifestyles, diet, and sleep. Established recommendations for these behaviours are explained and practical strategies that will help children comply with the recommendations are provided.

In short, this book offers a series of practical resources for the promotion of healthy habits in schools at different times of the school day. All strategies are based on scientific evidence. The general recommendations provided should be adapted to the specific context of each country/locality.

Let's move Europe:

School-based promotion of healthy lifestyles to prevent obesity

Strategies for creating physically active school environments

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The recess

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Classroom and others spaces

1

THE RECESS

1.1 Background

School recess, sometimes referred to as break or lunchtime, can be defined as the “non-curriculum time scheduled between lessons” [1]. This may include morning, lunchtime and afternoon breaks, either alone or in combination. **Recess can make up 20% of the school day, it is often overlooked in the development of school policy.** School recess time usually involves access to outdoor spaces and provides children and adolescents with opportunity for unstructured play and socialisation with peers [2,3].

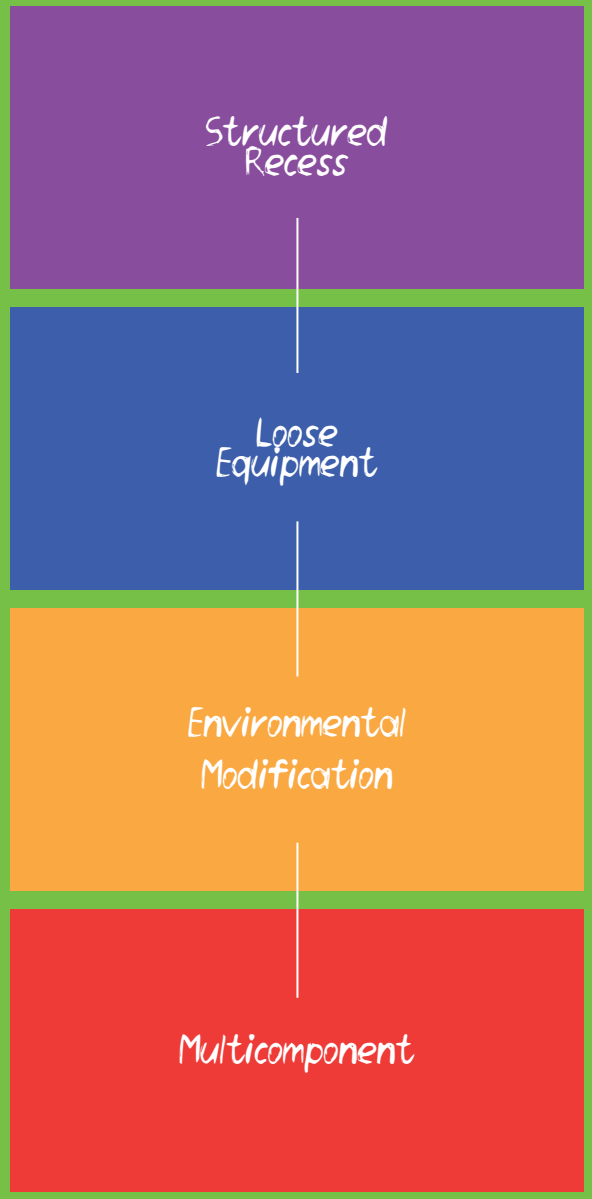
Benefits of recess

Recess provides an opportunity for children to be active during the school day and so has the potential to make a substantial contribution to meeting physical activity guidelines. In addition to the established health benefits, increased physical activity has been linked with improved cognitive function [4] and academic achievement [5]. Physical activity during recess has been linked to improved peer-relationships, increased relatedness and a better school social climate [6].

While there is limited research to date evaluating the effectiveness of recess-based interventions in post-primary schools. Integrating recess-based interventions within the school day shows promise in promoting levels of physical activity, however it is difficult to draw conclusions on the effectiveness of single components.

Despite these benefits, one of the few national surveys conducted on recess time also indicates that the time allocated to recess in schools may be in decline, with a decline of 45 minutes per week amongst younger pupils and 65 minutes per week in post-primary schools in England [2].

1.2 Categories of strategies to promote physical activity during recess



1.2.1 Structured recess

Several interventions have been used to provide additional opportunity for physical activity at recess through structured approaches. This can include organised games or activities led by a teacher, coach, or older pupil. Providing activities during recess may limit the actual time available for children to play spontaneously. Structured games may be less suitable for younger children or those who do not enjoy sports or activities that are structured.
Time required to organise, and set-up structured time needs to be set aside to organise and set up these activities at the start of recess.

Intervention Type - Structured Recess	Description / Example
Organised Games	Teachers, coaches, older students lead or supervise activities and game and encourage or reward participation.
Staff or Leadership Training	Staff training or educational resources are provided for teachers, leaders or pupils who can then lead activities during recess
Parkour or free running activities	Parkour activity involving running, jumping, climbing, swinging and rolling to travel from A to B is first taught first in Physical Education class and then introduced into recess and supervised by a teacher or leader
Video/Technology related Games	Video games which require physical activity to take part, or which lead children in physical activity used during recess periods.

1.2.2 Loose equipment

The provision of portable equipment such as beanbags, balls, hoops, frisbees, skipping ropes, parachute/tent, tunnels can help to stimulate physical activity play during recess.

Some instruction or role modelling by leaders (teacher or older pupil) might be initially required particularly for younger pupils. Loose equipment has an advantage over fixed equipment or changes in infrastructure because it can be changed regularly e.g., type of loose equipment available can be altered throughout the year.

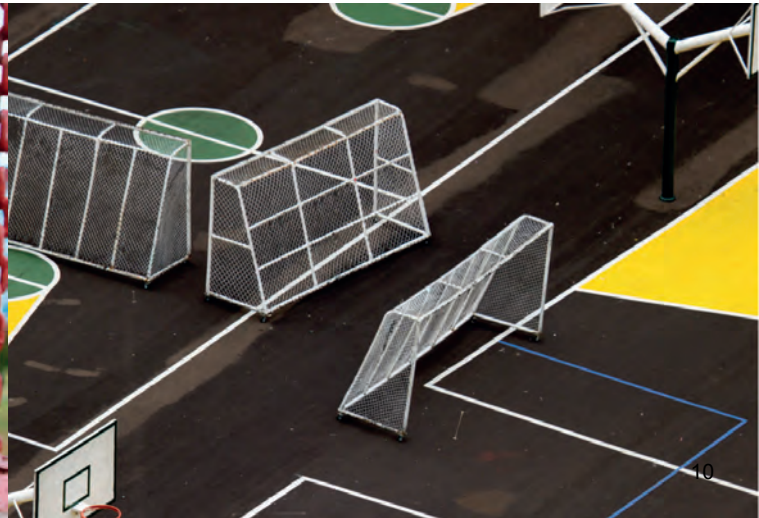
Student leaders can take responsibility for putting out and returning all equipment. In addition to reducing the burden on teachers and school leaders this approach may help to maintain the interest of children, which in turn may lead to more sustained changes in their physical activity and sedentary behaviour levels.

Intervention Type - Loose Equipment	Description / Example
Recycled Material	Use of recycled or repurposed objects such as car types and milk crates to provide physical activity opportunities. These can be arranged as an obstacle course or a stimulus for active play and their arrangement be changed regularly to stimulate physical activity.
Recreational equipment	Small equipment such as balls, hoops, beanbags, skipping ropes, parachutes or other equipment to be provide during the recess period promote physical activity

1.2.3 Environmental modifications

Making changes to the physical environment in and around the school can also increase physical activity. Fixed playground markings have been shown to encourage physical activity in the short term but ideally should be accompanied by additional components maintain their effectiveness over time.
Dividing the playground into zones each set up for different activities (e.g., a zone for an obstacle course, a zone for imagination play, a zone for soccer) can help to vary the use of space and stimulated physical activity structure. This type of modification of the recess environment allows school leaders to change the use of space over the course of the school year allowing more flexibility than permanent playground markings.

Intervention Type - Environmental modifications	Description / Example
Playground Markings	Permanent or semi-permanent playground markings can encourage pupils to play active games (hopscotch, board games, etc.) without the need for additional equipment. Playground markings can be used to divide the area in zones. Adding greenery or using natural space to help create a play environment conducive to physical activity.
Structured Play Equipment	Fixed, or semi-permanent equipment such as playground equipment, climbing walls, Tibetan bridges, bars or climbing frames to increase the opportunities for physical activity and active play.
Reducing playground density	Reducing the number, the number of children in a recess space by staggering recess timings to increase opportunities for physical activity and access to any of the fixed or loose equipment and space.
Policy/Plan development	Creating action plans for improving the school environment to encourage in ways that will increase physical activity.



1.2.4 Multi-component interventions

Multicomponent interventions have been shown to be more effective than those focused on a single component. Combining a number of elements (e.g., changing playground marking and supplying loose equipment) or organised play.

Some of examples of interventions which include structured recess, loose equipment, environmental modifications and a combination of these measures in a multicomponent approach.

Intervention Type - Multicomponent interventions	Description / Example
Playground markings + loose or structured equipment	Adding playground markings and supplementing this with providing loose equipment during recess to encourage physically active play.
Playground markings + adult supervision of games + loose equipment	Adding playground marking and engaging teachers, older pupils or peer role-models to demonstrate how the markings can be used or encourage participation. Loose equipment can be used to supplement the activities and encourage a change in activities over time to maintain interest.
Playground markings + teacher/ student training	Adding playground markings and providing training to teachers and pupils on how to use these to maximized physical activity opportunities for children.

1.3 Policy, education and support

The interventions described above, if implemented on their own, are unlikely to result in a sustainable change in physical activity during school recess. Interventions need to be accompanied by changes in policy, training of staff and student education to have maximum impact.
In addition, school leaders should consider the development of a cohesive policy for school recess (incorporated into a wider policy on physical activity). A school policy should detail the nature and length of school breaks, staffing for supervision of these breaks and describe the proposed benefits of recess for children on physical activity, wellbeing, learning and development [2].

The Center for Disease Control and Prevention (CDC) and the Society of Health and Physical Educators (SHAPE America) [7] have provided an infographic which described 5 strategies for school leaders wishing to increase physical activity during recess. The infographic is shown in Figure 2. Their website also provides a range of free resources to help school leaders implement these strategies:

Figure 2 Center for Disease Control (CDC) and the Society of Health and Physical Educators (SHAPE America) 5 strategies for recess planning.
https://www.shapeamerica.org/standards/guidelines/strategies_for_recess_in_schools.aspx

2

CLASSROOM AND OTHERS SPACES

The design of school physical environments are key: to increase the physical activity of students and to reduce their sedentary lifestyles (for a review, see Jones et al.[8] and Love et al.[9]).

The recent focus on the design of the classroom and other school spaces reflects of the expansion of ergonomic thinking in education, lags behind its development in the workplace. Issues relating to the type of furniture, sound and thermal comfort, lighting, decoration, spatial configuration, etc., are emerging as important factors in the quality and efficiency of school work, and more broadly in the quality of school life in general, including physical life.

Interventions relating to these factors can have significant impact on all the school community and all the aspects of work and school life: pedagogical practices, relationships between students, class atmosphere, student mobility, etc.

It is important to note that these interventions should ideally be part of a genuine institutional approach to managing change within the school. Such change will involve the various stakeholders in the school community (students, school principals, teaching/supervisory staff, parents, etc.), as a co-construction project, adapted to the characteristics of the school [2].

The very positive feedback from the Finnish national “Schools on the move” programme highlights the importance of this type of approach citing that; “Enabling schools to make decisions is one of the reasons why Schools on the Move has become a success story”.

2.1 Change the classroom environment

Children spend considerable time in the classroom. The **classroom determines to a large extent the level of sedentary behaviour imposed on young people, as well as the conditions for their development of good posture.** Changing the configuration of the class therefore can have positive impact on both.

The concept of **“flexible learning spaces”**, more commonly referred to as **“flexible classes”,** which offer students a range of changing workspaces, is already used widely.

Morton et al. [10] using the CASE project (Creating Active School Environments) framework, and others [11–13], highlight the **importance attached by various stakeholders in the education community to interventions focused on the furniture and design of the classroom.**

The main drawbacks of the classical configuration often called “by bus” (all the students sitting, on the same type of furniture, most of the time in line and facing the teacher) are well known:

- -It offers frequent and prolonged sedentary sitting and little mobility to students,
- -It offers only the possibility of sitting posture, for long periods, which is relatively difficult to hold over time for children, and that it exerts a greater pressure on the lumbar region than a standing position,
- -It offers a uniform furniture, which cannot be suitable for all students.

Generally speaking, **this configuration therefore does not appear conducive to reducing the sedentary behaviour of young people nor optimal for their postural development.**

Recent scientific data [14,15] suggest that the flexible classroom configuration, with the possibility of varied and changing postures, is much more conducive to reducing student sedentary behaviour and respecting their postural hygiene. By allowing students to move around in space and organising a relatively frequent change of workspace, flexible environments significantly break up and reduce the long periods of sedentary sitting.

2.1.1 Good postural hygiene management in the flexible classroom

Flexible classroom arrangements are based on the assumption that **students' postures may differ depending on the activities practised.** Listening, speaking or reading activities may be carried out in reasonably relaxed positions.

But don't forget, it is important that **in writing and drawing activities, students have the opportunity to sit in a position as close as possible to their needs.** It is well established that a good sitting posture is not only essential to the good postural development of young people, but it also has positive effects on school learning, while reducing student fatigue.

School ergonomics has long clearly defined the necessary **conditions for a good sitting posture to learn and practise writing and drawing activities: f**eet flat on the ground, the rule of the 3 angles of 90° (hips, knees, ankles), stable and free scapular belt to promote the fine motor skills of the arm and hand.

However, **the proper sitting position may vary significantly from one child to another.** As a result, some students are likely to sit better and perform better at some workspaces than others.

The **necessity and effectiveness of back support is also an important consideration.**

Many of the seats offered in the flexible classroom do not offer a backrest. It is accepted that **stools or stability balls stimulate postural support,** thus strengthening the back muscles. It is nevertheless advisable to **limit the duration of their use**, because of the fatigue they generate, and the poor compensating postures which may result when the muscles of the back no longer properly support the spine. The organisation of rotations between the different workspaces need to take account of this. Finally, **when the seats have a backrest, it is particularly important that it is comfortable and within reach of the student's back** (not leaning too far back).

In summary, when designing a flexible classroom, in order to reduce students' sedentary lifestyle and ensure their proper postural development, particular attention should be paid to the following:

- Offer various **working positions, suited** to the activities being practised (listening, discussion groups, reading, writing and drawing activities, etc.), and as much as possible, to the individual needs of the students,
- **Allow students to move around the classroom** and organise **frequent** changes of workspace,
- Offer both: (a) **limited seating times without back support** (stools, stability balls) to develop back posture support and to avoid fatigue; and (b) **seating with backrests,** allowing students an effective use of the back support,
- **For drawing and writing activities**, offer, **working positions respecting the ergonomic rules of writing in a sitting position.**

2.1.2 Other solutions

The development of **active hallways** or corridors, which **transform everyday journeys into paths that develop motor skills** by means of floor markings or other multicoloured tiles, are also frequently implemented and documented. A recent review of the literature by Suga et al.[16], although focused on recess time, emphasised the positive, and inexpensive, impact on student physical activity of changes in the school environment such as markings. It is conceivable that the beneficial effects of markings could also be considered for hallways in addition to recess playgrounds.

In addition, **posters**, which are already widely used throughout schools for a variety of purposes, are another low-cost and potentially effective form of school environment improvement to promote student physical activity. The well-known old adage “a picture is worth a thousand words” (often attributed to Confucius) underlines the importance of images as a factor in the effectiveness of the content displayed. In the area of student health promotion, the recent thesis of Copetti Klohn [17], for example, specifies that the use of imagery to optimise the transmission of promotional messages must be precisely tailored to the age of the students.

2.1.3 Some examples of strategies

Proposal 1	Active furniture (chairs, tables, stability balls, cushions, etc.)
General description	Use suitable furniture (chairs, tables, benches, etc.) or objects (stability balls, cushions, carpets, etc.) to refurnish the classroom in order to allow students to change their position regularly and to be less sedentary and more active.
Objective/Goal	Reduce sedentary behaviours and increase physical activity among students in the classroom.
Theoretical support	Scientists: Guirado et al. [19]. Professional: Schools on the move
Resources	Human: an advisor, a coordinator and a project group bringing together the main stakeholders (principal, teachers, student and parent representatives, etc.). Financial/material: the classroom can be refurnished by combining, depending on the means available, the purchase of specific furniture and objects and the reuse of furniture already in place.
Implementation advice	Depending on the size and number of students, and the budget, you can choose to set up all or part of the room and rotate the children during the day or during the week. Arrange the classrooms according to your resources and tastes, see the illustrations below for examples. Allow enough space for free movement between work areas.
Illustrations	Flexible Learning Spaces – Classroom Design for Today's Student | Families Magazine
Feasibility conditions	The motivation of teachers is paramount, as well as their participation in all phases of the project. It is important that they encourage children to use the different options available in the room.

Proposal 2	Organisation of work zones and regular changes between zones (movement between zones)
General description	Offer work zones (with varied postures) in the classroom based on themes, changes at the end of each work period, and active movement between zones.
Objective/Goal	Enable active physical activity or active breaks between learning times.
Theoretical support	Professional: iPlay project, classroom energiser breaks [18]. Scientific: Classroom approaches [10,19]
Resources	Financial/material: low cost Human: the teacher Time: Preparation of the room beforehand and tidying up / changes of work areas between 30 min and 1 hour depending on the work and age.
Implementation advice	Each work zone corresponds to a learning theme. Each zone offers the opportunity to learn in varied postures: sitting in different positions or on different furniture, standing, lying down. Active movements using material on the ground, such as: hopping, side-stepping, jumping with feet together, etc. Offer an appropriate number of work zones according to the space/size of the class Change the organisation often (weekly). Provide zone changes according to attention capacities, depending on the work and age (between 30 min and 1 hour). Change at the teacher's signal (all together) so that there is no movement between zones during work periods (timer). Offer progressive exercises if the children have finished earlier. Offer to choose and organise work areas with students (for older students), based on their suggestions. Take time to design the classroom, modify it, tidy it up.
Illustrations	https://www.familiesmagazine.com.au/flexible-learning-spaces/ https://www.josianecaronsantha.com/blog/miniformations-l-amenagement-flexible-classe-flexible-flexible-seating
Feasibility conditions	Acquire a minimum of adapted furniture in combination with existing furniture. Co-build the project with the stakeholders concerned. Motivation of teachers

Proposal 3	Organisation of workflow
General description	Allocate the choice of work/work areas based on the outcomes of games (e.g., a precision game such as darts). Possibility to mix with proposal 2
Objective/Goal	Provide physical activity or “active breaks” during class time.
Resources	Financial/material: low cost Human: the teacher
Implementation advice	Specific play areas in the classroom Regularly change the games Student participation in choices
Feasibility conditions	Motivation of teachers Student acceptance/adherence Co-build the project with the stakeholders concerned.

Proposal 4	Corridor designs (floor markings, signage/wall posters, etc.)
General description	Create fun spaces for physical activities in the corridors allowing the development of children's motor skills. Different types of courses can be set up (balancing, jumping, coordination work, etc.) on all possible surfaces (floor, walls, doors, etc.).
Objective/Goal	Increase the children's spontaneous physical activity time and develop their different types of motor skills. Convert frequently used spaces.
Theoretical support	Scientific [16]
Resources	Human: a coordinator and a project group bringing together the main actors (principal, teachers, student and parent representatives, etc.). - Financial/material: low cost (purchase of coloured adhesive tapes, collages of symbols and images, use of existing markers, decorative elements likely to promote motor activities, etc.).
Implementation advice	Use all available surfaces (grounds, walls, doors, coat racks, etc.). Use bright colours and different shapes. Vary the types of movements required (balancing, jumping, coordination, etc.). Set rules to limit the noise.
Illustrations	https://www.cssdgs.gouv.qc.ca/2018/07/03/ca-bouge-a-gerin-lajoie/
Feasibility conditions	Acceptance/adhesion of all the staff and students

Proposal 5	Design of stairs (markings and signs/floor and wall displays)
General description	Add fun features to the stairs so that children enjoy using them: a variety of posters, riddles, encouraging words, etc., arousing children's curiosity and allowing them to improve their knowledge on different topics.
Objective/Goal	Make it fun to use the stairs. Encourage children to use them “for play”, beyond just their necessary use.
Theoretical support / basic	Science/Scientific [16]
Resources	Human: a qualified leader/coordinator and a project group bringing together the main actors (principal, teachers, student and parent representatives, etc.). - Financial/material: low cost (purchase of coloured adhesive tapes, collages of symbols and images, use of existing markers, decorative elements likely to promote motor activities, etc.).
Implementation advice	Use various means: attractive colours on the steps, motivating phrases, encouraging posters, riddles, movement related to mathematical operations, etc. Ensure that students are able to move safely. Set rules to limit the noise.
Feasibility conditions	Acceptance/adhesion of all the staff and students

Proposal 6	Informational Posters on Physical Activity and Healthy Lifestyle
General description	Display (fun) posters on the benefits of physical activity and a healthy lifestyle.
Objective/Goal	Educate students about the importance of physical activity and a healthy lifestyle.
Theoretical support / basic	Scientific [17,20] Professional: WHO Guidelines https://www.ncbi.nlm.nih.gov/books/NBK566048/
Resources	Human: A qualified person who organises the placement of posters in strategic (high-traffic and visible) locations. Teachers who motivate/encourage children to be interested in the posters. Financial/material: low cost (printing and framing of posters)
Implementation advice	Choose high-traffic and/or visible locations for the placement of posters. If you create your own posters, make sure the design is fun and attracts students' attention. Consult students and teachers in the choice of posters.
Feasibility conditions	Acceptance/adhesion of all the staff and students Guidance for students to better understand the messages.

Proposal 7	Renovation of toilet spaces
General description	The toilet spaces can also be decorated according to the principles presented above for the design of other spaces. Markings on the floor, for example, can be added in the common access area for the toilets or in front of the mirror. Active exercises can be suggested while drying hands.
Objective/Goal	Allow for active physical activity or active breaks during toilet breaks.
Resources	Financial/material: low cost Human: a qualified leader/coordinator and a project group bringing together the main actors (principal, teachers, student and parent representatives, etc.).
Implementation advice	Change the layout regularly. Posters, signage and pictograms provided or made with students.
Feasibility conditions	Acceptance/adhesion of all the staff and students Spacious toilet spaces

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Let's move Europe:

School-based promotion of healthy lifestyles to prevent obesity

Active School Transport Toolkit

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1

INTRODUCTION

What is Active Commuting?

Active commuting refers to the use of physically active means during trips as opposed to the use of motorized transportation such as cars. The most common active commuting means are walking and cycling but it could also include skating or skateboarding or any other involving physical activity. The use of public transport is also considered active commuting as at least one part of the trip is made actively. In fact, walking and cycling are simple, accessible, and cost-effective ways of being active and are among the most efficient and sustainable means of transportation [1].

Research shows that active commuting may be an important source of physical activity [2] with potential to improve health.

Active commuting to school (ACS) is associated with lower obesity levels [3] improved cardiorespiratory fitness [4], metabolic health [5], academic performance [6, 7] increased mental well-being [8] and promote independent mobility [9].

Besides health, active commuting also has the potential to have important impact in the communities given its economic, social and environmental benefits [1] such as a decline in carbon emissions, less traffic noise, greater social interaction [10], and a reduction in injury rates [11].

Despite these well recognized benefits active commuting rates are low and declining in many countries [1].

Several factors can contribute to ACS [12], according to ecological models' multilevel interventions to increase behaviours are most effective when operated at different levels [13], targeting individuals, social environments, physical environments, and policies .

Indeed, ACS may be an important public health strategy due to its regularity and the broad target as it may impact on many children from all backgrounds.

Moreover, health behaviours formed during young years may impact health trajectories for life [14] and school interventions that actively promote the participation of families and communities like walking school buses and educational strategies are most effective for increasing active travel [15].

Therefore, implementing national and community-based campaigns to enhance awareness and understanding of walking, cycling can make a significant contribution to individual and community health and thereby to the development of sustainable mobility to achieve the 2030 Sustainable Development Goals (SDGs) [16].

This can directly contribute to achieving SDG3 (good health and well-being) as well as SDG4 (quality education); SDG5 (gender equality); SDG9 (industry, innovation, and infrastructure); SDG10 (reduced inequalities); SDG11 (sustainable cities and communities) and SDG13 (climate action).

2

TIPS Active Commuting to school

2.1 TIPS Active Commuting for SCHOOL

WHAT the SCHOOL can do

1. To integrate bike school parking facilities (safety).
2. To integrate bike ride in the school curriculum.
3. To organize training courses for teachers and parents about active commuting.
4. To organize walking interventions such as walking school bus.
5. To elaborate educational programs for children and parents on the benefits of active commuting and safety tips.
6. To support awareness active commuting campaigns.

2.1 TIPS Active Commuting for SCHOOL

HOW the SCHOOL can do

1. To cooperate with local authorities to promote safe bike routes.
2. To cooperate with teachers to promote active commuting to school and integrate bike contents in their didactic programs.
3. To provide active commuting to school tolls to teachers such as i) school active commuting activities (i.e., bikebus, etc.); ii) interdisciplinary strategies between subjects related with bike ride or school, etc.

4. To cooperate with parents to organize walk or bike activities.
5. Organize competitions of miles, walked or cycled, with other schools or within schools between different school grades.
6. To elaborate materials for dissemination of campaigns for active commuting.
7. Promote a monthly/ weekly wheel day (children can take their bikes/ scooters, skates to use inside school).

2.2
TIPS Active Commuting for TEACHERS

WHAT the TEACHERS can do

1. To teach about bike riding and walkability.
2. To teach about bike components and repair.
3. To design safe bike/ walking circuits.
4. To promote interdisciplinary bike/walk activities with other subjects.

2.2 TIPS Active Commuting for TEACHERS

HOW the TEACHERS can do

1. To provide choice and a variety of suitable bikes resources (i.e., Bike library, videos, etc.).
2. To design bike didactics units about i) bike safety (teaching students about cycling and road safety; i) bike components (teaching students to fix their bicycles; iii) Bike closed circuit (design and practice ride a bike in a close circuit in the school); iv) Bike path design (designing together other subjects bike paths around the school; iv) Bike event (To plan outings, excursion and cycling activities).
3. Walking didactics unit: road safety with road signs; identify safest places to cross; create a walking bus map with drop on/off places; design different routes; identify environmental barriers for walking around school.
4. Create materials for active commuting campaigns.
5. Design walking trails with fitness stations.

2.3 TIPS Active Commuting for PARENTS

WHAT PARENTS can do

1. To cooperate with the school and teachers. Parents should make sure the child is learning.
2. To support cycle teaching out of school. Parents are important role models for a healthy lifestyle.
3. To support active commuting to school.

2.3 TIPS Active Commuting for PARENTS

HOW PARENTS can do

1. To organize active commuting activities together with the teachers.
2. To plan family excursions and cycling activities.
3. To support school active commuting strategies.
4. Assure all legal requirements for a good use of the bicycle (insurance, helmets…).
5. Volunteer as a walking-cycle school bus “driver”.
6. To walk with children identifying where to cross and recognizing traffic signs.

2.4 TIPS Active Commuting for AUTHORITIES

WHAT LOCAL AUTHORITIES can do

1. To ensure good walking and cycling infrastructure, reduce speed limits, preserve school zones (i.e., no stopping in cycle lines), etc. Authorities must ensure that all children can safely and securely walk or cycle to school.

2. To make a municipal cycling policy plan and to promote a good dissemination of it.

3. Identify changes in order to improve walking and cycling conditions.

4. To cooperate with the school administration and environmental department.

5. To ease rental bikes for school active commuting use.

6. Facilitate activities in the neighborhoods to improve children's autonomy.

2.4 TIPS Active Commuting for AUTHORITIES

HOW LOCAL AUTHORITIES can do

1. To create a no car area around schools, closing streets among rush hours.
2. To design/paint/sign posting of a drop on/off stop for school walking or cycling buses.
3. To design cycle or walking paths.
4. To create speed humps or lower speed limits around schools.
5. Beat boxes for children to stop by.
6. To promote and collaborate with Educational Institutions such as University level or primary and/or secondary school in order to find good practices.

3

STEPS

Active Commuting to School (ACS)

demands safe routes programs to improve safety conditions and increase the number of students walking to and from school. An ACS program can help to reduce air pollution, increase the number of students walking and cycling, and give children and adults an opportunity to get some exercise and socialize, all while getting to school on time.

Based on key documents from successful implemented ACS programs in different countries as United Kingdom (UK) (https://www.sustrans.org.uk/media/4687/4687.pdf), United States of America (USA) https:// www.saferoutespartnership.org/sites/default/files/resource_files/step-by-step-walking-school-bus.pdf), Scotland (https://www.cycling.scot/mediaLibrary/other/english/5539.pdf) and health authorities like World Health Organization (WHO) (https://apps.who.int/iris/bitstream/ handle/10665/350836/9789240035928-eng.pdf? sequence=1&isAllowed=y), we have compiled the main steps to take when implementing ACS programs.

1) Getting Started

- Discussing the idea with your head teacher and/or other key personnel.

- Identify your partners, and work with your team to answer some key questions. Principals can help to communicate with students and parents, and as a school leader, can gain their support.

  Your team should have:
  (1) school staff representation,
  (2) a parent/teacher association representation,
  (3) a student representation and
  (4) other…additional people who can help with specific parts of the program.

- Appointing someone to coordinate the programme.

2) Planning Your Route

A. Where do students live? You may need to make a proximity map: a visual representation of where students live in relation to the school.

B. Conduct a walkability assessment of your potential routes (resource: e.g. https://www.saferoutesinfo.org/).

C. Identify “stops” if you will have them.

D. Time your route so you know you’re walking/cycling will make it to school in areasonable amount of time.

E. **Create a map** that shows the route, the stop locations, and the pick-up/drop-off times for each stop. This map can also include contact information, and a brief description of your program for promotional and informational purposes. **Post the map on the school website and distribute a copy to each participating student and adult leader.** Get hold of some copies of a local map and make them available to pupils, staff, and parents – people may be unaware of their route options in the locality.

How to decide on the route?

You should map out the different routes to school and identify the safest option. If your school has a School Travel Plan, your bike bus route can be informed by this. If you don’t, tools such as **mapometer** or Cycle Streets can help you plan. You may also want to speak to the school travel professional in your local authority to help with route planning and starting a travel plan.

The next stage is to **decide on points along the route for children and families to join the moving bike bus**, ensuring as many children as possible can access it within the school catchment area. It’s important to identify a safe route to enter the school grounds. **Once at school, consider where bikes can be parked.** You may need to investigate if the school can identify additional space for bikes.

3) Recruiting Students and Leaders

Start with student recruitment since a strong student turnout can help recruit adult leaders, particularly parents and other family members, and elevate the perceived need for the program. But it is also fine to start with leader recruitment and base the number of routes you offer on the number of adults available, limiting student numbers accordingly.

- Make sure the Head Teacher is involved early in the planning process. Having their blessing will help ensure the whole school is onboard and make delivery much easier.
- Decide who you're communicating with, how and what the message is.
- Communication with parents – having their support will be crucial to the success of the programme. You could use letters, texts, your website, or social media.
- Cross-promote student and adult recruitment using the registration/interest forms to create awareness of the opportunities and to make it easier to sign up both.
- If you have a proximity map (described earlier), start here to find students who live near or feed into the designated route. Also, work with your principal or counsellors to discuss how the program can support students who may have attendance or tardiness problems.
- How to reach students: school communications, flyers to families, emails, calls from principals, and in-class presentations can reach students and their families. Consider using social media channels as well.

4) Starting and Running Your Program

- Identify a sufficient number of adults to supervise walkers or cyclists (one adult for children ages 4 to 6, and one adult for six children ages 7 to 9);
- Identify how many bikes are being stored at school.
- Provide cycle and walking training that is appropriate to the needs of your pupils. There will probably be quite a diversity of existing skills depending on age, development, and experience.
- Finalize logistical details including setting a time schedule.
- Confirm routes with students by distributing a packet to students' families that registered. Include the final route map, Code of Conduct, and Confirmation Letter.

Be inclusive: Consider the needs of students with physical, developmental, and mental health disabilities and how best they can be accommodated in your program.

- Take pictures and use them to promote the program throughout the year. Make sure all students have photo release forms on file at the school orvinclude the photo release statement on your Student Registration Form and Adult Leader Interest Form.
- A whole-school or year-group assembly is a perfect time to get everyone excited about your programme.
- Send press releases or articles to the local paper and school paper. Promote the event/programme on social media.
- Attract and retain students through fun and safe activities along the route. Provide small giveaways or prizes for students who participate regularly, such as recognition from the school or principal in announcements.
- Keep in touch with adult leaders through regular meetings, emails, texts, newsletters, or phone calls. Figure out what works for staying in touch. Keep adults engaged -- ask for their advice, if they know of others that can help, and examples of good things that have happened on their experience.
- Track participation.
  Keep communication open with your students, families, administration, and leaders.
- Remind leaders and students they are doing a good job and thank everyone for their participation.
- Continue recruiting students, leaders, and team members in case individuals move or cannot meet their responsibilities.

Considerations: requires parents to walk with children or use waivers to address liability concerns; bicycle train participants need to wear helmets.

5) Evaluating and Adjusting Your ACS Program

How well is your program working? What can be adjusted to make it more accessible, safe, and fun? Evaluating your program periodically is key to keeping it fresh, focused, and safe. It is important to evaluate a new program at a mid-point during the first year of operations, as well as at the end of each year to adjust for the following year.

- Review the comment regularly, these can identify issues that need to be addressed.
- Survey students on their experiences with the program and ask them what can make it safer, fun, and more accessible. If you have a student representative on your team, ask their advice on how to reach more students.
- Survey families on their experience with the program and ask them what can make it safer, fun, and more accessible.
- Adjust your program as needed to make it safer, accessible, and fun.
- Make changes to the activities as needed.

6) Moving forward

- Celebrate your achievements and tell everyone what happens next.
- Strengthening your relationships with your public health department, public works department, or transportation department may benefit students at your school, especially if these departments have an existing active transportation.
- Identify areas of the curriculum where active travel can be discussed, investigated, and encouraged. Embedding cycling, walking, and scooting into the school culture is crucial and using the curriculum is an ideal way to facilitate this.

References:

https://www.saferoutespartnership.org/sites/default/files/resource_files/stepby-step-walking-school-bus.pdf
https://www.cycling.scot/mediaLibrary/other/english/5539.pdf
https://www.sustrans.org.uk/media/4687/4687.pdf
https://apps.who.int/iris/bitstream/handle/10665/350836/9789240035928-eng.pdf?sequence=1&isAllowed=y

4

LEARNING UNITS

In order to encourage teachers to promote Active Commuting to School (ACS) in their Primary or Secondary Schools, one of the useful tools to be considered are Learning Units (LU). In this statement, some examples regarding to walking and/or cycling to School LU can be followed.

4.1 Walking Learning Unit (Primary School)

4.2 Walking Learning Unit (Secondary School)

4.3 Cycling Learning Unit

4.1 Walking Learning Unit (Primary School)

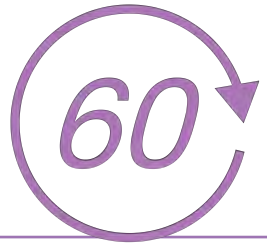
Specific Objectives:

a) To know the use of Active Commuting, around the city, as a healthy lifestyle (Walking, Running, Cycling).

b) To commute on foot (walking and running) with different intensity and in safety condition (walkway lane, respect of traffic rules).

c) To commute by bike in safety condition (wearing a helmet, on bike lane, respect of traffic rules).

Key message:
Active Commuting is easy and sustainable, being one of the best strategies to achieve WHO PA recommendations for children and adolescents to perform at least 60 minutes of Moderate to Vigorous PA or 7000 to 10000 daily steps.



Material: Happy feet log, Borg Scale	Methods: Participatory lectures on the topic of Active Commuting; applied lessons in the gym; recording of personal data in the diary.	Frequency: two lessons	Timing: 60 minutes	Potential Curricular links: Science: Cardiovascular system; Physical Education: walking/running/cycling, correct posture, different applications and intensity; Geography: study of city maps.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Active Commuting as Physical activity

Discussion about active commuting at various intensities and its contribution to cardiovascular health. Reflection on the sustainability of walking/running/cycling in all environments, spaces, time and conditions.

Learning points

What is the meaning of Active Commuting?
- Teacher starts to explain why to be active is important for children

- How many steps children have to carry out in a day if they walking or running?

- How many kilometers to do in a day with the bike

Classroom activities

- Walking/running/cycling at different speeds in playful activities (paths, transporting objects, games in pairs with a partner with eyes closed) - measurement of heart rate after a walking/running/cycling at low, medium and high intensity - application of Borg Scale.

- Study of road maps and distance calculations on a small scale - search for one's home and positioning on the map - hypothesis of some routes from home to.... and back

Healthy homework + Challenges

- During the week or on the weekend, calculate with dad and mom three routes on the city map. Realize the three routes by walking or running or cycling: 1) route taken at a leisurely pace (e.g. go to the supermarket), 2) route taken at a medium-high speed (e.g. go to the parish or the nearest park), 3) route taken at a high speed (walking/ running/cycling with parents).

- Write down in the personal diary: a) the three paths made indicating the routes, outward and return, to and from home; b) note the heart rate at the start, at the end of the outward journey, at the end of the return; c) note the self-evaluation with the Borg scale; d) note the feelings experienced in the three paths

Final Discussion after homework and challenges

Circle time about the home challenges, is it feasible? Do you enjoy homework?

I was able to increase the number of steps in a day? If no, why not?

Attachments
Example of a diary page

Name Surname	Female Male	Age	Class

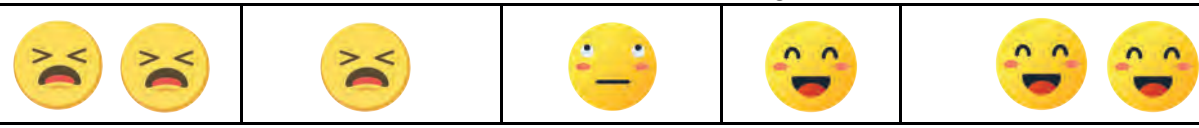
QUESTIONS BEFORE THE ACTIVITIES										
Are you aware of how important is the active commuting?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Can you control walking/running/cycling better or worse than other skills?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Can walking/running/cycling affect your heart?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

ACTIVITIES				
Day and place	1 low intensity	2 Medium intensity	3 high intensity	Borg Correspondence
	1 route	2 route	2 route	Borg correspondence
	BPM at start	BPM at start	BPM at start	1: ; 2: ; 3:
	BPM going	BPM going	BPM going	1: ; 2: ; 3:
	BPM return	BPM return	BPM return	1: ; 2: ; 3:
	Velocity	Velocity	Velocity	
With parent	Vel.1	Vel.1	Vel.1	Borg average
With parent	Average bpm	Average bpm	Average bpm	1: ; 2: ; 3:

QUESTIONS AFTER THE ACTIVITIES (1=low, 10=high)										
Do you understand the importance of active commuting?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Do you feel more in control on walking/running/cycling?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
At what maximum speed can you walk/run and with how many heartbeats per minute?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

	Impressions and personal sensations on the three routes
With the parent	Description:

HOW DO YOU FEEL, COMPARED TO Active commuting AFTER THIS EXPERIENCE?



References

https://www.who.int/publications/i/item/9789240015128

https://www.acsm.org/blog-detail/acsm-certified-blog/2019/06/14/walking-10000-steps-a-day-physical-activity-guidelines

4.2 Walking Learning Unit (Secondary School)

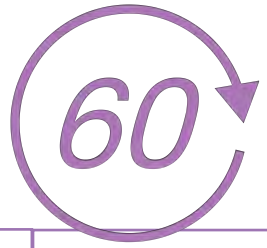
Goals:

a) To know the use of Active Commuting, around the city, as a healthy lifestyle (Walking, Running, Cycling).

b) To commute on foot (walking and running) with different intensity and in safety condition (walkway lane, respect of traffic rules).

c) To commute by bike in safety condition (wearing a helmet, on bike lane, respect of traffic rules).

Key message:
Active Commuting is easy and sustainable, one of the ways to achieve WHO recommends for children and adolescents to perform at least 60 minutes of Moderate to Vigorous PA or 7000 to 10000 daily steps.



Material: Happy feet log, Borg Scale	Methods: Group work on the topic of Active Commuting; applied group work in the gym; group work in the home challenges, recording of personal data in the diary.	NB. Group work assumes that groups are formed in relation to the fact that the student) can also work together extracurricularly on home challenge tasks.	Frequency: two lessons Timing: 60 minutes	Science: Cardiovascular system; Physical Education: walking/running/cycling - correct walking posture - different applications and intensity; Mats: space-time-velocity; Geography: study of city maps.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Active Commuting as Physical activity
Discussion about walking/running/cycling at various intensities and its contribution to cardiovascular health. Reflection on the sustainability of walking/running/Cycling in all environments, spaces, time and conditions.

Learning points in classroom activities

What is the meaning of Active commuting
• Teacher starts to explain what Active Commuting is, why it is important for children

• How many steps children should carry out in a day (running/walking)?

• How many kilometers children should cycle in a day (cycling)?

Classroom activities

• Group work on the functions and modifications of the cardio-circulatory and respiratory system in function of different intensities of physical-motor engagement. Production of a short manual, deduced from all the group work, to be delivered to each student/vault

• Group work: organizing active commuting activities at different speeds (recreational activities, games, other). Each group presents and has everyone try their work (including measuring heart rates and applying the fatigue self-perception tool.

• Group work: calculating the different speeds of movement of different athletics disciplines (running, walking, cycling) and comparing them with each other (based on national or Olympic records).

• Group work: research of tools for self-assessment of fatigue. At the end of the group work, the tool considered easiest and most usable for the self-evaluation of fatigue is chosen. Creation of the personal diary (what data to introduce, what kind of recording).

• Group work: studying street maps or city parks and calculating routes of equal or variable distance from home.

Healthy homework + Challenges

• During the week and on the weekend, together with the companions of the group working in class, calculate and realize together, giving appointment in an appropriate place, at least three paths: Groups A: three routes of equal distance, on the city map or on the map of a public park, to be carried out at low-medium-high intensity. Pulse calculation, individual speed calculation, differences, self-evaluation of fatigue perception with the chosen instrument. Group B: three routes of different lengths, on the city map or on the map of a public park, to be carried out at the highest possible speed. Pulse calculation, individual speed calculation, differences, self-evaluation of fatigue perception with the chosen instrument. Realize with the partners of the group the situations a) and b), in three different days of two different weeks.

• Record in the personal diary, chosen by the class through group work the elements chosen as data to be recorded.

Final Discussion after homework and challenges

Circle time about the home challenges, is it feasible? Are you enjoying the homework?

Where you able to increase the number of steps in a day? If no, why not?

Attachments
Example of a diary page

Name Surname	Female Male	Age	Class

QUESTIONS BEFORE THE ACTIVITIES

Are you aware of how important active commuting is?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Can you control walking/running/cycling better or worse than other skills?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Can walking/running/cycling affect your heart?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

ACTIVITIES

Day and place	1 Gentle run	2 Medium run	3 Intense run	Borg Correspondence
	1 route	2 route	2 route	Borg correspondence
	BPM at start	BPM at start	BPM at start	1: ; 2: ; 3:
	BPM going	BPM going	BPM going	1: ; 2: ; 3:
	BPM return	BPM return	BPM return	1: ; 2: ; 3:
	Velocity	Velocity	Velocity	
With parent	Vel.1	Vel.1	Vel.1	Borg average
With parent	Average bpm	Average bpm	Average bpm	1: ; 2: ; 3:

QUESTIONS AFTER THE ACTIVITIES (1=low, 10=high)

Do you understand the importance of active commuting ?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Do you feel more in control of walking/running/cycling?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
At what maximum speed can you walk/run/ride bike and with how many heartbeats per minute?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

	Impressions and personal sensations on the three routes
With the group partners	Description:

HOW DO YOU FEEL, COMPARED TO WALKING, AFTER THIS EXPERIENCE?

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

References

https://www.who.int/publications/i/item/9789240015128

https://www.acsm.org/blog-detail/acsm-certified-blog/2019/06/14/walking-10000-steps-a-day-physical-activity-guidelines

4.3 Cycling Learning Unit

Specific objectives:

a) To get started and practice basic technical aspects to ride a bicycle safely in the urban environment.
b) To know and practice basic rules of traffic and road signs.
c) To raise awareness about the importance of making use of protective clothing and accessories necessary to circulate safely.
d) To know and practice basic actions of adjustment and maintenance of the bicycle.
e) To develop critical attitudes about the benefits and the reasoning for using the bicycle.

Bikeability sessions:

o 1st session: Introduction and interactive theoretical training. Students will be made aware of the benefits of using the bicycle, traffic and safety regulations [traffic regulations and safety], basic concepts for its maintenance, as well as actions against unforeseen events so that students find applicability in their day to day when using the bicycle.

o 2nd session: Mini mechanics. It will be taught to regulate in a basic and autonomous way the parts of a bicycle. After this session, students could solve simple mechanical problems in their day to day in an independent way.

o 3rd session: "Bikeability" circuit. It will be taught the technical aspects and basic control of bike commuting, guaranteeing a basic mastery to circulate on the urban road safely.

o 4th session: Gymkhana Bikeability "Get your bike license to ride". There will be a gymkhana in groups of 5 stages, where they must overcome a challenge in each one by applying basic skills on the bicycle. After overcoming each stage, the “bike license” will be sealed. At the end of the session there will be an activity with the large group to consolidate every content learnt during the program.

1st	Bikeability program				
Location	Open-space	**Time**	55 min	**Nº Participants**	22
Objectives	• To strengthen knowledge about road safety education by bicycle. • To know the main bicycle mechanics parts. • To develop critical aspects about the benefits and reasons for using the bicycle as a mode of transport.				
Material	Printed and plasticized cards; 4-5 bicycles; 2 cones of different color; adhesive paper.				

Session development	
Activities	**Time**
Presentation. In a large circle with all students, we will introduce ourselves and make a small explanation of the program and our objectives. We will ask each student their names and if they like ride bike or not and the reason, giving the turn of speech with a miniature bicycle.	5 min
Battery of questions. Teams of 3-4 students: the following activities will be carried out: 1.! **Relate traffic signals with meaning:** Each group will be given a series of cards with the meaning of different signals. The students required to run 20 meters back and forth across marked track Al the end of the track will be situated the signals. Through a relay race, they must go and place the card on the corresponding signal. Variant: They will go on bicycle. 2.! **Relate circulation signals with their meaning**: The same dynamics of the previous activity will be performed, but changing the signals. Variant: "Simon says", a person will be in charge of indicating the directions orally and through the traffic signals. Students must move towards the direction indicated by the traffic signal without being confused with the oral indication. 3.! **Identify the name-part of the bicycle:** Each group will be granted a bicycle and a series of cards with the written name of the different parts of it. Each group must paste the cards on the part of the bicycle that they believe corresponds according to their name. 4.! **True/false:** Students will be organized into a large group. One of the teachers will announce an announcement and the students must position themselves in one cone or another according to whether they believe that the statementis true or false. Finally, once the activity has finished, the answers will be explained (The material used for these activities can be found in annex 1).	35 min
Rain of benefits. Groups will be asked to think about 4 benefits of cycling. Subsequently, each group will present their benefits thoughts and that will be discussed with teaching staff. Likewise, the bicycle will be compared with another mode of transport (active or passive mode of transport).	15 min

2nd Session	Bikeability program				
Location	Open-space	**Time**	55 min	**Nº Participants**	22
Objective	• To expand knowledge about the main parts of the bicycle. • To learn how to adjust the saddle and handlebars. • To learn how to place the chain easily.				
Material	1 bike per student, 30 cones, 3-4 Allen wrenches if needed to adjust the saddle				

Session development	
Activities	**Time**
Approach to the situation. Present a situation to the students through an interactive story (ex. welcome to the great academy of mechanics, in this class we will learn the basic mechanics of a fabulous vehicle, and I am nottalking about planes, boats or submarines, I mean bicycles ...). First, everymechanic must know the parts of the bike.	7 min
Review part of the bike. Teachers will point out different parts on a bicycleand students will have to name them aloud.	4 min
Mechanics vs. pull out the chain. First, it explains and demonstrates how to place the chain in the event that it deviates. Subsequently, the following recreational activities are developed to strengthen what it has been learned. The class will be organized in 3 teams. 1.! **Cyclists:** they must travel by bicycle through the space, without using thepedals, they will move the bicycle putting their feet on the ground. 2.! **Chain-puller**: Some student will be in charge of pull out the chain of the others classmates. They will call “The Chain-puller” and they will wear a reflective vest. They must stop the cyclists making a signal with their hands and then extract the chain to the bicycle. 3.! **Mechanics:** they will be located in their "workshops" (cones). When achain-puller removes the chain from a cyclist, he must go to the mechanic's workshop to place the chain properly. Every 3 min the roles will be changed.	20 min
In the heights. In a large group of students, each student will have to make the same zig-zag route between different cones, adjusting the saddle to the bike on different heights. Students must find their correct heights of the saddle.	12 min
Whose "bike" is it? Students will be organized in 4 teams (2 opposing groups). To each group will be given a bicycle and without theopposing team seeing it, they must adjust the saddle of the bicycle to one of its members. Subsequently, the opposite team will have to try to guess who thatbe is fitted for. The activity will be repeated 3-4 times according to time.	12 min

3th Session	Bikeability program				
Location	Open-space	**Time**	55 min	**Nº Participants**	22
Objective	• To develop basic skills to learn to ride the bicycle. • To learn to overcome the possible architectural barriers that are presented to us by riding the bicycle.				
Material	1 whistle per teacher, 1 bicycle and helmet per student, cones, ropes, chalk, 4 pikes, 2 mats, 2 balls, 2 rings				

Session development	
Activities	**Time**
Climb and start by bicycle (2 groups). In order to analyze the student`s level, we will start with a brief explanation of how to get on the bike. All students will be placed at the end of the track. The teacher will assign to each student a number (nº 1 or 2). When the teacher indicates one of the groups with the assigned number, it will have to move to the other side of the track.	10 min
Let's shift gears. In a large group. It is intended that the students become familiar with the gears of the bicycle (harder = descents or straights with less cadence; softer = climbs or straights with greater cadence). Each student on his bicycle, circling the track clockwise, adjusts their gears to the teacher's signal.	5 min
At the command of the whistle. The students have to attend to the sound signals transmitted by the teacher and perform the corresponding actions, being 1 beep = brake + 3 static seconds + start, 2 beeps = 5 seconds marking with a curved arm + make curve, 3 beeps = circular standing with change of pace, 4 = change of gear, and the students must do what is ordered. This exercise aims to experience actions and react to external stimuli while cycling on public roads.	10 min
Turtle race. In a large group. The students are placed at one end of the track and at the signal of the teacher, they must move to the other side as slowly as possible without putting their foot on the ground and without going around in a circle.	5 min
Circuit "the mini-city". Individually moving each student on their bicycle perform the assigned circuit. 2 circuits of different level (started and advanced) are established to which the students will be assigned without knowing the level of each one (however, during the activity the appropriate changes are made depending on the progress of each student). The circuits are as follows: STARTED LEVEL 1. Zigzag between cones 2. Pass between 2 parallel lines 3. Yield at a crosswalk 4. Pass over 2 strings that generate instability 5. Make a roundabout 6. Pass over 2 strings that generate instability ADVANCED LEVEL 1. Zigzag between cones 2. Pass between 2 parallel lines narrower than those of the previous circuit 3. Pass over a greater number of strings generating more instability	25 min

4th Session	Bikeability program				
Location	Open-space	**Time**	55 min	**Nº Participants**	22
Objective	• Put into practice the contents learned. • Strengthen knowledge through a real start-up. • Solve the possible difficulties that arise in a real context. • Develop the ability to make decisions and acquire critical aspects.				
Material	Card (bike license) for each student, stamps for each station. 1 bicycle and helmet for each student, 1 chalk, 1 long rope, 1 bucket, balls, cones, ribbons with parts of the bicycle.				

Session development	
Activities	**Time**
The students will be divided into 5 groups. Each group will be given a map with different posts marked with a certain order to make each of them. Until the group achieves the goal of one post, it will not be able to move on to the next. The team that finishes all the posts before will win. Subsequently, a joint activity will be carried out between all the groups. Each student will be given a bike license and will be sealed each time they overcome a post	
Post 1. Hung by bikes. (In small groups). The teacher will tie a rope between two points. Different ribbons will be hung in this rope, which will have a part of the bicycle written. Each student must leave from one side to the other, taking a tape along the way. When you reach the other end, you will need to place the tape on the appropriate part of your bike. Objective: Put all the tapes in the corresponding place on the bike.	8 min
Post 2. Catch-catch. (In small groups). Traditional "catch-catch" will be played mounted on a bicycle in a limit space. If a student is caught by the pursuer, roles will be swapped. If a player leaves the lines of the field, the role will also be exchanged with the pursuer. Later, instead of exchanging roles, all the students who have been caught will become pursuers and they will accumulate so that only one student remains. Objective: That all the students are caught.	8 min
Post 3. Super bikeability. (In small groups). The group will try to complete a small circuit in 3 different ways: 1. In less than a certain time; 2. Without a hand; 3. Without a foot. Objective: All the students of the group must try the 3 ways to make the circuit, but with only one member of the group getting it, they will achieve the objective of the post.	8 min
Post 4. Pac-Man. (In small groups). In a space where there are clearly marked lines, one person will be the Pac-Mac eater and the rest the coconuts. They will only be able to move along the lines. When they turn, they must mark with their arms the direction they are going to go. Initially the Pac-Man will be a person to later accumulate students until all / as become a Pac-Man. Objective: The team must endure at least one member alive for 1 minute.	8 min
Post 5. Pelotacleta. (In small groups). The group must transport (one by one and with only one ball per trip) from one line to the other, a certain number of balls, but for these balls to be valid, they must place them in a bucket. Objective: to dunk at least a number of balls that corresponds to the number of	8 min
Great Game. (5 groups). Groups will be placed at one end of the track. In front of each group, at a distance of 20 meters a cone will be placed. Teachers will launch a question and 30 seconds will be given to discuss the question between the groups. After 30 seconds the teacher will whistle and a representative of each group must run to his cone and touch it. The first to touch the cone will be the first to respond out loud. If the question fails the second to arrive, it will try to answer and so on. ***Note:** a different representative must come out in each round.	12 min

5

GOOD PRACTICES

In the context of implementing strategies for design ACS Programs, there are some good practices in different countries/cities that offer many examples to be followed. Some of these are set out below:

WALKING to school

Starting a walking school bus	http://www.walkingschoolbus.org/
Walking to School	http://eustarsmadrid.blogspot.com/2015/03/que-es-un-pedibus.html
Games to promote walking to school	https://www.caminoescolarseguro.com/otras-iniciativas.html https://www.trafficsnakegame.eu/spain/

CYCLING to school

Bikeability (UK)	https://www.bikeability.org.uk/
Bicycle promotion program (France)	https://sports.gouv.fr/savoir-rouler-a-velo/article/presentation
Video lessons: cycling safe (Portugal)	https://www.fpcub.pt/2021/09/2o-bicircular-oficina-de-aprendizagem-de-circulacao-com-bicicleta
Cycling Embassy of Denmark	https://cyclingsolutions.info/cycling-children-cycle-training-and-traffic-safety/
Guide for bicycle users (Spain)	https://www.dgt.es/conoce-la-dgt/que-hacemos/educacion-vial/ https://www.dgt.es/export/sites/web-DGT/.galleries/downloads/conoce_la_dgt/que-hacemos/educacion-vial/jovenes/ESO_movilidad_sostenible_segura/2019-04_mat-libreconfig_MOV-SEGURA-SOST-guia-profesor.pdf https://www.dgt.es/export/sites/web-DGT/.galleries/downloads/conoce_la_dgt/que-hacemos/educacion-vial/jovenes/bicicleta/Como-formar-ciclistas-en-linea.pdf
STARS Project (Spain)	https://starsespaña.dgt.es/
Profith Research Group (Spain)	https://profith.ugr.es/paco

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Let's move Europe:

School-based promotion of healthy lifestyles to prevent obesity

Learning units about healthy lifestyles promotion for primary school

Co-funded by the
Erasmus+ Programme
of the European Union

1

LEARNING UNITS ABOUT HEALTHY LIFESTYLES PROMOTION

2

LEARNING UNITS ABOUT HEALTHY NUTRITION FOR PRIMARY SHOOL

3

LEARNING UNITS ABOUT PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR FOR PRIMARY SCHOOL

4

LEARNING UNITS ABOUT HEALTHY SLEEP FOR PRIMARY SCHOOL

1

LEARNING UNITS ABOUT HEALTHY LIFESTYLES PROMOTION

INTRODUCTION

In this document there are 54 learning units (LUs) focused on how to promote healthy lifestyles for primary and secondary school teachers. The learning units are divided into three main categories: 12 LUs related to healthy nutrition, 10 for physical activity and sedentary lifestyle and 5 for healthy sleep. All LUs have been divided for primary and secondary school, for this reason each teacher can find 27 LUs available for primary school and 27 for secondary school. The LUs can be used by all teachers of the school regardless of the subject they teach and obviously can be integrated, adapted and extended based on teacher's experience, also creating potential academic connections. Before exhaustively detailing the LUs proposed, a brief introduction on the importance of designing these actions to improve healthy nutrition, physical activity, healthy sleep and reduce sedentary behaviour in primary and secondary school is necessary. Physical activity (PA) combined with healthy eating and healthy sleeping habits are essential for many aspects of child health and development, including the prevention of chronic health conditions, such as overweight and obesity.

Physical activity during childhood and adolescence leads to many physical (i.e., improved physical fitness, bone health, cardiometabolic health) and psychosocial (i.e., psychological well-being, mood, cognitive functions) positive health outcomes[1,2]. In order to obtain these beneficial effects, children and adolescents should practice at least an average of 60 minutes per day of moderate-to-vigorous intensity PA (MVPA) during the week.

However despite these recommendations, most children and adolescents across the world do not reach these levels, resulting in a pandemic of physical inactivity[1]. Meanwhile, sedentary behaviours are more and more frequent both in children and adolescents[1]. Healthy nutrition is defined as the intake of an adequate, well-balanced diet and we know from scientific literature that good habits[3,4], for example the consumption of fruit and vegetables during childhood, are related to lower adiposity, lower cardiometabolic risk factors, and higher academic performance[5,6,7]. For this reason, it is essential to include these topics early in childhood education.

Finally, healthy sleep habits are essential for child and adolescent development[2]; longer sleep duration is associated with lower adiposity indicators, better emotional regulation, academic achievement, and quality of life, conversely a short sleep duration is related to adverse physical and mental health outcomes[8]. However, over the last decades, in these specific age groups, many children and adolescents do not comply with international physical activity[9], dietary[10] and sleep guidelines[11] showing how these are becoming a serious concern for public health.

In this frame, it is increasingly essential to promote healthy lifestyles initiatives, especially in the school setting. Children and adolescents spend a significant amount of time at school where they are exposed to supportive environments such as school health policies, physical and nutrition education, PA during school hours. Furthermore, most children's knowledge, skills, and habits for life-long health can be improved during school-days[12]. At the same time, it is becoming more and more evident that interventions not only focused on school but also targeted on family are likely to be more most effective[13,14].

With the goal to achieve long term and sustainable changes in lifestyles behaviour it becomes necessary the involvement of both family and extra school environment.

For this reason, school-based interventions with extracurricular activities and healthy homework components could maximise family engagement and potentially improve the success of the health promotion intervention. In light of this, the present document contains 27 LUs that starting from the school context are expanded using extracurricular activities and homework promoting health[15].

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Each LUs has a main objective, a key message, useful materials and methods, frequency, duration and potential teaching/curricular links. Obviously, each LU is a starting point that can be expanded by the teacher of each subject. The links with the potential curricular aspects are not mandatory but are only suggestions. However, the Learning Units can be a good investment and an experiment to understand how movement is an excellent tool for learning. Each LU begins in the school setting with a brief teacher-led discussion that is preparatory to the work to be done in class. The various aspects that will be learned during the LU and the activities that can be managed in the class are highlighted. Subsequently, possible homework to manage in extra-school time and to test the acquired habits are presented. Finally, each LU ends with a time for discussion managed in class.

The innovative aspects of this proposal consist in the fact that such learnings take place in the school setting, but are also experimented and expanded in the extra-school context often with the involvement of families in homework and challenges, then be discussed back at school for final feedback.

2

LEARNING UNITS ABOUT HEALTHY NUTRITION FOR PRIMARY SHOOL

1° LU WEEK ONE: HOW TO BUILD A HEALTHY DIET

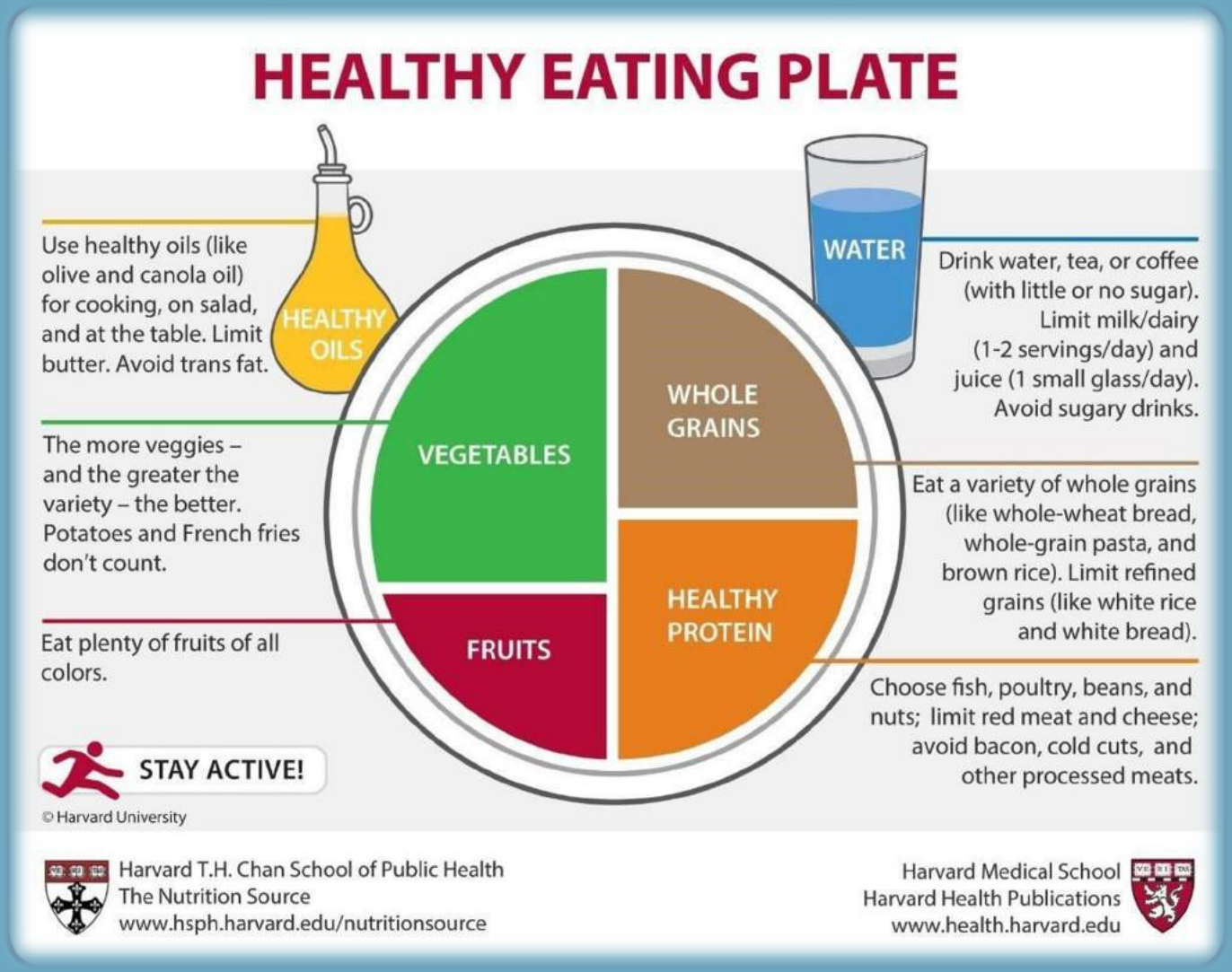
Goal:

Knowledge about the proportions of nutrients needed to maintain a healthy diet and how to reach this goal through different foods

Key Message:

Follow a balanced diet based on vegetables and fruit, legumes and grains. Different countries may have different cultures, including food habits. Understanding what people eat and why can enrich our personal knowledge and make us discover new flavours and healthy habits.

Material: White paper plate (to divide into coloured wedges for different categories of food), coloured markers, poster, pc, *Eumove website-Application*	**Methods:** Initial discussion, laboratory-group activity, healthy homework	**Frequency**: one lesson	**Timing**: 60 minutes	**Potential Curricular Links:** Science, Math, Art, Foreign language (English, Spanish…)



LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy eating

Background: According to the Global Burden of Disease Project, overweight and obesity are the 4th risk factor for chronic diseases such as diabetes type 2, cardiovascular diseases and others. Notably, replacement of processed foods with a healthier diet has been linked to the reduction of the BMI and thus to the prevention of overweight associated diseases.

Discussion: Why is a healthy diet important? During the daily meals, what and in what proportion should be eaten? Explain what food categories are necessary to maintain a healthy diet (vegetables, fruits, healthy protein and whole grain), and that the intake of all of them is important. Every food provides some macronutrients (carbohydrates, proteins, fats), but in different quantities/proportions.

Try to find out if different countries have different food habits and why (e.g.: climatic conditions do not let certain vegetables grow properly).

Do you think you may like trying new foods?

Learning points

Teacher starts explaining the recommendations about how different food differs in terms of nutrients and what is necessary to set a healthy and balanced diet:

- Olive oil (or sunflower, canola, soybean oils): is a good source of healthy fats, try to avoid/reduce butter or margarine.
- Vegetables: they should be the main component of our diet, the more various they are, the better it is. Remember: chips and French fries can NOT be accounted in the “vegetables” section from a nutritional point of view, since they are rich in fats.
- Fruits: pick fruits from each color.
- Whole grains: choose whole grains instead of processed rice and white bread.
- Healthy proteins: fish, legumes, white meat and nuts should be the main source of proteins. Limit/avoid red and processed meat.
- Water: drinking water is the best way to rehydrate. Limit the intake of milk and derived products, juices and sugared drinks.

Varying our meals is the best way to introduce all the nutrients we need to stay healthy.

It is possible to build a proper Healthy eating Plate using foods that are not usually included in our nutritional schedule: foods from different traditions can be mixed to meet the healthy nutritional goals.

Classroom Activity

- Talking with the class, find out which are the traditional foods of different countries and, if you can, their nutritional asset and which part of the plate they fill in.
- Using a paper plate divided into different coloured wedges, explain the suggested proportions of different food during the daily meals. You could try to fill the plate with elements taken from different countries.
- Students could pin the plates in the classroom or in the school canteen to remember the correct composition of main meals.
- If possible, use the Eumove website/application to keep in contact with a class from a foreign country and ask them to explain how their meals

are usually composed: you can exchange ideas and recipes and try to cook something new, then check the results and opinions from both your class and the other.

Healthy homework + Challenges

- After one of your meals, divide a circle representing your plate into different wedges and color them based on what you have eaten. If something is missing, try to eat it in another meal. You could try new foods, too!

Final Discussion after homework and challenges

- Did you succeed in respecting the correct proportion of nutrients in your meals? Have you tried any new food while using the Healthy eating plate? Which issues did you find (e.g. the food you wished you could cook were not available at the supermarket)? Do you think you would like to enlarge your usual diet after this experience? *What have you learned from the foreign school class you worked with?*

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2° LU WEEK TWO:

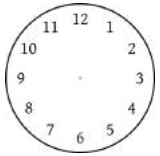
NUMBER OF MEALS PER DAY

GOAL:

Knowledge about the number of meals, how they need to be distributed during the day and the nutrient proportions

Key message:

The recommended number of daily meals is five.



Material: Paper/ 12 h clock drawing, markers	**Methods:** Initial discussion, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential curricular Links:** Science, mathematics, english (or other languages)

LET'S START PLAYING FOR HEALTH

Initial Discussion

Daily repartition refers to the distribution of nutrients and energy over the different meals of the day, through different food choices and combinations.

Daily repartition of meals is important to provide to our body a constant flow of energy. It also avoids feeling too much hunger during the day.

Learning point

- How to divide the energy intake during the day:
- Breakfast, Morning snack, Lunch, Afternoon snack, and Dinner.
- For breakfast and snacks and how they should be composed, see Learning Unit about it that will be taught further.(LU 4,5,11)
- For snacks, it is recommended to have a portion of fresh fruit/ a yogurt/ two biscuits (dry biscuits, not cookies).
- Underline how meal schedule could differ from one person to another, depending on their daily need (e.g. sport, fixed school meal time)

Classroom activity

Draw a clock, color, with different colors for each meal (breakfast, morning snack, lunch, afternoon snack, dinner) the wedge/time interval in which you usually have a meal. Any meals missing?*

*If children cannot read a clock, consider teaching this LU after the curricular teaching of how to read a watch/clock, or explain it simpler, using for example only: morning, afternoon and evening, not hours.

Healthy homework + Challenges

- At home, try to replicate what you did in class, drawing a clock, coloring with different colors for each meal (breakfast, morning snack, lunch, afternoon snack, dinner) the wedge/time interval in which that day you had meals. It is similar to the drawing you did in class?

Final Discussion after homework and challenges

The clock drawn at home it's similar to the one you draw in class? How does it differ and why? You were able to eat 5 meals that day or you skipped one/more or added one or more?

References

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3° LU WEEK THREE: FRUIT AND VEGETABLE PORTIONS

GOAL:

Knowledge about the correct portions of fruits and vegetables and their variety needed to build a balanced diet

Key message:

5 daily portions of fruits and vegetables

Material: White poster, coloured markers	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential curricular Links:** Art, Science, foreign languages

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy eating:

Why is a healthy diet important? During the daily meals, what and in what proportion should be eaten? Explain the benefits of fruits' and vegetables' nutrients, based also on the fruit's colour.

Learning points

- The teacher starts to explain the recommendations about the portions of fruit and vegetables necessary (what is a portion, how many portions)
- 5 portions x day (of both fruit and vegetables)
- 5 fruit/vegetable colours: red, purple/blue, orange/yellow, green and white/brown: eating fruit and vegetables of different colours is not only visually more appealing but also useful to introduce a great variety of nutrients.

Classroom activity

- eat the rainbow: on a white poster the teacher draws the lines of a rainbow, and everyone can draw and colour different fruits and vegetables they like → useful to show the joy of eating different foods!

Healthy homework + Challenges

- At the beginning of the week, draw rainbow outlines as the teacher did in class. Every time you eat a fruit/vegetable colour a segment with the corresponding colour. At the end of the week, any colour is missing?
- One day, draw the outline of your hand and colour each finger with the colours of the fruit and vegetables you ate during the day)

Final Discussion after homework and challenges

At the end of the week, how many days were you able to eat 5 portions of fruit/vegetables? Other days, how many portions of fruit and vegetables have you eaten? What colour were they?

References

World Health Organization. (2015). Promoting fruit and vegetable consumption. Available at: https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/activities/technical-support-to-member-states/promoting-fruit-and-vegetable-consumption

Harvard Health Blog. Phytonutrients: Paint your plate with the colors of the rainbow. Available at: https://www.health.harvard.edu/blog/phytonutrients-paint-your-plate-with-the-colors-of-the-rainbow-2019042516501#:~:text=Colorful%20fruits%20and%20vegetables%20can,strengthen%20a%20plant's%20immune%20system.

4° LU WEEK FOUR:
HEALTHY BREAKFAST AND LABORATORY:
BUILD THE BREAKFAST POSTER BOARD

GOAL:

Knowledge about the healthy composition of a breakfast meal

Key message:

Breakfast is one of the most important meals of the day. People should focus on having a good breakfast in order to start the day properly

Material: Posters, A4 papers, colored pencils	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency:** 1 lesson	**Timing**: 30 min. (perday for a week + 30 min. the first day), total 180 min.	**Potential curricular Links:** This learning unit is not linked to a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about healthy breakfast:

- The teacher asks how many students have breakfast each morning to assess briefly how many skip it;
- The teacher shows a few examples of breakfasts through slides or posters and the students use the traffic light method (red: not good, yellow: so and so, green: good) to grade them in good and not a good following their personal knowledge/experience;
- The teacher explains what should be included in breakfast (water or tea, milk or yogurt, fresh fruits or vegetables, nuts, bread/granola/rice/pasta/cereals/.., honey/jam, eggs) and give a few good examples through slides or posters;
- The previous exercise is repeated: the teacher shows again a few examples of breakfasts (slides, posters,...) and students use the traffic light method (red: not good, yellow: so and so, green: good) to grade them in good and not good based on what the teacher explained and showed.

Learning points

- Learn that breakfast is as important as the other meals and should not be skipped;
- Learn what should be included for breakfast (almost all aforementioned nutrients);
- Learn that there can be multiple options and combinations for breakfast;
- Train to compose different types of breakfast and learn from others' inputs.

Classroom activities

First day (Monday)

- Create your breakfast poster dividing the paper into the 5 days of the school week (Monday to Friday):
- Hang the breakfast posters on the walls of the classroom.

Each morning (Monday to Friday)

- Each morning the students draw on an A4 paper what they ate for breakfast and then glue it on their poster on a respective day;
- Each morning the teachers pick a few examples (if possible, positive ones) among the drawings and discuss them with the students, allowing them to use the traffic light method (red: not good, yellow: so and so, green: good)

Healthy homework + Challenge

For one week:

- Based on what learnt at school, try to compose your breakfast meal using some of the suggested ingredients;
- Take a mental picture of the final breakfast meal;
- Try each day to change the colours of your breakfast as suggested in LU n3 and use the advice given in class by the other classmates.

Final Discussion after homework and challenges

Did you succeed in varying the ingredients of your breakfast? Do you think your breakfast this week has been healthier than usual? Which issues did you notice about having a proper breakfast (e.g. lack of time, etc)?

References

Healthy Breakfast: Food Fact Sheet. Available at: https://www.bda.uk.com/resource/healthy-breakfast.html

5° LU WEEK FIVE:
HEALTHY BREAKFAST AND LABORATORY:
WHAT ARE THE TYPES OF BREAKFAST?

GOAL:

Knowledge about the healthy composition of a breakfast meal based on ethnicity/tradition (Linked to LU4)

Key message:

Different people may have different habits, including those about food. We can learn from each other through sharing knowledge about food and improving our good habits.

Material: Posters, A4 papers, colored pencils, food	**Methods:** Initial discussion, laboratory	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific to a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about healthy breakfast

- The teacher asks how many students have breakfast each morning and how is traditionally prepared in their family
- Students explain how breakfast is prepared in their family during the week and the weekends, if differences are present

Learning points

- Learn that breakfast can different based on traditions and cultures, as food is an important part of each culture
- Learn that there can be multiple options and combinations for breakfast
- Train to compose different types of healthy breakfast and learn from others' traditions
- Exchange ideas and learn from other traditions/cultures

Classroom activities

- Students draw the breakfast their family have; they can draw multiple drawing if breakfasts differ, especially between weekdays and weekends
- Hang the breakfast posters on the walls of the classroom
- The teachers pick a few examples (if possible, positive ones) among the drawings and discuss them with the students, allowing them to use the traffic light method (red not good, yellow so and so, green good)
- If students want, they can explain why they have that traditionally breakfast at home; if they don't know, they can ask at home and let their classmates know another day

Healthy homework + Challenges

- try a different breakfast: get inspired from other classmates and buy some new ingredients to prepare a new breakfast with your family
- try to differentiate and change the ingredients you normally use
- if you have any doubt, ask the classmates whose breakfast inspired you and consider asking them for a recipe or for help in preparing the meal

Final Discussion after homework and challenges

Did you enjoy changing your habits for a while? What have you learnt from this experience?

References

Healthy Breakfast: Food Fact Sheet. Available at: https://www.bda.uk.com/resource/healthy-breakfast.html

6° LU WEEK SIX: HOW MUCH WATER SHOULD I DRINK?

GOAL:

Knowledge about the correct amount of water that should be drunk every day to be hydrated

Key message:

It's important to drink the appropriate amount of water during the day on the basis of age and PA, preferring water to other types of drinks.

Material: Water bottle, various dimensions, other sodas, energy drinks, etc	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency**: One lesson	**Timing**: 30 minutes	**Potential Curricular Links:** Math, Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Water Intake:

Why is drinking water important? Explain the average percentage of water in a person's body is around 60%. Where water can be found in drinks and food?

Learning point

- The teacher starts to explain the recommended levels of water intake per day
- Hints about different types of drinks and their nutritional profile
- Give tips to drink more during the day
- Teach about tap water and the importance of recyclable water bottles
- Teach about different intake of water needed based on age and PA

Classroom activity

- Discussion about the different types of drinks and their nutritional profile (i.e. coke, tè, fruit juice, energy drink,...) → ranking from best to worse?

Healthy homework + Challenges

- Ask students to bring to school their water bottles (so even those who don't have one can use one extra from their classmates) and decorate them: make them nice so it is more fun to carry them around
- Keep a daily diary for one week writing down how many water bottles/liters per day they were drinking; check at the end of the week if everyone was hitting their goal

Final Discussion after homework and challenges

Was I able to increase the daily amount of water to drink? If not, why?

References

Choose water for Healthy Hydration. Available at: https://www.healthychildren.org/English/healthy-living/nutrition/Pages/Choose-Water-for-Healthy-Hydration.aspx

7° LU WEEK SEVEN: LIMITING SUGAR-SWEETENED BEVERAGE AND FOOD CONSUMPTION

GOAL:

Knowledge about the amount of sugar in daily beverages and food, the types of sugar and the consequences they have on health. Develop critical awareness and learn about alternatives to sugary foods and beverages

Key message:

Choose beverages and food that contain the lower quantity of sugar

Material: Various types of sugar-sweetened beverage and food, sugar cubes/ sachets of sugar/spoons of sugar. Table and Cards of beverages and food.	**Methods:** Initial discussion, laboratory, healthy homework, challenge	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential curricular Links:** Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about sugar-sweetened beverages:

Very limited consumption of foods high in fat, sugar or salt and low in micronutrients e.g. crisps, confectionery, sugary drinks.

What are the different types of sugar-sweetened beverages that are consumed during the day (water, the, chocolate, cola, sparkled drinks; fruit juices etc.)

Learning point

- The objective of this action is to make students aware of the types of sugar that exist and also of the amount of extrinsic sugar present in certain beverages and in foods that they consume regularly.
- Recommended Consumption: no more than 25 grams of free sugars per day (or 5% of total energy intake) *(Guideline: Sugars Intake for Adults and Children*. (2015). World Health Organization.)

Classroom activity

- The teacher starts the lesson explaining what is the quantity of sugar contained in different types of sugar-sweetened beverages and food; then a round of questions.
- For Example: How much sugar do you think Cola contains? How much sugar biscuit contain?
- Explain how the consumption of beverages and food with high contents of sugar may affect health.
- Talking about the importance of the "healthy way" to consume sugar-sweetened beverages and food during the day? (how often do you drink beverages that contain a high quantity of sugar)
- Which kind of beverage do you think is better when you are thirsty?
- Once this reflection on the questions asked is complete, the tutor can explain the types of sugar that exist: free sugar and intrinsic sugar. It is also important for students to know the recommended intake of free sugar: 25 grams of free sugar per day
- Put on the main table of the room the beverage brought from home for that day and try to categorize them based on their sugar content. The teacher puts for every beverage the matching quantity of sugar cubes/ sachets of sugar/spoons of sugar.
- Discuss which ones are better to be drunk often and which ones sometimes.

Healthy homework + Challenges

- During the shopping at the supermarket, choose the beverages that contain the lower quantity of sugar. For example: compare different kinds of fruit juices.
- At home, prepare with parents healthy/genuine beverages instead of common fruit juice that you can buy at the supermarket (i.e. freshly squeezed fruit juice/smoothie/)

Final Discussion after homework and challenges

Was I able to consume in a healthy way sugar sweetened beverages? If not, why not?

Drink (12-ounce serving)	Teaspoons of Sugar	Calories
Tap or Bottled Water	0 teaspoons	0
Unsweetened Tea	0 teaspoons	0
Sports Drinks	2 teaspoons	75
Lemonade	6 ¼ teaspoons	105
Sweet Tea	8 ½ teaspoons	120
Cola	10 ¼ teaspoons	150
Fruit Punch	11 ½ teaspoons	195
Root Beer	11 ½ teaspoons	170
Orange Soda	13 teaspoons	210

https://www.cdc.gov/healthyweight/healthy_eating/drinks.html

https://www.hsph.harvard.edu/nutritionsource/healthy-drinks/beverages-public-health-concerns/

References

World Health Organization (2015). Guideline: Sugars intake for adults and children. Geneva: World Health Organization. Retrieved from https://www.who.int/publications/i/item/9789241549028.

Plates, pyramids, planet. Developments in national healthy and sustainable dietary guidelines: a state of play assessment. Food and Agricultural Organizations of the United Nation. Avaiable on https://www.fao.org/documents/card/en/c/d8dfeaf1-f859-4191-954f-e8e1388cd0b7/

8° LU WEEK EIGHT: SEASONALITY OF FOODS

GOAL:

Knowledge about the seasonality of different foods across the year and building a healthy diet using locally sourced produces

Key message:

Consume locally sourced foods

Material: Grocery flyers, scissors, white poster (x4)	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency**: 4 lessons x the year (possibly at the beginning of each season)	**Timing**: 60 min (first lessons) – 30 min (second,third and fourth lessons)	**Potential curricular Links:** Geography, Science, Art, History

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy eating

First lesson: talking about the importance of consuming locally sourced foods, in order to:

- reduce the amount of processed goods and increase the fresh produce intake
- reduce the impact of our diet on carbon footprint and plastic usage (packaging) (see also LU 9)
- consume fresher and more nutritious food compared to food consumed out of season.

Local food is also generally better tasting, due to its harvesting closer to the peak of ripeness (especially for vegetables and fruits)

Learning point (x4) (spring, summer, autumn, winter)

- what fruits and vegetables are in season in your country right now (Due to different geographical locations, teachers should see reference 2 for suggestion about seasonal fruits/vegetables)
- Try to give some examples of culturally typical recipes from where you live that use seasonal food.

Classroom activities

- build with the help of the teacher a poster with seasonal food, using images cut out from the grocery flyers and integrate with drawings if anything is missing. Hang the poster in the classroom to remind what should be eaten during the season

Healthy homework + Challenges

- try to eat at least one meal a day with only seasonal and local sourced foods, using the appropriate food categories proportions as shown in LU 1

Final Discussion after homework and challenges

Compare what food you ate during the week with what is on the poster you did with your teacher. Is there something you didn't eat or never tried?

References

Food and Agriculture Organization of the United Nations. Plates, pyramids, planet. Developments in national healthy and sustainable dietary guidelines: a state of play assessment (2016). Available at: https://www.fao.org/documents/card/en/c/d8dfeaf1-f859-4191-954f-e8e1388cd0b7/

UFIC. Explore Seasonal Fruit and Vegetables in Europe. Available at: https://www.eufic.org/en/explore-seasonal-fruit-and-vegetables-in-europe

EUFIC. Are seasonal fruit and vegetables better for the environment? Available at: https://www.eufic.org/en/healthy-living/article/are-seasonal-fruit-and-vegetables-better-for-the-environmen

9° LU WEEK NINE: FOOD SUSTAINABILITY

GOAL:

Knowledge about the food sustainability

Key message:

Prefer sustainable food

Material: Various types of grocery flyers	**Methods:** Initial discussion, laboratory, healthy homework, challenge	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential curricular Links:** Geography, Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about sustainable food

What does sustainability mean? Definition: “The use of resources at rates that do not exceed the capacity of the Earth to replace them”. One way to reduce the use of resources and also eat more nutrient dense food is to eat locally and seasonally (see LU 8)

Which kind of Packaging is sustainable? For example, compostable is better than recyclable, but we are still producing waste. Eating locally reduces the distance food needs to travel and also the packaging needed.

Learning point

- What does sustainable food mean?
- The foods we eat not only affect our health, but also the health of the environment
- A lot of resources are needed to produce food (water, energy for transportation, CO2 production, land usage, fertilizers etc)
- Which kind of food do you think is more sustainable? Differences between different classes of food: fortunately, a low-impact diet can be achieved by following the approximate food proportions of the food pyramids: consume little meat (especially processed meat), cheese, fish, dairy products while eat plenty of fruit, vegetables, legumes and vegetables.

Classroom activities

- Global sustainability: Discuss which kinds of food are sustainable? (meat, fish, bread, fruit, vegetable?)
- Local sustainability: Take from a supermarket flyers and check out where food comes from? Try to check on a map, how many kilometers (CO2 consumption) far was the production of that food? Are their packaging sustainable?

Healthy homework + Challenges

During the shopping at the supermarket look at the tags. Where does food come from? Is it far from your home? (CO2 consumption). Try to choose foods that are produced both locally and seasonally.

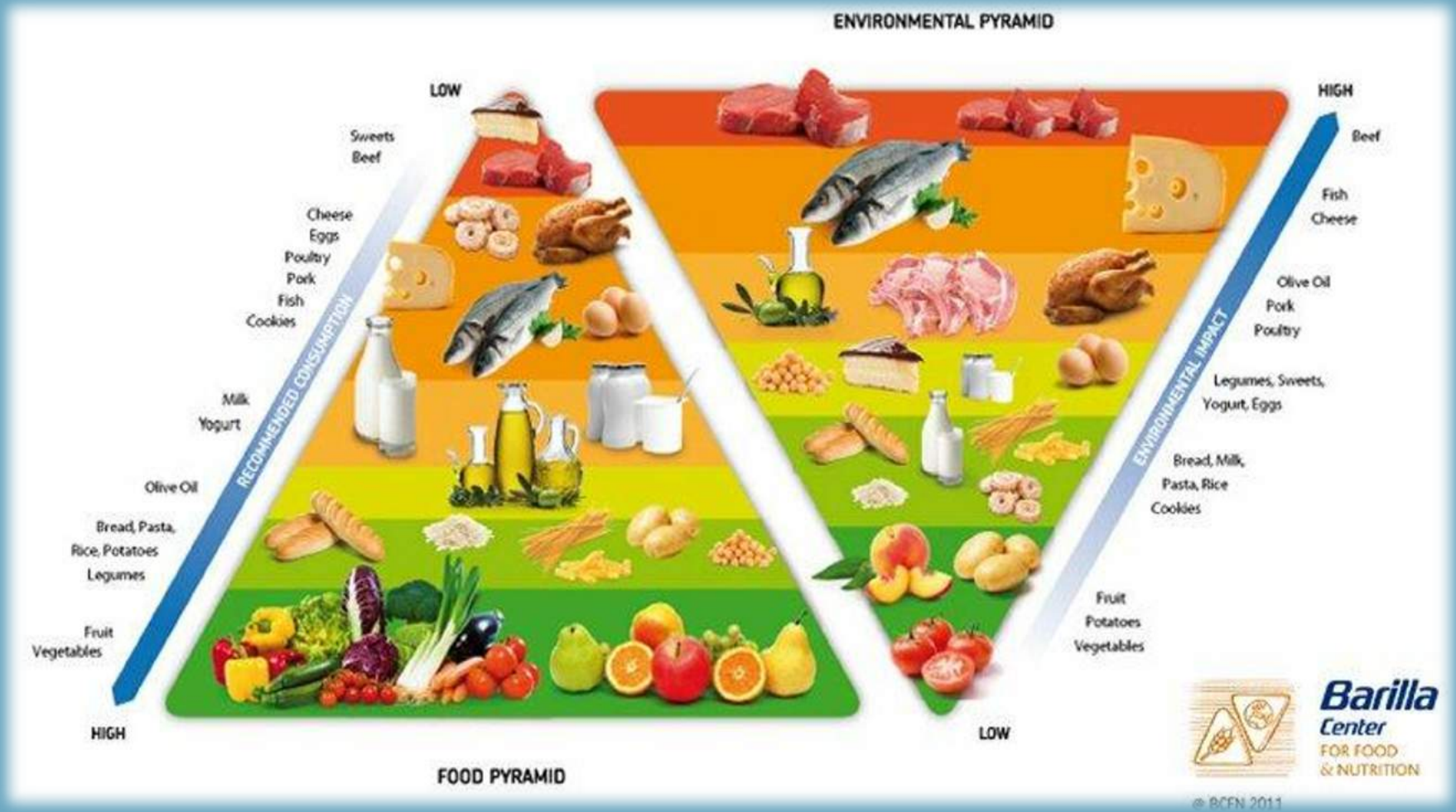
Final Discussion after homework and challenges

Was I able to choose food produced locally and seasonally? If not why no?

References

EUFIC. Are seasonal fruit and vegetables better for the environment? Available at: https://www.eufic.org/en/healthy-living/article/are-seasonal-fruit-and-vegetables-better-for-the-environment

World Health Organization. A healthy diet sustainably produced. Available : https://www.who.int/publications/i/item/WHO-NMH-NHD-18.12



Talk about the importance of reducing food waste.

Healthy food is sustainable food: recommendations for healthy eating.

At present, few food guidelines take sustainability issues into account. However, there is growing evidence that a win-win situation for human health and the environment is possible, and some common messages are emerging to promote human and environmental well-being (15):

- Eat a wide variety of foods from different food groups, with an emphasis on plant-based foods.
- Consume only the calories you need to meet your energy needs. Overeating is bad for human and global health.
- Choose fresh, locally grown and home-prepared foods. Avoid highly processed foods, especially those that are high in fat, sugar or salt and/or low in vitamins, minerals and fibre. It is important to check food labels.
- Eat at least two to three servings of fruit per day, preferably fresh, seasonal and locally produced. The WHO recommends a combined consumption of more than five servings (400 grams) of fruit and vegetables per day (10).
- Eat at least two to three servings of vegetables a day. Choose vegetables grown in the field rather than in greenhouses, or vegetables that are preserved using sustainable methods (such as fermentation) and do not require fast, energy-consuming transport. Reduce food waste by also eating "ugly" vegetables and fruit: aesthetic imperfections do not mean that the produce is less nutritious.
- Potatoes, sweet potatoes, cassava and other starchy roots do not count as vegetable servings, but are present in a healthy diet, preferably in minimally processed forms.
- Cereals should be consumed primarily as whole grains - such as maize, oats, wheat or unprocessed brown rice - rather than in refined form (e.g. white rice, bread or pasta).
- Consume moderate amounts of milk and milk products (or milk substitutes) and choose low-fat, low-salt and low-sugar versions.
- Limit consumption of red meat and processed meat products (10) - some international national bodies suggest limiting consumption to about 500 grams of cooked meat per week, with very small amounts, if any, of processed meat products (21,22,23,24).
- Eat fish and seafood about twice a week, preferably from certified/recognised sustainable sources.
- Eat pulses regularly. Dried beans, peas and lentils are excellent sources of protein, fibre and other nutrients, and are naturally low in fat. Pulses are a good alternative to meat and can play a key role in the healthy, sustainable diets of the future.
- Include modest amounts of fats and oils, mainly of vegetable origin, and preferably containing unsaturated fats. Avoid industrially produced trans fats (e.g. partially hydrogenated oils) found in processed foods, fast food, snack foods and fried foods. Use healthier cooking methods, use vegetable oils, boil, steam or bake instead of frying.
- Drink tap water (or other improved sources such as boreholes and protected wells) in preference to other beverages, especially sweetened beverages. Consumption of fruit juices should also be limited as they contribute to the presence of free sugars; for example, a 150 ml glass of unsweetened orange juice contains about 15 g of free sugars (3).
- Prepare food according to hygienic practices: wash hands before handling food and after using the toilet, disinfect surfaces and protect them from insects, pests and animals, separate raw and cooked food, cook food thoroughly and store it at safe temperatures, and use clean water to wash raw food (25).

10° LU WEEK TEN:
LABEL OF MY SNACKS, WHICH IS THE BEST FOR MY HEALTH?

Goal:

- How to read nutrition labels information.
- Know if foods are more or less healthy based on their ingredients listed on the label

Key message:

Education which helps comprehension and use of nutrition labels have the potential to improve the impact of this information on dietary health. Education helps in a correct selection of products. Students will be more aware of their daily food choices based on nutritional labels, based on the composition of macronutrients, the salt content and the quantity of each ingredient that determines the quality of the product

Material: Pre-packaged snacks (crackers, bars, chips, biscuits, etc.) and cans of fizzy drinks.	**Methods:** Initial and final discussions, classroom activity, healthy homework, challenge.	**Frequency:** One lesson.	**Timing:** 60 minutes.	**Potential curricular links:** Science, Math, English

LET'S START PLAYING FOR HEALTH

Initial discussion about nutrition labels

Teacher asks the children: do you usually read the nutrition labels? Do you know how to read the nutrition labels? Do you know why is it important to read the nutrition labels?

Learning point

- Teacher explains why it is important to read the nutrition labels of food and drink.
- Teacher explains how to read the nutrition labels.
- Teacher explains the fundamental concepts for a balanced diet and lists the most harmful ingredients to pay attention to.

Classroom activity

- Divide the class into groups, give each group the same set of similar pre-packaged snacks or cans, ask the children to read the nutrition labels and decide what is the healthy choice.
- Teacher chooses some food items (i.e. biscuits, crackers, cereals, yogurt) or drinks (i.e. fruit juice, coke, tea) and gives them to each group. The group, without looking at any labels, try to come to a consensus on the items they think has the highest content of: salt, sugar, fat, carbohydrate, protein, minerals/nutrients, calcium.
- Think with your classmates about a healthy and balanced snack according to the indications received in class to propose for the school break.

Healthy homework + Challenge

- Go to the supermarket with your parents or guardians, choose a food among your favourites (i.e., yogurt, biscuits etc.), select two or more similar items, read the nutrition labels, check the sugar, fat and salt content and decide what is the healthy choice.
- Choose a food that you usually eat at home for breakfast or for snack and analyze its nutrition label based on what you learned in class. Is it healthy food or not?
- Try to read the salt content of snacks and the sugar content of chocolate as much as you can.

Final discussion after homework and challenges

I read food labels of pre-packaged foods/I did not. If no, why not?

How to read the nutrition label step by step:

1. **Start by checking how the information is reported. The ingredients are listed in a precise order: from the most present to the least present in quantity. Another important thing is to check if the information given is based on standard weights of 100 grams or on a single portion or other.**
2. **Check the weight of the portions/rations and compare it with what you are actually eating.**
3. **Check the calories that the portion of food you are about to eat will provide you, to compare them with the total calories which, on average, must not be exceeded.**
4. **Monitor the amount of nutrients you should limit. Some labels highlight the percentage of the daily nutrient requirement provided by each serving.**
5. **Make sure your food provides you with a sufficient amount of essential nutrients such as vitamins, calcium, iron and fiber.**

References

Moore, S. G., Donnelly, J. K., Jones, S., & Cade, J. E. (2018). Effect of Educational Interventions on Understanding and Use of Nutrition Labels: A Systematic Review. *Nutrients*, 10(10), 1432. https://doi.org/10.3390/nu10101432

UNICEF. (2019). The State of the World's Children 2019: Children, food and nutrition: Growing well in a changing world. Available on https://www.unicef.org/reports/state-of-worlds-children-2019

World Health Organization. (2020). Nutrition action in schools: a review of the evidence related to the nutrition-friendly schools initiative (Geneva, Sw). Available on https://www.who.int/publications/i/item/978924151696

11° LU WEEK ELEVEN:

EATING HEALTHY SNACKS

Goal:

Knowledge about the nutritional component of snacks and proper consumption of them

Key message:

Having a good and healthy snack could be tasty, funny, and environmentally friendly

Material: Various types of snacks	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency:** One lesson	**Timing:** 30 minutes	**Potential Curricular Links:** This learning unit is not specific to a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Snacks Intake

- What are the different types of s
- nacks that are eaten during the day (fruits, sandwiches, chocolates, chips, yogurts)?
- Which snacks do students prefer?
- What do students consider to be a healthy snack?

Learning point

- What are the different types of healthy snacks that could be eaten during the day (fruits, sandwiches, chocolates, chips, yogurts)?
- Which are the snacks with more and less nutritional components?
- How much is on average a portion of food for a snack (hand size)?
- According to WHO, sugars intake can be reduced by limiting the consumption of foods and drinks containing high amounts of sugars, such as sugary snacks, candies and sugar-sweetened beverages (i.e. all types of beverages containing free sugars – these include carbonated or non-carbonated soft drinks, fruit or vegetable juices and drinks, liquid and powder concentrates, flavoured water, energy and sports drinks, ready-to-drink tea, ready-to-drink coffee and flavoured milk drinks); and eating fresh fruit and raw vegetables as snacks instead of sugary snacks.
- According to WHO, fat intake, especially saturated fat and industrially-produced trans-fat intake, can be reduced by limiting the consumption of pre-packaged snacks (e.g. doughnuts, cakes, pies, cookies, biscuits and wafers) that contain industrially-produced trans-fats.
- According to WHO, salt intake can be reduced by limiting the consumption of salty snacks.

Classroom activities

- Students put on the main table of the room the snacks brought from home for that day and try to categorize them based on their nutritional components (see also LU n. 1 on Nutrition The Food Pyramid).
- Discuss which snacks are better to be eaten often and which ones only once in a while.
- Students try to draw a table about the amount of sugar and fat contained in the snack analyzed.

Healthy homework + Challenges

- Prepare and eat snacks with better nutritional components each day, following the nutritional indication learned.
- Keep a “drawing diary” of your snacks: try to draw the snack and note the amount of sugar and fat contained.

Final Discussion after homework and challenges

- Was I able to eat healthy snacks during the day or not? If no, why not?
- Report the results of the challenge. Did you succeed in eating healthy snacks? Which difficulties did you have? Try to compare the amount of sugar and fat contained in the first snack you analyzed in class (before doing the healthy homework) with those of the snacks you eat during this week: how different are they? Tips: to make it easier to compare the snacks, create a table reporting “fat” and “sugar” as columns and stick on the side of the lines the label of the snacks. If there is no label, draw what you eat.

References

World Health Organization. Healthy Diet (Available at: https://www.who.int/news-room/fact-sheets/detail/healthy-diet)

12° LU WEEK TWELVE:

EAT HEALTHY TO SLEEP WELL

Goal:

Understanding the relationship between good sleep quality and healthy nutrition

Key message:

A proper dinner can improve your sleep quality and help you to fall asleep

Material: Poster	**Methods:** Initial discussion, Content of guidelines on healthy nutrition and sleep hygiene, Group activity, Healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Nutrition

- Discussion between students about their usual dinner.
- Discussion between students about nutrition habits related to a good rest. Focus on the link between nutritional habits and sleep quality. A healthy diet may improve the quality of your sleep; on the other hand, people who don't get enough sleep are more likely to increase their food consumption. In fact, sleep deprivation seems to provoke a tendency to select high-calorie foods with less nutritional benefit and create a greater risk of weight gain.

Learning points

- Prefer nutritious but light dinner instead of large meals, and have dinner at least 3 hours before bedtime. Eat a light, healthy snack if you get hungry at night.
- Avoid, in particular before bedtime, sugars (both in foods or drinks) and substances like theine, ginseng, caffeine (e.g. coke) or chocolate (contains stimulating substances).
- These foods have an exciting effect that may keep you up at night since they drop serotonin and melatonin production, which guarantee the correct sleep-wake rhythm. Also tyramine, contained in aged cheese, is known to have an exciting effect. In general, before bedtime you should avoid consuming really fatty, salted, spicy foods or meals containing a large amount of proteins: these foods take a very long time to be digested and stimulate gastric acid production.
- Reduce your fluid intake several hours before sleep. Herbal teas can help you relax and fall asleep, but it's better to drink them far from bedtime, otherwise you could have to wake up to go to the toilet.
- Try not to skip dinner: hypoglycemia-related hunger could make it difficult to fall asleep.

Classroom activities

- Find out which foods promote good sleep quality.
- Create a poster with the ideal foods for a balanced dinner: a portion of whole grain cereals, a not excessive portion of proteins and little fats (such as legumes and fish), a portion of seasonal vegetables, a portion of fresh or dried fruit. A balanced dinner that promotes sleep should include:
- A portion of whole grains such as rice, oats, barley and whole wheat (whole wheat pasta and wholemeal bread).
- Protein foods with low quantities of fats such as, for example, legumes and fish (not excessive quantities).
- A portion of seasonal vegetables, especially pumpkin, asparagus, cabbage, lettuce, spinach, artichokes (foods rich in minerals as potassium, magnesium, calcium and selenium).
- A portion of fresh fruit (apple, kiwi, cherries, apricots and peaches) or a portion of dried fruits (3 walnuts or 8 walnuts or 8 almonds).
- As condiments: extra virgin olive oil, aromas such as basil, marjoram, oregano and seeds (useful especially sesame seeds, rich in tryptophan, and pumpkin seeds, rich in magnesium).

Healthy homework + Challenges

- Following the tips of your teacher and the poster you created at school, decide what to cook for dinner.
- Cook a healthy dinner with your family.

Final Discussion after homework and challenges

Was I able to follow the teacher's tips about the ideal dinner? If not, why not?

References

American Academy of Sleep Medicine - Sleep Education. Available at: https://www.sleepeducation.org)

Grandner, M. A., Jackson, N., Gerstner, J. R., & Knutson, K. L. (2014). Sleep symptoms associated with intake of specific dietary nutrients. Journal of sleep research, 23(1), 22–34. https://doi.org/10.1111/jsr.12084

Greer, S. M., Goldstein, A. N., & Walker, M. P. (2013). The impact of sleep deprivation on food desire in the human brain. Nature communications, 4, 2259. https://doi.org/10.1038/ncomms3259

3

LEARNING UNITS ABOUT PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR FOR PRIMARY SCHOOL

1° LU WEEK ONE: WHAT IS PHYSICAL ACTIVITY?

GOAL:

Knowledge about WHO recommendations toward PA in children and adolescents

Key message:

WHO recommends for children and adolescents to perform at least 60 minute of Moderate to Vigorous PA

Material: Happy feet log Daily journal for children and parents. Collect each experience, feeling, describing the activity. Using smartwatch to monitor the steps counts and physical activity.	**Methods:** Initial discussion, content of WHO guidelines, Group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** Science, History

LET'S START PLAYING FOR HEALTH

Initial Discussion about physical activity

Talking about what is physical activity? How much time does everyone spend in physical activity during the day? (Raise your hand) But how many minutes of PA every day? Draw a graph about the student answers.

Learning points

- Teacher starts to explain the recommended levels of PA necessary for each age groups (children, adolescents, adult)
- Explain that every move counts for health www.everymove
- 60 minute every day of PA are recommended for children and adolescent from 5 to 17 aged
- Unstructured PA (e.g., active commuting to school, walking, riding, active play with friends)
- Talking about timing, frequency and duration for PA.

Classroom activities

- Let's choose one physical activity and share it with the class.
- Create/understand how to fill the happy feet log day by day for two weeks

Healthy homework + Challenges

- Doing 15 minutes of daily extra-school walking (examples: walk to the supermarket, get off the bus first and walk the last few stops, do not use the elevator, ...)
- Trying to do as much PA during extra school as you can. After two weeks teacher nominates the most active children

Final Discussion after homework and challenges

I was able to increase the PA level/ I was not able. If no, why not?

References

Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public health reports (Washington, D.C. : 1974)*, *100*(2), 126-131.

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U.S. Department of Health and Human Services (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC: U.S. Department of Health and Human Services. Retrieved from https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf.

2° LU WEEK TWO: LET'S TALK ABOUT INTENSITY

Goal:

Knowledge about the Mechanism of Heart Beat during different PA intensities

Key message:

WHO recommends for children and adolescents to perform at least 60 minute of Moderate to Vigorous PA

Material: Diary; smartwatch; Jar; Balloons; Straws	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** Science, Math

LET'S START PLAYING FOR HEALTH

Initial Discussion about Intensity

Talking about what is the intensity? How many intensities do you know? (Raise your hand)

Learning points

- Explain the heart beat using a jar
- Explain the intensity using the Talk-Sing Test.

Classroom Activities

- All the children bring to school a jar, some water balloons, some drinking straws. A heart pump is built and its operation explained.
- The heart pump is activated during PA differently based on intensity but what is the intensity of PA?
- Laboratory: Light-walking (singing); Moderate-running (talking); Vigorous-jumping (breathing).

Healthy homework + Challenges

- Write a report/Drawing indicating the day, the time, the type of activity performed, its duration and intensity.
- Try to do as much PA during extra school as you can. After a week teacher nominates the most active children

Final Discussion after homeworks and challenges

I was able to break my sedentary time/I was not. If no, why not?

References:

World Health Organization (2020). *WHO guidelines on physical activity and sedentary behaviour*. Geneva: World Health Organization. Retrieved from https://www.who.int/publications/i/item/9789240015128.

3° LU WEEK THREE: WHAT IS SEDENTARY BEHAVIOR?

Goal:

Knowledge about WHO recommendation toward PA in children regarding limit the amount of time spent being sedentary

Key message:

It is recommended that:

› Children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.

Strong recommendation, low certainty evidence

Material: Active breaks Experience active breaks that can literally break the lesson/any kind of sedentary time. Collect each experience, feeling, describing the activity	**Methods:** Initial discussion, content of WHO guidelines, Group activity, healthy homework	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Physical activity

Talking about what is Sedentary behaviour? How much time does everyone usually spend in sedentary behaviour during the day? (Raise your hand) What do you usually do in your sedentary time (tv, gaming)?

Learning points

- Teacher starts to explain that every move counts for health!
- Explain the risk related to sedentary behaviour
- Talking about the balance between sedentary and active spent time (timing, frequency and duration for PA to break sedentary time).

Classroom activities

- Understand how to do an active break (try to sit up and jump)
- Let's invent an active break, and share it with the class.

Healthy homework + Challenges

- Each time you spent 1h in sedentary behavior (sitting at the pc), try to do an active break (examples: sit up and jump for 30 seconds)
- Write notes about the numbers and type of chosen active breaks

References

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3° LU WEEK THREE: WHAT IS SEDENTARY BEHAVIOR?

Goal:

Knowledge about recommendation toward in children regarding limit the amount of time being sedentary particularly the amount of recreational screen time

Key message:

SIT

SEDENTARY BEHAVIOUR

No more than two hours per day of free time spent using electronic devices.

Material: Diary	**Methods:** Initial discussion, content of the guidelines, healthy homework anc challange	**Frequency**: One lesson	**Timing**: 30 minutes	**Potential Curricular Links:** Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Physical activity

Talking about the time spent using electronic devices, pc or watching tv. How much time does everyone usually spend sitting using electronic devices, pc or watching tv (Raise your hand). Draw a graph to report the answers.

Learning points

- Teacher starts to explain that every move counts for health!
- Explain the risks related to screen time sedentary behavior

Classroom activities

- Gather suggestions for reduction time spent watching tv or using video games
- Breaking up long periods of sitting as often as possible.

Healthy homework + Challenges

- Reported in the diary the numbers of hours spent using electronic devices in a week
- School Contest: less hours of the use of electronic devices, more healthy points for alternative proposals for reduction. We calculated the healthier class.

Final Discussion after homeworks and challenges

I was able to reduce my sedentary time/I was not. If no, why not?
Collection of suggestions for alternatives to electronic gaming while sitting - create a collection of games (interviews with grandparents, parents: what did they play where and with whom).

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5° LU WEEK FIVE: LET'S TALK ABOUT ACTIVE COMMUTING

GOAL:

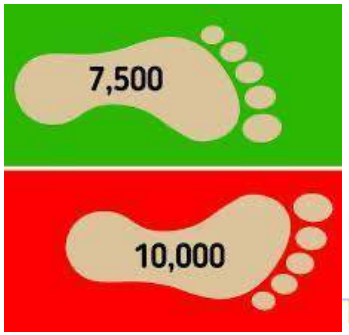
a) Knowledge of the use of Active Commuting, around the city, as a healthy lifestyle (Walking, Running, Cycling).

b) Getting around on foot (walking and running) with different intensity and in safety condition (walkway lane, respect of traffic rules).

c) Getting around by bike in safety condition (wearing a helmet, on bike lane, respect of traffic rules)

Key message:

Active Commuting is easy and sustainable, one of the ways to achieve WHO PA recommendations for children and adolescents to perform at least 60 minute of Moderate to Vigorous PA or 7000 to 10000 daily steps.



Material: Happy feet log, Borg Scale	**Methods:** Participatory lectures on the topic of Active Commuting; applied lessons in the gym; recording of personal data in the diary	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Science: Cardiovascular system; Physical Education: walking/running/cycling, correct posture, different applications and intensity; Geography: study of city maps

LET'S START PLAYING FOR HEALTH

Initial Discussion about Active Commuting as Physical activity
Discussion about active commuting at various intensities and its contribution to cardiovascular health. Reflection on the sustainability of walking/running/cycling in all environments, spaces, time and conditions.

Learning points
What is the meaning of Active Commuting?
- Teacher start to explain why to be active is important for children
- How many steps children have to do in a day if they walking or running
- How many kilometres to do in a day with the bike

Classroom activities
- Walking/running/cycling at different speeds in playful activities (paths, transporting objects, games in pairs with a partner with eyes closed) - measurement of heart rate after a walking/running/cycling at low, medium and high intensity - application of Borg Scale.
- study of road maps and distance calculations on a small scale - search for one's home and positioning on the map - hypothesis of some routes from home to.... and back.

Healthy homework + Challenges
- During the week or on the weekend, calculate with dad and mom three routes on the city map. Realise the three routes by walking or running or cycling: 1) route taken at a leisurely pace (e.g. go to the supermarket), 2) route taken at a medium-high speed (e.g. go to the parish or the nearest park), 3) route taken at a high speed (walking/running/cycling with parents).
- Write down in the personal diary: a) the three paths made indicating the routes, outward and return, to and from home; b) note the heart rate at the start, at the end of the outward journey, at the end of the return; c) note the self-evaluation with the Borg scale; d) note the feelings experienced in the three paths

Final Discussion after homework and challenges
Circle time about the home challenges, is it feasible? Do you enjoy homeworks?
I was able to increase the number of steps in a day? If no, why not?

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ATTACHMENTS: EXAMPLE OF A DIARY PAGE

NAME SURNAME	FEMALE MALE	AGE	CLASS

QUESTIONS BEFORE THE ACTIVITIES										
Are you aware of how important is the active commuting?	1	2	3	4	5	6	7	8	9	10
Can you control walking/running/cycling better or worse than other skills?	1	2	3	4	5	6	7	8	9	10
Can walking/running/cycling affect your heart?	1	2	3	4	5	6	7	8	9	10

ACTIVITIES				
Day and place	1 low intensity	2 Medium intensity	3 high intensity	Borg Correspondence
	1 route	2 route	2 route	Borg corrispondence
	BPM at start	BPM at start	BPM at start	1: ; 2: ; 3:
	BPM andata	BPM andata	BPM andata	1: ; 2: ; 3:
	BPM return	BPM return	BPM return	1: ; 2: ; 3:
	Velocity	Velocity	Velocity	
With parent	Vel.1	Vel.1	Vel.1	Borg average
With parent	Average bpm	Average bpm	Average bpm	1: ; 2: ; 3:

QUESTIONS AFTER THE ACTIVITIES (1=low, 10=high)										
Do you understand the importance of active commuting?	1	2	3	4	5	6	7	8	9	10
Do you feel more in control on walking/running/cycling?	1	2	3	4	5	6	7	8	9	10
At what maximum speed can you walk/run and with how many heartbeats per minute?	1	2	3	4	5	6	7	8	9	10

	Impressions and personal sensations on the three routes
With the parent	Description:

HOW DO YOU FEEL, COMPARED TO Active commuting AFTER THIS EXPERIENCE?				
				

6° LU WEEK SIX: LET'S TRY TO HOPPING

GOAL:

- Objective : self-awareness; Knowledge of binary and ternary rhythm.
- Skills: Hopping with at least one binary and one ternary tempo - respiratory control and defatigue
- Competence: awareness of rhythmic control of jumping in relation to speed, number of repetitions, or application time

Key message:

Hopping is easy and sustainable activity, activity that can be done anywhere, even at home in a small space and can also be done by dancing.

Material: Happy feet log, Borg Scale	**Methods:** Participatory lectures on the topic of hopping; applied lessons in the gym; home challenges and recording of personal data in the diary	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** Sciences: time and rhythm in nature and in humans; Music: binary and ternary rhythm. Strong and weak times. Rhythmic cadences. Art: the use of the hop in tribal and modern dances, folk and traditional dances based on the hop (e.g. the Tarantella or Pizzica)

LET'S START PLAYING FOR HEALTH

Initial Discussion about Hopping
Discussion about hopping with different modes and different rhythms, the pleasure of free dancing expression, the pleasure of moving while having fun, keeping fit without mental fatigue.

Learning point

- Learning how hop
- Hop is one of the movements included in dance with other types of movement such as jump, bounce, sidestep, squat, stomp, arm swings, twirls, and turns.
- In different cultural and ethnic groups, hopping is used inside typical dance for entertaining, reflecting on spirituality, telling stories, and for enjoyment.

Classroom activities

- Activities based on hopping and on the various types of rhythm that can be used - variable control of hopping (speed, number of repetitions, duration) - application of jumping to various situations (on the spot, on special paths, on relay games) - application of jumping to sound support (musical bases) - detection of heart rate and recovery time (see LU 5); breathing control and relaxation between series of jumps.
- time and rhythm - physical characteristics - applications and tools
- density - intensity - quantity of rhythmic activities and elementary calculations related to them

Healthy homework + Challenges
1. During the week, practice, even at home, jumping jacks with dad or mom for at least 15 minutes a day.
2. Do medium intense types of jumping by varying speed, number of jumps or application time
3. Note in personal diary: How long can you hop? How much time?
4. With parents: write down in the diary the differences, between the three jumping modes, with reference to the detected heart rates (aspect already addressed in the LUs on walking and running)

Final Discussion after homework and challenges
Home challenges experiences
I was able to do hopping every day during my healthy homeworks? If no, why not?

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ATTACHMENTS: EXAMPLE OF A DIARY PAGE

NAME SURNAME	FEMALE MALE	AGE	CLASS

QUESTIONS BEFORE THE ACTIVITIES

How tiring is skipping in your opinion?	Absolutely NOT	NOT	i don't know	YES	Absolutel YES
Do you feel able to control various hopping rhythms?	Absolutely NOT	NOT	i don't know	YES	Absolutel YES
How long do you think you can hop without stopping?	Absolutely NOT	NOT	i don't know	YES	Absolutel YES

HOME CHALLENGES

Week day	1 slow hopping	**2 medium hopping**	3 fast hopping	Borg corrispondence
Mon	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3:
Tue	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Wed	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Thu	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Fri	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Sat	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Sun	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3

QUESTION AFTER THE ACTIVITIES

What awareness have you gained in controlling the tempo and rhythm applied to jumping?	Absolutely NOT	NOT	i don't know	YES	Absolutely YES
Do you feel more in your motor control?	Absolutely NOT	NOT	i don't know	YES	Absolutely YES
How long are you able to hop without stopping (mild resistant stimulus)?	Absolutely NOT	NOT	i don't know	YES	Absolutely YES
How long are you able to hop at full speed (intense stimulus)?	Absolutely NOT	NOT	i don't know	YES	Absolutely YE5

IMPRESSIONS AND FEELINGS ABOUT THE EXPERIENCE CARRIED OUT THREE WAYS OF HOPPING

Describe (also with your parents):

7° LU WEEK SEVEN: HOW CAN I USE MY BODY IN MOTION?

Goal:

Measuring spaces with your body in motion, experimenting and knowing the relationship between movement and learning

Key message:

Coordination and body awareness

Material: Sheets, pens or pencils, metric distance wheel, excel sheet to report data on the measures taken	**Methods:** Initial discussion, laboratory, healthy homework, cross-subject-teaching	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Math: movement and learning can be linked to numbers (count during movement) space and time; Physical education: stimulate body control, balance, coordination, agility; Geography: find a common way to measure distances

LET'S START PLAYING FOR HEALTH

Learning point

- Lengths and measures; unit of measure; metric system; circumference and circle; time / distance calculation
- How can I move in space with different movements? (connection LU 7-8-9)

Classroom Activity

- Choose the space to be measured: corridor, atrium, gym; yard measurements. Every child measures the distance by counting the number of steps using different walking styles (normal step, long step or running).
- Discussion, how to establish a common measure (metric system) for home challenges; how does the metric wheel work?
- Measurement tests build one or more metric wheels.

Healthy homework + Challenges

- walk 15 minutes a day for a week, recording the distance of the path x number of family participants. Share collected data. Nomination of the individual and collective winner (the more family members walk, the higher the distance traveled). (linked with LU-5)
- define a path of the same length, make the path with different steps as in the classroom activities. Calculate travel times. You must reach at least 10.000 steps in a day. (linked with LU 6-7)

Final Discussion after homework and challenges

How do I feel after the activity? What difficulties did I encounter? What body parts did I use? Has my heart rate increased?

References

World Health Organization (2020). *WHO guidelines on physical activity and sedentary behaviour*. Geneva: World Health Organization. Avaiable at https://www.who.int/publications/i/item/9789240015128.

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8° LU WEEK EIGHT: SPORT

Goal:

Knowledge about common SPORT for children

https://www.nhs.uk/healthier-families/activities/

Key message:

Social and cultural factor related to SPORT

Material: Happy feet log Daily journal for children and parents. Collect each sport experience, feeling.	**Methods:** Initial discussion, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** History: Identify how sport is influenced by culture and the environment, researched and recorded three facts about how a sport developed in another country

LET'S START PLAYING FOR HEALTH

Initial Discussion about physical activity

Talking about what is sport? How much time does everyone spend in practicing the sport during the week? (Raise your hand) Which type of sport?

Learning points

- Teacher starts to explain the differences between organized sport (structured team sports, single sports)
- Sport has the potential to contribute both positively and negatively to wellbeing
- The effective promotion of sport ensures all children have the opportunity to: Participate to the highest level of their interest and ability, Experience enjoyment and achievement., Practice fair play in all situations, Experience and manage competition
- Competition: Team sports provide opportunities for children to develop teamwork and cooperation skills, manage success and disappointment, and to respect officials, teammates, and the opposition.
- Culture: Children who experience sporting activities, in which cultural practices are expressed through movement, develop skills to identify and discuss the social and cultural significance that sport has for individuals and for society.

Classroom activities

- Let's choose one group sport activity and single sport activity and share it with the class.
- Create/understand how to fill the happy feet log day by day for two weeks regarding sport practiced

Healthy homework + Challenges

- Try to find a new sport you've never played. Learn the rules of the game and try it if you can and share with class in the following week
- Trying to do as much sport during extra school as you can. After two weeks teacher nominates the most active children

Final Discussion after homework and challenges

I was able to perform the PA new sport ? I know the new rules? I was not able. If no, why not?

References

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9° LU WEEK NINE: WHAT IS A MOTOR TEST?

Goal:

Stimulate knowledge and body control to learn the self-evaluation of motor skills and stimulate proactive behaviours in favour of one's well-being

Key message:

Measure your motor skills and monitor their development over time

Material: ● Balance: “One leg”: Timer, bandage (to blindfold, optional), piece of wooden bar or tile; ● Flexibility: “bending”: gymnastic bench (small box), measuring rod / ruler in cm; ● Long jump: “muscle power”: adhesive tape to mark the distance on the ground - marks every 5 cm starting from 50 cm up to 3 metres; ● Side skips: “coordination”: timer, adhesive tape to mark the centre line on the ground;	**Methods:** Initial discussion about test, production of test material, healthy homework	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Science: muscular, skeletal, balance (ear); Geography: Mind maps, map work, urban geography - e. g. where are the best playgrounds and parks in the city; Art: school playground design, marking of available play opportunities

LET'S START PLAYING FOR HEALTH

Initial Discussion about Motor test

Talking about what is a motor test? Do you know some motor tests?

Learning point

How important is it to be aware of our motor skills?

What am I able to do? How can I improve myself?

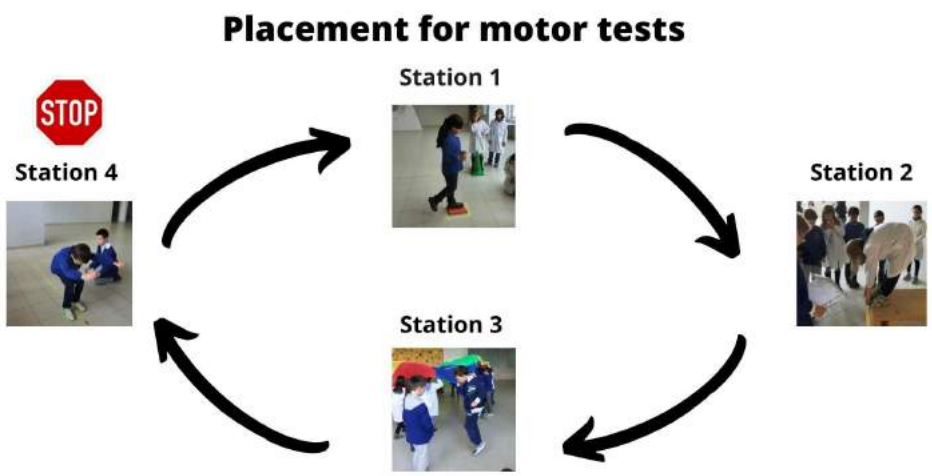
- Definition of motor skills
- Increase physical literacy, i.e. to develop an understanding of the components of fitness. (In developing this kind of physical awareness or core skills, this may then be transferred to a range of physical activities.)
- Develop an understanding that a person with adequate fitness is able to sustain physical activity or perform physical tasks efficiently without fatigue or injury
- The effective promotion of sport ensures all children have the opportunity to:
  - Participate to the highest level of their interest and ability.
  - Experience enjoyment and achievement.
  - Become competent and enthusiastic participants.

Classroom activities

- The activity requires the organisation of the space in a gym or other large rooms, divided into 4 stations, 1 for each test (see diagram).
- The class is divided into 4 groups; each group presents itself in front of the test station numbered from 1 to 4 (clockwise rotation); each pupil has a personal sheet containing his personal data and the matrix to record the results; they all start together in the same time; the results are recorded by the assistants assisted by the teachers; for each station there must be at least 2 pupils to record the data.
- Collection and processing of data and initial 'self-assessment' to be achieved at the end of the school year.

If the activity is extended to other classes, the children / students in the pilot class take the roles of co-conductors together with the teachers.

This activity can be used to register the initial and final situation of a class (extended over a school year). Its repetition is therefore proposed and useful for self-assessing the progress, generated by the increase in daily movement.



Healthy homework + Challenges

- The activity can also be extended to families. The four motoric tests can be organised with the help of the pupils who have experienced them at school. In this way they can be self-organised by every family. Otherwise the school can organise a 'movement party'. Parents can measure their personal motor skills.
- As for the pupils, the adults can as well fix their individual motoric improvements (goals) over the time of a school year.
- Ultimate challenges: parent involvement in test performance

Final Discussion after homework and challenges

How do I feel after the activity? What difficulties did I encounter? What body parts did I use? Is it easy to balance?

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10° LU WEEK TEN: HOW MOVEMENT IS RELATED TO SUSTAINABILITY?

Goal:

Know the relationship between individual and collective behaviors and handling with the environment

Key message:

Responsibility towards the environment caused by positive or negative personal choices and group responsibility when dealing with the environment.

Material: Movement diary; online software for calculating ecological footprint; excel sheet to record collected data	**Methods:** Initial discussion, laboratory, healthy homework, cross subject teaching, internet research	**Frequency**: --	**Timing**: --	**Potential Curricular Links:** Science: the meaning of ecological approach; Civics: the importance of (individual) choices in respect of the environment; Mathematics: statistical about personal data; Geography: Data between different Country

LET'S START PLAYING FOR HEALTH

Learning point

- Do our habits cause effects on the environment? Can the effects caused by us on the environment be calculated?
- What is CO2 used for? Does it exist in nature? What happens if it isn't there? What happens if there is too much? What causes the increase in CO2? If I walk, how much do I consume? What if I run?

Classroom Activity

- Calculate our ecological footprint (EF) : graph of the individual EF and average of the EF value
- Diagnosis? How can we improve? Energy, food, transport: we plan small steps for a change: f.e. - Walk to school week
- Walk of the class: 1 km on the schoolyard or near the school. How much CO2 do we save?
- Walk to school week; measuring the distance from home (bus stop) to school. Learn the formula for the calculation KM (by car - CO2 use)

Healthy homework+ Challenges

- Walkability group from home to school at least three times or more per week with family: calculate the km CO2 saved in a week (comparison with teammates)

Final Discussion after homework and challenges

How do I feel after the activity? What difficulties did I encounter?

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11° LU WEEK ELEVEN: HOW DO I USE MY SENSES IN PHYSICAL ACTIVITY?

Goal:

Explore the schoolyard using all the human senses; learn to observe space with one sense only (blind, deaf, touch, smell) and represent it.

Key message:

Body awareness, orientation

Material: Schoolyard map (A3 format with rigid cardboard backing), pens / pencils, camera or smartphone	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency**: --	**Timing**: --	**Potential Curricular Links:** Geography: Maps creation; Math: spatial orientation, trajectories and geometric figures; Art: production of colleges and artifacts

LET'S START PLAYING FOR HEALTH

Initial Discussion about physical activity

Talking about which are the senses? How many senses do we have?

Learning point

- Teacher starts to explain the five senses and describes them.
- What is the sense you use most during physical activity?
- Other senses besides the classic ones involved during physical activity for example the kinesthetic sense
- Do we learn to use them? Let's read the map of our schoolyard together.

Classroom activities

- The class can be divided into groups: one group for each sense to be activated. Each group has a map to enrich and define according to the sense they activate to analyze the pathway
- In the classroom, on a larger map, the results of sensory exploration are reported, documented, shared and discussed together. The class will thus build a "sensory-affective map" that will be able to give significant information on the ease or discomfort that the space offers and therefore guidelines for improving its use and organization.

Healthy homework + Challenges

- Children and families are invited to explore a place they frequent (garden or public park, condominium courtyard, naturalistic-environmental path, riverside); the activity can also be organized for groups of families, who will document their explorations by creating shared paper maps (digital maps with google maps)
- Once you have identified a space/path, mark a perimeter, calculate its length and accomplish one of the following challenges: How far can I run on the course before I feel tired? Can I do ten laps of the course? What senses do I feel are most engaged during the activity?

Final discussion

How do I feel after the activity? What difficulties did I encounter? What sense did I use? The human body, what are the senses for?

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12° LU WEEK TWELVE:

HOW TO LEARN BY DOING PHYSICAL

Goal:

Experience and knowledge of the relationship between physical activity and learning

Key message:

Learning by doing

Material: Different writing tools (Colored chalks, or circular stencils and various shapes to be placed on the ground)	**Methods:** Initial discussion, indoor/outdoor activity, and healthy homework	**Frequency**: --	**Timing**: --	**Potential Curricular Links:** Mathematics: learn how to do math's operation; Literatures: Memorize poetry with movement; Language: Learning the alphabet of a foreign language

LET'S START PLAYING FOR HEALTH

Initial Discussion about physical activity

Talking about what learning by doing is?

Learning point

- Teacher starts to explain that it is possible to learn using physical activity and play/game
- Have you ever used a game to learn something new?
- There are so many ways you can learn including play and movement

Classroom Activity

Two methods of preparation: write the letters of the alphabet (or numbers from 1 to 10 repeated twice) on circular stencils or of various shapes (plywood or other materials that do not slip) so that they can be reused.

- Puddle of letters: “my name is” jump over the letters to “write” your name. (2) “Guess the word”: the children take turns inventing a word. They "write/jump" it and the others have to guess the word.
- Puddle of numbers: “Maths competitions" - the children perform the operations suggested by the leader (teacher or other child) by jumping on the numbers (example: 3 + 5 = 8; 8 + 2 = 10; 10: 5 = 2; 2 x 9 = 18). Whoever jumps counts aloud, the others check that the operations are correct.

Healthy homework+ Challanges

- Draw the puddle of letters and / or numbers on the ground in the backyard or in a protected place. Appoint a game leader who communicates the words to be composed. Children write the words by jumping. Parents take the time, record and count the words written within a set time frame.

Final discussion

How do I feel after the activity? What difficulties did I encounter? Is it fun learning by doing?

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4

LEARNING UNITS ABOUT HEALTHY SLEEP FOR PRIMARY SCHOOL

1° LU WEEK ONE HOW MUCH SLEEP DO I NEED?

GOAL:

Knowledge about recommendations toward healthy sleep habits in children

Key message:

Source: Centers for Disease Control and Prevention (CDC)

Material: "My secret sleep diary"	**Methods:** Initial discussion, content of guidelines on healthy sleep behavior sleep hygiene, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

Start talking about how children feel in the morning: do they feel sleepy or spry? Talk about: What is Healthy Sleep? How many hours per night do they usually sleep? How many hours of sleep are enough for good health?

Learning points

- The teacher starts the lesson explaining the recommended number of hours of sleep for each age group (babies, children, adolescents, adults, animals).
- Explain how lack of sleep affects health: Research has found that insufficient sleep is linked to an increased risk for the development of type 2 diabetes. Laboratory research has found that short sleep duration results in metabolic changes that may be linked to obesity. Epidemiologic studies conducted in the community have also revealed an association between short sleep duration and excess body weight. This association has been reported in all age groups—but has been particularly pronounced in children. It is believed that sleep in childhood and adolescence is particularly important for brain development.
- Children 6 to 12 years of age should sleep 9 to 12 hours per 24 hours on a regular basis to promote optimal health.
- Talking about the importance of being consistent and going to bed at the same time each night and getting up at the same time each morning, including on the weekends.

Classroom activities

- Let’s create your own secret sleep diary.
- Understand how to fill the sleep diary day by day for one week.

Healthy Homework + Challenges

- Try to sleep 9 to 12 hours per night including naps.
- Define a set bedtime to meet a minimum number of hours of sleep (9-12 hours).
- Record in the diary the time you went to bed and the time you woke up. Describe how you feel and describe in the diary how you feel during the day.

Final Discussion after homework and challenges

Was I able to sleep the recommended amount of hours? If not, why not?

References

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2° LU WEEK TWO: TIPS FOR BETTER SLEEP

Goal:

Knowledge about recommendation toward healthy sleep habits in children

Key Message:

Follow the tips to improve your sleep quality in order to stay healthy!

Material: “My quality sleep diary”	**Methods:** Initial discussion, content of guidelines on sleep hygiene, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

Talking about the importance of good quality rest and sleep.

Learning points

- Explain how poor quality of sleep affects brain function and academic achievement.
- Explain sleep stages and their importance in allowing the brain and body to recuperate and develop. Failure to obtain enough of both deep sleep and REM sleep may explain some of the profound consequences of insufficient sleep on thinking, emotions, and physical health.
- Explain some habits that can improve sleep health:
  - Be consistent. Go to bed at the same time each night and get up at the same time each morning, including on the weekends.
  - Make sure your bedroom is quiet, dark, relaxing, and at a comfortable temperature (See also Learning Unit on Healthy Sleep n. 4)
  - Remove electronic devices, such as TVs, computers, and smartphones, from the bedroom (See also Learning Unit on Healthy Sleep n. 4 and Learning Unit on Physical Activity n. 4)
  - Avoid large meals, caffeine, and alcohol before bedtime (See also Learning Unit on Nutrition n. 13)
  - Avoid smoking tobacco.
  - Get some exercise. Being physically active during the day can help you fall asleep more easily at night (See also the Learning Units on Physical Activity).

Classroom activities

- Let's create your own quality sleep diary: the diary should include sections to be filled in with your behavior, for example: which time you go to bed and what time you get up, how many times you wake up during the night and why, if you use electronic devices before sleeping, if the room is quiet, dark and comfortable, what you eat and drink during the day and if you exercise during the day etc.
- Understand how to fill the quality sleep diary day by day for one week.

Healthy homework + Challenges

- Track your sleep at home using a quality sleep diary: record in the diary how many times you woke up during the night (i.e. to use the bathroom) and how many minutes you need to fall asleep, which time you go to bed and what time you get up (Answer to the question "Are you consistent during the week?"), which are your habits after going to your bedroom, how many times you wake up during the night and why, if you use electronic devices before sleeping, if the room is quiet, dark and comfortable, what you eat and drink during the day (small or large meal at dinner, caffeinated items e.g. soda,

chocolate, tea etc.), if you exercise during the day and for how long and if you take a nap. Record how you feel (rested or tired) when you wake up for the day and your mood during the day (pleasant or unpleasant).
- After completing your diary, try to find out with your parent(s) which behaviors are healthy and which ones are unhealthy.

Final Discussion after homework and challenges

Do you think your behaviors are healthy or unhealthy? Do you agree or disagree with your parents?

References

Centers for Disease Control and Prevention (CDC) (Available at: https://www.cdc.gov/sleep/index.html; https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.htm)

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3° LU WEEK THREE: FEEL COMFORTABLE AND RELAXED

Goal:

Knowledge about recommendations toward sleep positions and relaxation techniques

Key Message:

Choose your ideal sleeping position and practice relaxation techniques when you go to bed

Material: Tatami or carpet	**Methods:** Initial discussion, group activity, practice training, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion

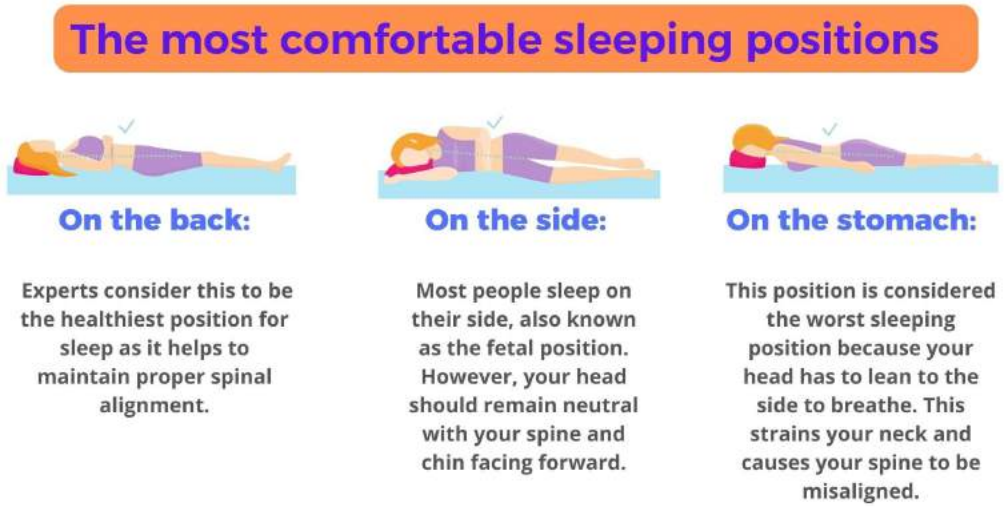
Start talking about sleep positions: what position do adolescents usually sleep in?

Learning points

- Focus on the importance of a comfortable sleep position in order to have a good rest and a healthy attitude for every part of your body (vertebral column, stomach, neck, circulation).
- The best sleep position is one that promotes healthy spinal alignment from your hips all the way to your head. Specifically, sleeping on the side or back is considered more beneficial than sleeping on the stomach. In either of these sleep positions, it's easier to keep your spine supported and balanced, which relieves pressure on the spinal tissues and enables your muscles to relax and recover.
- Explain how different sleep positions can provide different benefits that may be helpful for you in various health conditions, such as back pain, allergies, acid reflux, nasal congestion.
- Think about how a good resting position could help you fall asleep faster than usual and thus achieve the correct amount of sleeping hours (see also LU n.1 on Sleep: "How much sleep do I need?")

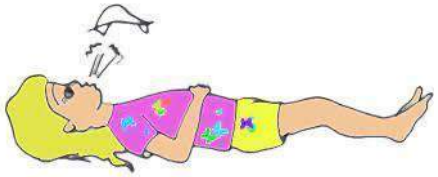
Classroom activities

- The teacher shows on a tatami or on a carpet:
  - Various sleeping positions:



  - Tips to find comfortable positions:

- Elementary relaxation techniques (breathing control and muscles relaxation):



- Practice training: following the instructions of the teacher, try the different positions to fall asleep and the relaxation techniques.

Healthy homework + Challenges

- Every night, before bedtime, practice the relaxation techniques and use the suggested sleeping positions (remember that it is better not to sleep in the prone position). Try to mentally relax.
- Monitor the quality of your sleep (if you wake up at night and why, how rested you feel in the morning…). You can mark it in a daily diary.
- Try the suggested positions for 1 week and notice if the quality of your sleep improves.

Final Discussion after homework and challenges

Was I able to find a comfortable position in my bed and to relax before falling asleep? If not, why not?

References

Sleep Foundation (Available at: www.sleepfoundation.org)

4° LU WEEK FOUR: MY IDEAL BEDROOM

Goal:

Knowledge about the importance of a right sleep setting to promote a good rest

Key Message:

A proper setting is fundamental in order to improve your sleep quality and to help you to fall asleep

Material: Sketch book	**Methods:** Initial discussion, content of CDC guidelines, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

Start talking about the adequacy of the setting to improve the quality of sleep and to achieve a good rest.

Learning points

- Focus on the ideal bedroom: explain that the bedroom should be quiet, dark, relaxing, and at a comfortable temperature (18°-20°C);
- Focus on the different types of light color in your bedroom: blue light has the strongest impact on the quality of your sleep, because it influences the circadian rhythms. The exposure to blue light (and white light, which contains blue light) 1 or 2 hours before bedtime can make it difficult for you to fall asleep and stay asleep. On the contrary, red light has no effect on the circadian clock, so you can use a dim red light at night. Lastly, yellow and orange light have little effect on the clock.
- Focus on electronic device usage and their presence in the bedroom: explain why using electronic devices before going to bed negatively affects sleep quality: electronic devices emit strong blue light; when you use these devices, blue light floods your brain, tricking it into thinking it's daytime. As a result, your brain suppresses melatonin production and works to stay awake. You should take away all electronic devices from your bedroom.

Classroom activities

- Describe your dreaming bedroom: how do you imagine it, according to the directions you have just heard? Talk about it with your mates.
- Try to think about activities you could do before bedtime instead of using electronic devices (reading a book in a quiet environment, listening to relaxing sounds or music/somebody reading a story)
- There is a genetic link for the morningness or eveningness tendency: some people are naturally "early to bed and early to rise" and tend to have more difficulties working at night, so they are represented by a lark. On the other hand, people that are naturally "late to bed and late to rise", have fewer difficulties working at night and tend to have more troubles with early morning start times, so they are represented by an owl. Which of these animals represents you better? Discuss about it with your mates.

Healthy homework + Challenges

- Project your ideal bedroom;
- Organize your bedroom (take away everything that is not related to sleeping; reduce lighting: use room-darkening shades or heavy, lined draperies, or wear an eye mask during sleep; reduce noise: wear earplugs and turn off the phone; set the right temperature: 18°-20°C, if this won't work for you, the generally accepted temperature range for sleep is 15.6 to 19.4°C);
- Choose your favorite pajamas and use it only when sleeping; wear something else during the day and weekends;

- Use your bed only when sleeping;
- Remove electronic devices, such as TVs, computers and smartphones from the bedroom. Don't use electronic devices for 1-2 hours before bedtime; √
- You may enjoy your favorite scent with an aromatherapy diffuser

- Try to organize your bedroom following these directions for 1 week and notice if the quality of your sleep improves

Final Discussion after homework and challenges

Was I able to create a proper setting in order to fall asleep easily? If not, why not?

References

Centers for Disease Control and Prevention (CDC) - Sleep Hygiene Tips (available at: https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html)

Centers for Disease Control and Prevention (CDC) - Sleep and Sleep Disorders (available at: https://www.cdc.gov/sleep/about_sleep/index.html)

5° LU WEEK FIVE: MY SLEEP ROUTINE

Goal:

Knowledge about recommendation toward healthy sleep habits in children

Key Message:

A sleep routine can improve your sleep quality

Material: Bedtime routine list	**Methods:** Initial discussion, content of CDC guidelines, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 90 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

- Feedback on what you learned until now: did the healthy homework improve your sleep quantity and quality? Talk about the importance of achieving a healthy sleep routine.

Learning points

- Focus on why a bedtime routine is important. A bedtime routine is a set of activities you perform in the same order, every night, in the 30 to 60 minutes before you go to bed. It can help you relax and set your mind for sleeping.

Classroom activities

- Pick one of your favorite cartoon/book characters and try to imagine what his/her/its typical day is like: what should be the correct bedtime routine, according to what you just learned?
- Create the perfect bedtime routine: you will have to follow it as your healthy homework. It should include these points:
  - Set a bedtime;
  - Choose your favorite pajamas;
  - If you feel anxious, you could take a warm bath;
  - Brush your teeth before going to bed;
  - Go to the toilet;
  - Reduce bright lighting in your room;
  - Read your favorite story/a chapter of a book.
  - Do some stretching or breathing exercises (see also Learning Unit on Healthy Sleep n. 3).

  You can also schedule a morning routine to begin the day, including, for instance:
  - You can also schedule a morning routine to begin the day, including, for instance:
  - Open blinds first thing in the morning
  - Get up at the same time every day, even on weekends or during vacations.

Healthy homework + Challenges

- Follow your bedtime routine for a week and notice if the quality of your sleep improves

Final Discussion after homework and challenges

Was I able to create and consistently follow my sleep routine? If not, why not?

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Let's move Europe:

School-based promotion of healthy lifestyles to prevent obesity

Learning units about healthy lifestyles promotion for secondary school

Co-funded by the
Erasmus+ Programme
of the European Union

1

LEARNING UNITS ABOUT HEALTHY LIFESTYLES PROMOTION

2

LEARNING UNITS ABOUT HEALTHY NUTRITION FOR SECONDARY SHOOL

3

LEARNING UNITS ABOUT PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR FOR SECONDARY SCHOOL

4

LEARNING UNITS ABOUT HEALTHY SLEEP FOR SECONDARY SCHOOL

1

LEARNING UNITS ABOUT HEALTHY LIFESTYLES PROMOTION

INTRODUCTION

In this document there are 54 learning units (LUs) focused on how to promote healthy lifestyles for primary and secondary school teachers. The learning units are divided into three main categories: 12 LUs related to healthy nutrition, 10 for physical activity and sedentary lifestyle and 5 for healthy sleep. All LUs have been divided for primary and secondary school, for this reason each teacher can find 27 LUs available for primary school and 27 for secondary school. The LUs can be used by all teachers of the school regardless of the subject they teach and obviously can be integrated, adapted and extended based on teacher's experience, also creating potential academic connections. Before exhaustively detailing the LUs proposed, a brief introduction on the importance of designing these actions to improve healthy nutrition, physical activity, healthy sleep and reduce sedentary behaviour in primary and secondary school is necessary. Physical activity (PA) combined with healthy eating and healthy sleeping habits are essential for many aspects of child health and development, including the prevention of chronic health conditions, such as overweight and obesity.

Physical activity during childhood and adolescence leads to many physical (i.e., improved physical fitness, bone health, cardiometabolic health) and psychosocial (i.e., psychological well-being, mood, cognitive functions) positive health outcomes[1,2]. In order to obtain these beneficial effects, children and adolescents should practice at least an average of 60 minutes per day of moderate-to-vigorous intensity PA (MVPA) during the week.

However despite these recommendations, most children and adolescents across the world do not reach these levels, resulting in a pandemic of physical inactivity1. Meanwhile, sedentary behaviours are more and more frequent both in children and adolescents1. Healthy nutrition is defined as the intake of an adequate, well-balanced diet and we know from scientific literature that good habits[3,4], for example the consumption of fruit and vegetables during childhood, are related to lower adiposity, lower cardiometabolic risk factors, and higher academic performance[5,6,7]. For this reason, it is essential to include these topics early in childhood education.

Finally, healthy sleep habits are essential for child and adolescent development[2]; longer sleep duration is associated with lower adiposity indicators, better emotional regulation, academic achievement, and quality of life, conversely a short sleep duration is related to adverse physical and mental health outcomes8. However, over the last decades, in these specific age groups, many children and adolescents do not comply with international physical activity[9], dietary[10] and sleep guidelines[11] showing how these are becoming a serious concern for public health.

In this frame, it is increasingly essential to promote healthy lifestyles initiatives, especially in the school setting. Children and adolescents spend a significant amount of time at school where they are exposed to supportive environments such as school health policies, physical and nutrition education, PA during school hours. Furthermore, most children's knowledge, skills, and habits for life-long health can be improved during school-days[12]. At the same time, it is becoming more and more evident that interventions not only focused on school but also targeted on family are likely to be more most effective[13,14].

With the goal to achieve long term and sustainable changes in lifestyles behaviour it becomes necessary the involvement of both family and extra school environment.

For this reason, school-based interventions with extracurricular activities and healthy homework components could maximise family engagement and potentially improve the success of the health promotion intervention. In light of this, the present document contains 27 LUs that starting from the school context are expanded using extracurricular activities and homework promoting health[15].

Co-funded by the Erasmus+ Programme of the European Union

Each Lus has a main objective, a key message, useful materials and methods, frequency, duration and potential teaching/curricular links. Obviously each LU is a starting point that can be expanded by the teacher of each subject. The links with the potential curricular aspects are not mandatory but are only suggestions. However, the Learning Units can be a good investment and an experiment to understand how movement is an excellent tool for learning. Each LU begins in the school setting with a brief teacher-led discussion that is preparatory to the work to be done in class. The various aspects that will be learned during the LU and the activities that can be managed in the class are highlighted. Subsequently, possible homework to manage in extra-school time and to test the acquired habits are presented. Finally, each LU ends with a time for discussion managed in class.

The innovative aspects of this proposal consist in the fact that such learnings take place in the school setting, but are also experimented and expanded in the extra-school context often with the involvement of families in homework and challenges, then be discussed back at school for final feedback.

2

LEARNING UNITS ABOUT HEALTHY NUTRITION FOR SECONDARY SHOOL

1° LU WEEK ONE: HOW TO BUILD A HEALTHY DIET

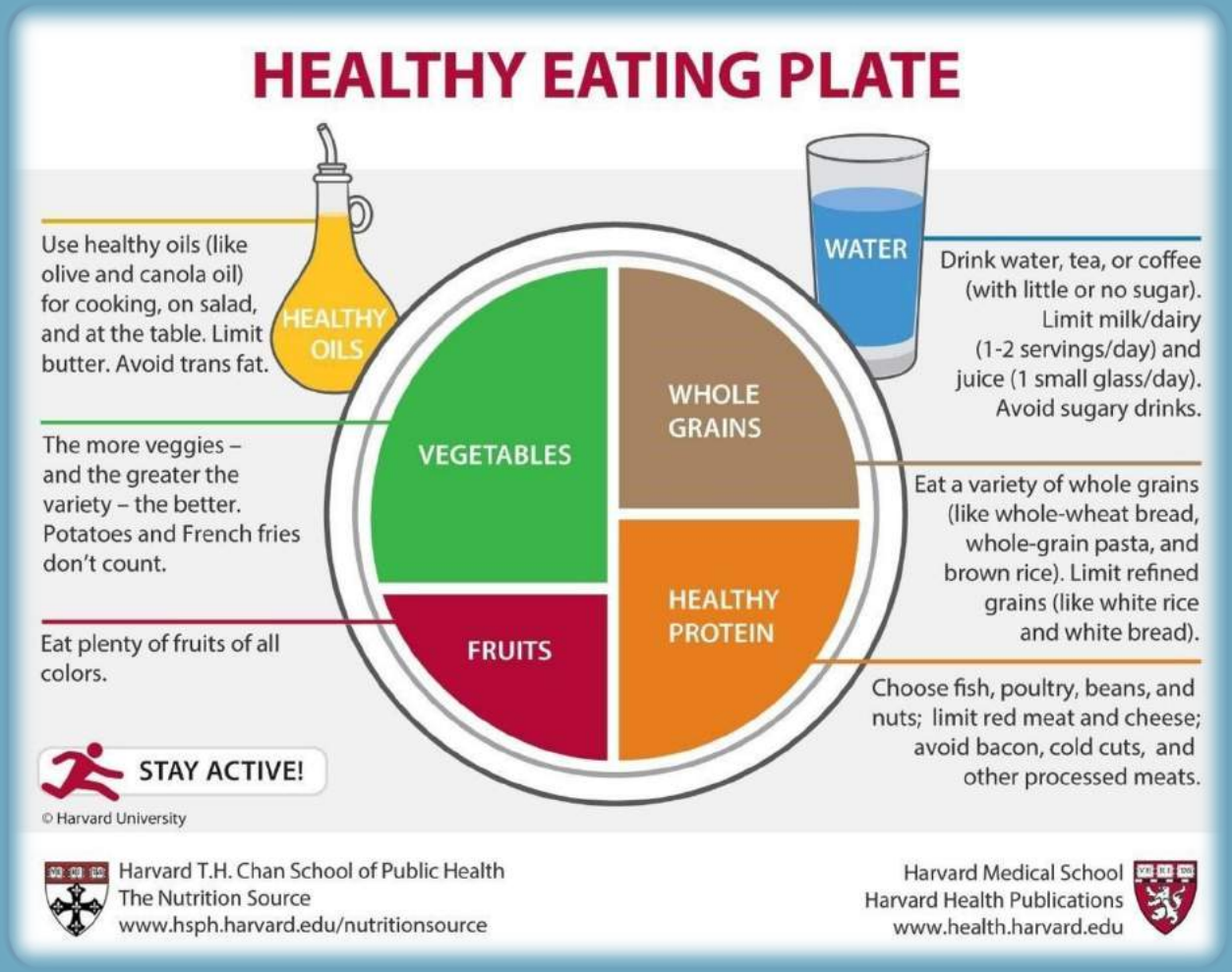
GOAL:

Knowledge about the proportions of nutrients needed to maintain a healthy diet and how to reach this goal through different foods

Key message:

Follow a balanced diet based on vegetables and fruit, legumes and grains. Different countries may have different cultures, including food habits. Understanding what people eat and why can enrich our personal knowledge and make us discover new flavours and healthy habits.

Material: White paper plate (to divide into coloured wedges for different categories of food), coloured markers, poster, pc, *Eumove website-Application*	**Methods:** Initial discussion, laboratory-group activity, healthy homework	**Timing**: 60 minutes	**Frequency**: One lesson	**Potential Curricular Links:** Science, Math, Art, Foreign language (English, Spanish…), Civics



LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy eating

According to the Global Burden of Disease Project, overweight and obesity are the 4th risk factor for chronic diseases such as diabetes type 2, cardiovascular diseases and others. Notably, replacement of processed foods with a healthier diet has been linked to the reduction of the BMI and thus to the prevention of overweight associated diseases.

Why is a healthy diet important? During the daily meals, what and in what proportion should be eaten? Explain what food categories are necessary to maintain a healthy diet (vegetables, fruits, healthy protein and whole grain), and that the intake of all of them is important. Every food provides some macronutrients (carbohydrates, proteins, fats), but in different quantities/proportions.

Try to find out if different countries have different food habits and why (e.g.: climatic conditions do not let certain vegetables grow properly).

Do you think you may like trying new foods?

Learning points

Teacher starts explaining the recommendations about how different food differs in terms of nutrients and what is necessary to set a healthy and balanced diet:

- Olive oil (or sunflower, canola, soybean oils): is a good source of healthy fats, try to avoid/reduce butter or margarine.
- Vegetables: they should be the main component of our diet, the more various they are, the better it is. Remember: chips and French fries can NOT be accounted in the “vegetables” section from a nutritional point of view, since they are rich in fats.
- Fruits: pick fruits from each color.
- Whole grains: choose whole grains instead of processed rice and white bread.
- Healthy proteins: fish, legumes, white meat and nuts should be the main source of proteins. Limit/avoid red and processed meat.
- Water: drinking water is the best way to rehydrate. Limit the intake of milk and derived products, juices and sugared drinks.

Different countries developed different ways to meet these nutritional goals.

Varying our meals is the best way to introduce all the nutrients we need to stay healthy.

It is possible to build a proper Healthy eating Plate even using foods that are not usually included in our nutritional schedule: foods from different traditions can be mixed to meet the healthy nutritional goals.

Classroom Activity

- Talking with the class, try to explore some traditional foods from different countries and, if you can, their nutritional asset and which part of the plate they fill in.

- Using a paper plate divided into different coloured wedges, explain the suggested proportions of different food during the daily meals. You could try to fill the plate with elements taken from different countries.
- If possible, use the Eumove website/application to keep in contact with a class from a foreign country and ask them to explain how their meals are usually composed: you can exchange ideas and recipes and try to cook something new, then check the results and opinions from both your class and the other.

Healthy homework + Challenges

- Think about your favorite food/s and about foods you never tasted. Create a meal mixing foods you're used to with something new, keeping in mind the suggested proportions of different foods and the necessity to have a balanced meal.

Final Discussion after homework and challenges

Did you succeed in trying new foods? Which issues did you find (e.g. the foods you wished you could cook were not available at the supermarket)? Do you think you will enlarge your usual diet after this experience?

What have you learned from the foreign school class you worked with?

References

Harvard T.H. Chan School of Public Health. The healthy eating plate. Available at: https://www.hsph.harvard.edu/nutritionsource/healthy-eating-plate/
Food and Agriculture Organization of the United Nations. Food-based dietary guidelines. Available at: https://www.fao.org/nutrition/education/food-dietary-guidelines/home/en/

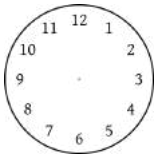
2° LU WEEK TWO: NUMBER OF MEALS PER DAY

Goal:

Knowledge about the number of meals, how they need to be distributed during the day and the nutrient proportions

Key message:

The recommended number of daily meals is five



Material: Paper/ 12 h clock drawing, markers	**Methods:** Initial discussion, laboratory, healthy homework	**Timing**: 60 minutes	**Frequency**: One lesson	**Potential Curricular Links:** Science, mathematics, english (or other languages)

LET'S START PLAYING FOR HEALTH

Initial Discussion

Daily repartition refers to the distribution of nutrients and energy over the different meals of the day, through different food choices and combinations.

Daily repartition of meals is important to provide to our body a constant flow of energy. It also avoids feeling too much hunger during the day.

Learning point

- how to divide the energy intake during the day:
  - Breakfast: 15-20%
  - Morning snack: 5%
  - Lunch: 35-40%
  - Afternoon snack 5%
  - Dinner 30-35%
- for lunch, dinner and breakfast and how they should be composed, see Learning Unit about it that will be taught further.
- For snacks, it is recommended to have a portion of fresh fruit/ a yogurt/ two biscuits (dry biscuits, not cookies).
- underline how meal schedule could differ from one person to another, depending on their daily need (e.g., sport, fixed school meal time)

Classroom activity

Draw a clock, colour, with different colours for each meal (breakfast, morning snack, lunch, afternoon snack, dinner) the wedge/time interval in which you usually have a meal. Any meals missing? At what hours you usually have meals?

Healthy homework + Challenges

Try eating 5 meals a day, following the instruction teacher gave you, and modifying them based on your needs (e.g. sports, family meals planned at certain times). In a week wrote down each day how many meals you had.

Final Discussion after homework and challenges

How did your meal schedule vary during the week? You were able to eat 5 meals every day or you skipped one/more? There were some differences between weekdays and weekends?

References

World Health Organization. Healthy Diet (2020). Available at: https://www.who.int/news-room/fact-sheets/detail/healthy-di

3° LU WEEK THREE: FRUIT AND VEGETABLE PORTIONS

Goal:

Knowledge about the correct portions of fruits and vegetables and their variety needed to build a balanced diet

Key message:

5 daily portions of fruits and vegetables

Material: --	**Methods:** Initial discussion, laboratory, healthy homework	**Timing**: 60 minutes	**Frequency**: One lesson	**Potential Curricular Links:** Art, Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy eating:

Why is a healthy diet important? During the daily meals, what and in what proportion should be eaten? Explain the benefits of fruits' and vegetables' nutrients, based also on the fruit's colour.

Learning points

- The teacher starts to explain the recommendations about the portions of fruit and vegetables necessary (what is a portion, how many portions)
- 5 portions x day (of both fruit and vegetables)
- 5 fruit/vegetable colours: red, purple/blue, orange/yellow, green and white/brown: eating fruit and vegetables of different colours is not only visually more appealing but also useful to introduce a great variety of nutrients

Healthy homework + Challenges

- Try to eat 5 portions of vegetables and fruits every day for a week.
- Try to take a photo everyday of one of your meals, at the end of the week anything is missing? How could you add more colors to your plate?

Final Discussion after homework and challenges

Could you eat 5 portions of fruits/vegetables 5 x days? It was easy? How do you think you could improve the amount of fruits/vegetables eaten? Using the photos taken, if you feel comfortable, discuss if you noticed any color is missing and how you could add more colors to your plate.

References

World Health Organization. (2015). Promoting fruit and vegetable consumption. Available at: https://www.euro.who.int/en/health-topics/diseaseprevention/nutrition/activities/technical-support-to-member-states/promoting-fruit-and-vegetable-consumption

Harvard Health Blog. Phytonutrients: Paint your plate with the colors of the rainbow. Available at: https://www.health.harvard.edu/blog/phytonutrients-paint-your-plate-with-the-colors-of-the-rainbow-2019042516501#:~:text=Colorful%20fruits%20and%20vegetables%20can,strengthen%20a%20plant's%20immune%20system.

4° LU WEEK FOUR: HEALTHY BREAKFAST AND LABORATORY: BUILD THE BREAKFAST POSTER BOARD

Goal:

Knowledge about the healthy composition of a breakfast meal

Key message:

Breakfast is one of the most important meals of the day. People should focus on having a good breakfast in order to start the day properly

Material: Laptop, phone with a camera	**Methods:** Initial discussion, laboratory, healthy homework	**Timing**: 30 min (per day for a week, additional 30 min the first day), total 180 min	**Frequency**: One lesson	**Potential Curricular Links:** This learning unit is not linked to a particular school subject

LET'S START PLAYING FOR HEALTH

Initial Discussion about healthy breakfast:

- The teacher asks how many students have breakfast each morning to assess briefly how many skip it;
- The teacher shows a few examples of breakfasts through slides or posters and the students briefly vote (good/not good) to grade them in good and not a good following their personal knowledge/experience;
- The teacher explains what should be included in breakfast (water or tea, milk or yogurt, fresh fruits or vegetables, nuts, bread/granola/rice/pasta/cereals/.., honey/jam, eggs) and give a few good examples through slides or posters;
- The previous exercise is repeated: the teacher shows again a few examples of breakfasts (slides, posters,...) and students briefly vote (good/not good) to grade them in good and not good based on what the teacher explained and showed.

Learning points

- Learn that breakfast is as important as the other meals and should not be skipped;
- Learn what should be included for breakfast (almost all aforementioned nutrients);
- Learn that there can be multiple options and combinations for breakfast;
- Train to compose different types of breakfast and learn from others' inputs.

Classroom activities

Each morning (Monday to Friday)

- Each morning the students upload the picture of their breakfast on the drive folder created by the teacher (no named pictures)
- Each morning the teachers pick a few examples (if possible, positive ones) among the pictures and discuss them with the students.

Healthy homework + Challenge

For one week:

- Based on what learnt at school, try to compose your breakfast meal using some of the suggested ingredients;
- Take a mental picture of the final breakfast meal;
- Try each day to change the colours of your breakfast as suggested in LU n3 and use the advice given in class by the other classmates.

Learning points

- Learn that breakfast is as important as the other meals and should not be skipped;
- Learn what should be included for breakfast (almost all aforementioned nutrients);
- Learn that there can be multiple options and combinations for breakfast;

- Train to compose different types of breakfast and learn from others' inputs.

Final Discussion after homework and challenges

Did you succeed in varying the ingredients of your breakfast? Do you think your breakfast this week has been healthier than usual? Which issues did you notice about having a proper breakfast (e.g. not knowing how to choose the right food)?

References

Healthy Breakfast: Food Fact Sheet. Available at: https://www.bda.uk.com/resource/healthy-breakfast.ht

5° LU WEEK FIVE:

HEALTHY BREAKFAST AND LABORATORY: WHAT ARE THE TYPES OF BREAKFAST? LEARN FROM OTHERS

Goal:

Knowledge about the healthy composition of a breakfast meal

Key message:

Different people may have different habits, including those about food. We can learn from each other through sharing knowledge about food and improving our good habits

Material: Laptop, smartphone with a camera, food paper/ 12 h clock drawing , markers	**Methods:** Initial discussion, laboratory	**Timing**: 60 minutes	**Frequency**: One lesson	**Potential Curricular Links:** This learning unit is not specific to a particular school subject

LET'S START PLAYING FOR HEALTH

Initial Discussion about healthy breakfast:

- The teacher asks how many students have breakfast each morning and how is traditionally prepared in their family
- Students explain how breakfast is prepared in their family during the week and the weekends if differences are present

Learning points

- Learn that breakfast can be different in different traditions and cultures, as food is an important part of each culture
- Learn that there can be multiple options and combinations for breakfast
- Train to compose different types of breakfast and learn from others' traditions
- Exchange ideas and learn from other traditions/cultures

Classroom activities

- Students can share a picture of the breakfast their family usually has; they can share multiple pictures if breakfasts differ, especially between weekdays and weekends
- Upload the pictures into a shared drive folder
- The teachers pick a few examples (if possible, positive ones) among the pictures and discuss them with the students, and students can give inputs and discuss each option based on what just learnt
- If students want, they can explain why they have that traditional breakfast at home; if they don't know, they can ask and then let their classmates know another day

Healthy homework + Challenges

- Try a different breakfast: get inspired from other classmates and buy some new ingredients to prepare a breakfast for you and your family
- Try to differentiate and change the ingredients you normally use
- If you have any doubt, ask the classmates whose breakfast inspired you and consider asking them for a recipe or for help in preparing the meal
- Take pictures of the traditional breakfast of your family during the week and weekend and upload them into the shared folder

Final Discussion after homework and challenges

Did you enjoy changing your habits for a while? What have you learnt from this experience?

References

Healthy Breakfast: Food Fact Sheet https://www.bda.uk.com/resource/healthy-breakfast.html

6° LU WEEK SIX: HOW MUCH WATER SHOULD I DRINK?

Goal:

Knowledge about the correct amount of water that should be drunk every day

Key message:

It's important to drink the appropriate amount of water during the day on the basis of age and PA, preferring water to other types of drinks

Material: Water bottle, various dimensions, other sodas, energy drinks, etc.	**Methods:** Initial discussion, laboratory, healthy homework	**Timing**: 30 minutes	**Frequency**: One lesson	**Potential Curricular Links:** Math, Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Water Intake:

Why is drinking water important? Explain the average percentage of water in a person's body is around 60%. Where water can be found in drinks and food?

Learning point

The teacher starts to explain the recommended levels of water intake per day

- Hints about different types of drinks and their nutritional profile
- Give tips to drink more during the day
- Teach about tap water and the importance of recyclable water bottles
- Teach about different intake of water needed based on age and PA

Classroom activities

- Discussion about the different types of drinks and their nutritional profile (i.e. coke, tè, fruit juice, energy drink,...) → ranking from best to worse?
- Discuss also: nutritional value and advised amount of alcohol and coffee?

Healthy homework + Challenges

- Use Watson formula to calculate the water amount in each students' body
- Add to the diary also the amount of other drinks intake during the week (i.e. energy drinks, alcohol, coke, etc.)

Final Discussion after homework and challenges

Was I able to increase the daily amount of water to drink? If not, why?

References

Watson, P. E., Watson, I. D., & Batt, R. D. (1980). Total body water volumes for adult males and females estimated from simple anthropometric measurements. *The American journal of clinical nutrition*, *33*(1), 27–39. https://doi.org/10.1093/ajcn/33.1.27

7° LU WEEK SEVEN:
LIMITING SUGAR-SWEETENED BEVERAGE AND FOOD CONSUMPTION

Goal:

Knowledge about the amount of sugar in daily beverages and food, the types of sugar and the consequences they have on health. Develop critical awareness and learn about alternatives to sugary foods and beverages

Key message:

Choose beverages and food that contain the lower quantity of sugar

Material: Various types of sugar-sweetened beverage and food, sugar cubes/ sachets of sugar/spoons of sugar. Table and Cards of beverages and food	**Methods:** Initial discussion, laboratory, healthy homework, challenge	**Timing**: 60 minutes	**Frequency**: Two lessons	**Potential Curricular Links:** Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about sugar-sweetened beverage:

Very limited consumption of foods high in fat, sugar or salt and low in micronutrients e.g. crisps, confectionery, sugary drinks.

What are the different types of sugar-sweetened beverages and foods that are consumed during the day (water, the, chocolate, cola, sparkled drinks, fruit juices etc.)

Learning point

- The objective of this action is to make students aware of the types of sugar that exist and also of the amount of extrinsic sugar present in certain beverages and foods that they consume regularly.
- Recommended Consumption: no more than 25 grams of free sugars per day (or 5% of total energy intake) (Guideline: Sugars Intake for Adults and Children. (2015). World Health Organization.)

Classroom activity

- The teacher starts the lesson explaining what is the quantity of sugar contained in different types of sugar-sweetened beverages and food; then a round of questions.
- For Example: How much sugar do you think Cola contains? How much sugar biscuit contain?
- Explain how the consumption of beverages and food with high contents of sugar may affect health.
- Talking about the importance of the “healthy way” to consume sugar-sweetened beverages and food during the day? (how often do you drink beverages that contain a high quantity of sugar)
- Which kind of beverage do you think is better when you are thirsty?
- Once this reflection on the questions asked is complete, the tutor can explain the types of sugar that exist: free sugar and intrinsic sugar. It is also important for students to know the recommended intake of free sugar: 25 grams of free sugar per day
- Put on the main table of the room the beverages and food brought from home for that day and try to categorize them based on their sugar content. The teacher puts for every beverage and food the matching quantity of sugar cubes/sachets of sugar/spoons of sugar.
- Discuss which ones are better to be drunk often and which ones sometimes.
- Look at the beverages and food’ machine/coffee shop that you have at school: which kinds of beverages are there inside? Analyze and compare them about how much sugar they contain.

Final Discussion after homework and challenges

Was I able to consume sugar sweetened beverages in a healthy way? If not, why not?

References

World Health Organization (2015). Guideline: Sugars intake for adults and children. Geneva: World Health Organization. Retrieved from https://www.who.int/publications/i/item/9789241549028.

Plates, pyramids, planet. Developments in national healthy and sustainable dietary guidelines: a state of play assessment. Food and Agricultural Organizations of the United Nation Avaiable on https://www.fao.org/documents/card/en/c/d8dfeaf1-f859-4191-954f-e8e1388cd0b7/

Drink (12-ounce serving)	Teaspoons of Sugar	Calories
Tap or Bottled Water	0 teaspoons	0
Unsweetened Tea	0 teaspoons	0
Sports Drinks	2 teaspoons	75
Lemonade	6 ¼ teaspoons	105
Sweet Tea	8 ½ teaspoons	120
Cola	10 ¼ teaspoons	150
Fruit Punch	11 ½ teaspoons	195
Root Beer	11 ½ teaspoons	170
Orange Soda	13 teaspoons	210

https://www.cdc.gov/healthyweight/healthy_eating/drinks.html

https://www.hsph.harvard.edu/nutritionsource/healthy-drinks/beverages-public-health-concerns/

8° LU WEEK EIGHT: SEASONALITY OF FOODS

Goal:

Knowledge about the seasonality of different foods across the year and building a healthy diet using locally sourced produces

Key message:

Consume locally sourced foods

Material: Grocery flyers, scissors, white poster (x4)	**Methods:** Initial discussion, laboratory, healthy homework	**Timing**: 60 min (1º lessons) - 30 min (2º, 3º and 4º lessons)	**Frequency**: 4 per year (possibly at the beginning of each season)	**Potential Curricular Links:** Geography, Science, Art, History

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy eating

First lesson: talking about the importance of consuming locally sourced foods, in order to:

- reduce the amount of processed goods and increase the fresh produce intake
- reduce the impact of our diet on carbon footprint and plastic usage (packaging) (see also LU 9)
- consume fresher and more nutritious food compared to food consumed out of season.

Local food is also generally better tasting, due to its harvesting closer to the peak of ripeness (especially for vegetables and fruits).

Learning point (x4) (spring, summer, autumn, winter)

- what fruits and vegetables are in season in your country right now (Due to different geographical locations, teachers should see reference 2 for suggestion about seasonal fruits/vegetables)
- Try to give some examples of culturally typical recipes from where you live that use seasonal food.

Classroom activities

- build with the help of the teacher a poster with seasonal food, using images cut out from the grocery flyers and integrate if anything is missing. Hang the poster in the classroom to remind what should be eaten during the season

Healthy homework + Challenges

- try to eat at least one meal a day with only seasonal and local sourced foods, using the appropriate food categories proportions as shown in LU1

Final Discussion after homework and challenges

Compare what food you ate during the week with what is on the poster you did with your teacher. Is there something you didn't eat or never tried?

References

Food and Agriculture Organization of the United Nations. Plates, pyramids, planet. Developments in national healthy and sustainable dietary guidelines: a state of play assessment (2016). Retrieved from: https://www.fao.org/documents/card/en/c/d8dfeaf1-f859-4191-954f-e8e1388cd0b7/

EUFIC. Explore Seasonal Fruit and Vegetables in Europe. Retrieved from: https://www.eufic.org/en/explore-seasonal-fruit-and-vegetables-in-europe

EUFIC. Are seasonal fruit and vegetables better for the environment? Retrieved from: https://www.eufic.org/en/healthy-living/article/are-seasonal-fruit-and-vegetables-better-for-the-environment

9° LU WEEK NINE: FOOD SUSTAINABILITY

Goal:

Knowledge about the food sustainability

Key message:

Prefer sustainable food

Material: Various types of grocery flyers	**Methods:** Initial discussion, laboratory, healthy homework, challenge	**Timing**: 60 minutes	**Frequency**: One lesson	**Potential Curricular Links:** Geography, Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about sustainable food:

What does sustainability mean? “The use of resources at rates that do not exceed the capacity of the Earth to replace them”. One way to reduce the use of resources and also eat more nutrient dense food is to eat locally and seasonally (see LU 2A6)

Which kind of Packaging is sustainable? Eating locally reduces the distance food needs to travel and also the packaging needed.

Learning point

- What does sustainable food mean?
- The foods we eat not only affect our health, but also the health of the environment
- A lot of resources are needed to produce food (water, energy for transportation, CO2 production, land usage, fertilizers etc)
- Which kinds of food do you think are more sustainable? Differences between different classes of food: fortunately, a low-impact diet can be achieved by following the approximate food proportions of the food pyramids: consume little meat (especially processed meat), cheese, fish, dairy products while eat plenty of fruit, vegetables, legumes and vegetables.

Classroom activities

- Global sustainability: Discuss which kinds of food are sustainable? (meat, fish, bread, fruit, vegetable?)
- Local sustainability: Take from a supermarket flyers and check out where food comes from? Try to check on a map, how many kilometers (CO2 consumption) far was the production of that food? Are their packaging sustainable?

Healthy homework + Challenges

During the shopping at the supermarket look at the tags. Where does food come from? Is it far from your home? (CO2 consumption). Try To choose foods that are produced both locally and seasonally.

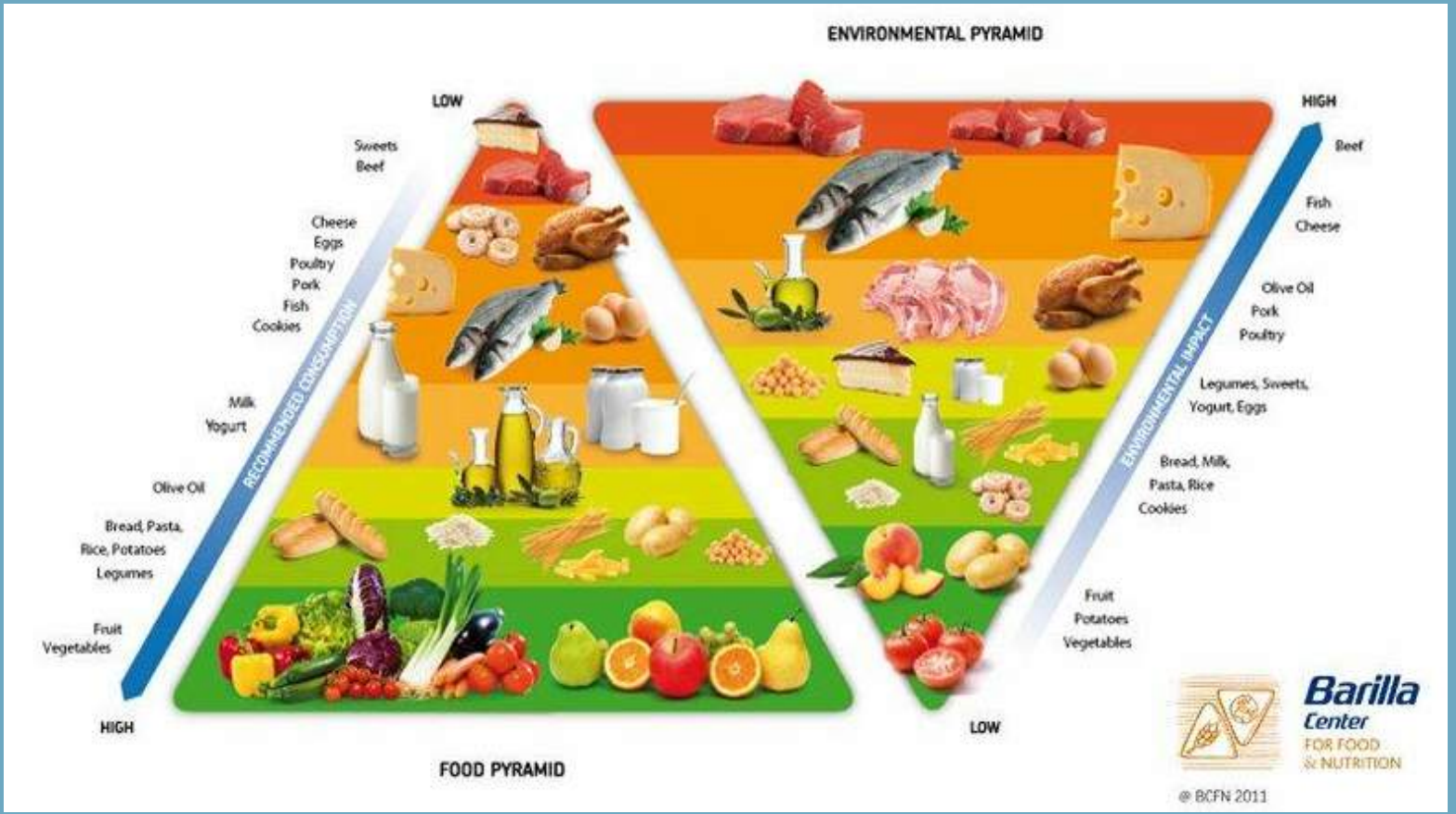
Final Discussion after homework and challenges

Was I able to choose food produced locally and seasonally? If not why no?

References

EUFIC. Are seasonal fruit and vegetables better for the environment? Available at: https://www.eufic.org/en/healthy-living/article/are-seasonal-fruit-and-vegetables-better-for-the-environment

World Health Organization. A healthy diet sustainably produced. Available : https://www.who.int/publications/i/item/WHO-NMH-NHD-18.12



Talk about the importance of reducing food waste.

(Note: the image is probably not copiright free, it whould be possible to create a similar one)

Healthy food is sustainable food: recommendations for healthy eating.

At present, few food guidelines take sustainability issues into account. However, there is growing evidence that a win-win situation for human health and the environment is possible, and some common messages are emerging to promote human and environmental well-being (15):

- Eat a wide variety of foods from different food groups, with an emphasis on plant-based foods.
- Consume only the calories you need to meet your energy needs. Overeating is bad for human and global health.
- Choose fresh, locally grown and home-prepared foods. Avoid highly processed foods, especially those that are high in fat, sugar or salt and/or low in vitamins, minerals and fibre. It is important to check food labels.
- Eat at least two to three servings of fruit per day, preferably fresh, seasonal and locally produced. The WHO recommends a combined consumption of more than five servings (400 grams) of fruit and vegetables per day (10).
- Eat at least two to three servings of vegetables a day. Choose vegetables grown in the field rather than in greenhouses, or vegetables that are preserved using sustainable methods (such as fermentation) and do not require fast, energy-consuming transport. Reduce food waste by also eating "ugly" vegetables and fruit: aesthetic imperfections do not mean that the produce is less nutritious.
- Potatoes, sweet potatoes, cassava and other starchy roots do not count as vegetable servings, but are present in a healthy diet, preferably in minimally processed forms.
- Cereals should be consumed primarily as whole grains - such as maize, oats, wheat or unprocessed brown rice - rather than in refined form (e.g. white rice, bread or pasta).
- Consume moderate amounts of milk and milk products (or milk substitutes) and choose low-fat, low-salt and low-sugar versions.
- Limit consumption of red meat and processed meat products (10) - some international national bodies suggest limiting consumption to about 500 grams of cooked meat per week, with very small amounts, if any, of processed meat products (21,22,23,24).
- Eat fish and seafood about twice a week, preferably from certified/recognised sustainable sources.
- Eat pulses regularly. Dried beans, peas and lentils are excellent sources of protein, fibre and other nutrients, and are naturally low in fat. Pulses are a good alternative to meat and can play a key role in the healthy, sustainable diets of the future.
- Include modest amounts of fats and oils, mainly of vegetable origin, and preferably containing unsaturated fats. Avoid industrially produced trans fats (e.g. partially hydrogenated oils) found in processed foods, fast food, snack foods and fried foods. Use healthier cooking methods, use vegetable oils, boil, steam or bake instead of frying.
- Drink tap water (or other improved sources such as boreholes and protected wells) in preference to other beverages, especially sweetened beverages. Consumption of fruit juices should also be limited as they contribute to the presence of free sugars; for example, a 150 ml glass of unsweetened orange juice contains about 15 g of free sugars (3).
- Prepare food according to hygienic practices: wash hands before handling food and after using the toilet, disinfect surfaces and protect them from insects, pests and animals, separate raw and cooked food, cook food thoroughly and store it at safe temperatures, and use clean water to wash raw food (25).

10° LU WEEK TEN:
LABEL OF MY SNACKS, WHICH IS THE BEST FOR MY HEALTH?

Goal:

- How to read nutrition labels information.
- Know if foods are more or less healthy based on their ingredients listed on the label.

Key message:

Education which helps comprehension and use of nutrition labels have the potential to improve the impact of this information on dietary health. Education helps in a correct selection of products. Students will be more aware of their daily food choices based on nutritional labels, based on the composition of macronutrients, the salt content and the quantity of each ingredient that determines the quality of the product.

Material: Pre-packaged snacks (crackers, bars, chips, biscuits, etc.) and cans of fizzy drinks	**Methods:** Initial discussion, laboratory, healthy homework, challenge	**Timing**: 60 minutes	**Frequency**: One lesson	**Potential Curricular Links:** Science, Math, English

LET'S START PLAYING FOR HEALTH

Initial discussion about nutrition labels

Teacher asks the children: do you usually read the nutrition labels? Do you know how to read the nutrition labels? Do you know why is it important to read the nutrition labels?

Learning point

- Teacher explains why it is important to read the nutrition labels of food and drink.
- Teacher explains how to read the nutrition labels.
- Teacher explains the fundamental concepts for a balanced diet and lists the most harmful ingredients to pay attention to.

Classroom activity

- Divide the class into groups, give each group the same set of similar pre-packaged snacks or cans, ask the children to read the nutrition labels and decide what is the healthy choice.
- Teacher chooses some food items (i.e. biscuits, crackers, cereals, yogurt) or drinks (i.e. fruit juice, coke, tea) and gives them to each group. The group, without looking at any label, try to come to a consensus on the items they think has the highest content of: salt, sugar, fat, carbohydrate, protein, minerals/nutrients, calcium.
- Together with your classmates, analyze the nutrition labels of the food and drinks found in the vending machines inside the school. Based on what you learned in class, how do the foods and drinks you find in vending machines look like? Propose changes with your classmates to make the foods in the school healthier.

Healthy homework + Challenge

- Go to the supermarket with your classmates, choose a food from your favorites (i.e. yogurt, snacks, biscuits, etc.), select two or more similar items, read the nutritional label and decide which is the healthy choice.
- Choose a food that you usually eat at home for breakfast or for snack and analyze its nutrition label based on what you learned in class. Is it healthy food or not?
- Try to read the salt content of snacks and the sugar content of chocolate as much as you can.
- Try to think about a healthy and balanced snack according to the indications received in class about nutrition labels to propose for the home break.

Final discussion after homework and challenges

I read food labels of pre-packaged foods/I did not. If no, why not?

How to read the nutrition label step by step:

1. Start by checking how the information is reported. The ingredients are listed in a precise order: from the most present to the least present in quantity. Another important thing is to check if the information given is based on standard weights of 100 grams or on a single portion or other.
2. Check the weight of the portions/rations and compare it with what you are actually eating.
3. Check the calories that the portion of food you are about to eat will provide you, to compare them with the total calories which, on average, must not be exceeded.
4. Monitor the amount of nutrients you should limit. Some labels highlight the percentage of the daily nutrient requirement provided by each serving.
5. Make sure your food provides you with a sufficient amount of essential nutrients such as vitamins, calcium, iron and fiber.

References

Moore, S. G., Donnelly, J. K., Jones, S., & Cade, J. E. (2018). Effect of Educational Interventions on Understanding and Use of Nutrition Labels: A Systematic Review. Nutrients, 10(10), 1432. https://doi.org/10.3390/nu10101432

UNICEF. (2019). The State of the World's Children 2019: Children, food and nutrition: Growing well in a changing world. Available on https://www.unicef.org/reports/state-of-worlds-children-2019

World Health Organization. (2020). Nutrition action in schools: a review of the evidence related to the nutrition-friendly schools initiative (Geneva, Sw). Available on https://www.who.int/publications/i/item/978924151696

11° LU WEEK ELEVEN:

EATING HEALTHY SNACKS

Goal:

Knowledge about the nutritional component of snacks and proper consumption of them

Key message:

Having a good and healthy snack could be tasty, funny, and environmentally friendly

Material: Various types of snacks	**Methods:** Initial discussion, laboratory, healthy homework	**Timing**: 30 minutes	**Frequency**: One lesson	**Potential Curricular Links:** This learning unit is not specific to a particular school subject

LET'S START PLAYING FOR HEALTH

Initial Discussion about Snacks Intake

- What are the different types of snacks that are eaten during the day (fruits, sandwiches, chocolates, chips, yogurts)?
- Which snacks do students prefer?
- What do students consider to be a healthy snack?

Learning point

- What are the different types of healthy snacks that could be eaten during the day (fruits, sandwiches, chocolates, chips, yogurts)?
- Which are the snacks with more and less nutritional components?
- How much is on average a portion of food for a snack (hand size)?
- According to WHO, sugars intake can be reduced by limiting the consumption of foods and drinks containing high amounts of sugars, such as sugary snacks, candies and sugar-sweetened beverages (i.e. all types of beverages containing free sugars – these include carbonated or non-carbonated soft drinks, fruit or vegetable juices and drinks, liquid and powder concentrates, flavoured water, energy and sports drinks, ready-to-drink tea, ready-to-drink coffee and flavoured milk drinks); and eating fresh fruit and raw vegetables as snacks instead of sugary snacks.
- According to WHO, fat intake, especially saturated fat and industrially-produced trans-fat intake, can be reduced by limiting the consumption of pre-packaged snacks (e.g. doughnuts, cakes, pies, cookies, biscuits and wafers) that contain industrially-produced trans-fats.
- According to WHO, salt intake can be reduced by limiting the consumption of salty snacks.

Classroom activities

- Students put on the main table of the room the snacks brought from home for that day and try to categorize them based on their nutritional components (see also LU n. 1 on Nutrition The Food Pyramid).
- Discuss which snacks are better to be eaten often and which ones only once in a while.
- Students try to draw a table about the amount of sugar and fat contained in the snack analyzed.

Healthy homework + Challenges

- Prepare and eat snacks with better nutritional components each day, following the nutritional indication learned.
- Keep a diary of your snacks: try to draw the snack and note the amount of sugar and fat contained.

Final Discussion after homework and challenges

- Was I able to eat healthy snacks during the day or not? If no, why not?
- Report the results of the challenge. Did you succeed in eating healthy snacks? Which difficulties did you have? Try to compare the amount of sugar and fat contained in the first snack you analyzed in class (before doing the healthy homework) with those of the snacks you eat during this week: how different are they?

Tips: to make it easier to compare the snacks, create a table reporting “fat” and “sugar” as columns and stick on the side of the lines the label of the snacks. If there is no label, draw what you eat.

12° LU WEEK TWELVE:

EAT HEALTHY TO SLEEP WELL

Goal:

Understanding the relationship between good sleep quality and healthy nutrition

Key message:

Breakfast is one of the most important meals of the day. People should focus on having a good breakfast in order to start the day properly

Material: Personal cookbook	**Methods:** Initial discussion, Content of guidelines on healthy nutrition and sleep hygiene, Group activity, Healthy homework and challenge.	**Timing**: 60 minutes	**Frequency**: One lesson	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Nutrition

- Discussion between students about their usual dinner.
- Discussion between students about nutrition habits related to a good rest. Focus on the link between nutritional habits and sleep quality. A healthy diet may improve the quality of your sleep; on the other hand, people who don't get enough sleep are more likely to increase their food consumption. In fact, sleep deprivation seems to provoke a tendency to select high-calorie foods with less nutritional benefit and create a greater risk of weight gain.
- Discussion between students about habits related to stimulating drinks, caffeine and alcohol.

Learning points

- Prefer nutritious but light meals instead of large meals before bedtime. Eat a light, healthy snack if you get hungry at night.
- Avoid, in particular before bedtime:
    - alcohol (it promotes sleep onset but causes early awakening and sleep disturbances).
    - sugars (both in foods or drinks) and substances like theine, ginseng, caffeine or chocolate (contains stimulating substances).

  These foods have an exciting effect that may keep you up at night since they drop serotonin and melatonin production, which guarantee the correct sleep-wake rhythm. Also tyramine, a molecule contained in aged cheese, is known to have an exciting effect. In general, you should avoid consuming really fatty, salted, spicy foods or meals containing a large amount of proteins before dinner: these foods take a very long time to be digested and gastric acid production.
- Reduce your fluid intake several hours before sleep. Herbal teas can help you relax and fall asleep, but it's better to drink them far from bedtime, otherwise you could have to wake up to go to the toilet.
- Try not to skip dinner: hypoglycemia-related hunger could make it difficult to fall asleep.

Classroom activity

- Make different students' groups. Each group should write down in a "Personal Cookbook" one or more examples of healthy dinner based on their preferences but following at the same time the teacher's tips.

Healthy homework + Challenges

- Following your "Personal Cookbook" decide the menu of your dinner. Cook dinner with your family.
- Try to avoid coffee, tea, coke and energy drinks especially in the afternoon and the evening for 1 week (see also Learning Unit on Sleep Habits n. 2).
- Did you manage to follow the directions? If not, why? Have you noticed any change in the quality of your sleep?

Final Discussion after homework and challenges

Was I able to follow the teacher's tips about the ideal dinner? If not, why not?

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American Academy of Sleep Medicine - Sleep Education (available at: https://www.sleepeducation.org)

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Greer, S. M., Goldstein, A. N., & Walker, M. P. (2013). The impact of sleep deprivation on food desire in the human brain. *Nature communications*, *4*, 2259. https://doi.org/10.1038/ncomms3259

Centers for Disease Control and Prevention (CDC) (available at: https://www.cdc.gov/)

3

LEARNING UNITS ABOUT PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR FOR SECONDARY SCHOOL

1° LU WEEK ONE:
HOW TO BUILD A HEALTHY DIET

Goal:

Knowledge about WHO recommendation toward PA in adolescents

Key Message:

WHO recommends to perform at least 60 minute of PA

Material: Happy feet log Daily journal for children and parents. Collect each experience, feeling, describing the activity. Using smartwatch to monitor the steps counts and physical activity	**Methods:** Initial discussion, content of WHO guidelines, Group activity, healthy homework	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Physical activity

Talking about what is Physical activity? How much time does everyone spend in physical activity during the day? (Raise your hand) But how many minutes of PA every day?

Learning points

- Teacher start to explain the recommended levels of PA necessary for each age groups (children, adolescents, adult)
- Explain that every move counts for health
- 60 minute every day of PA are recommended for children and adolescent from 5 to 17 aged ref
- Unstructured PA (e.g., active commuting to school, walking, riding, active play with friends)
- Talking about timing, frequency and duration for PA.

Classroom activities

- Let's choose one physical activity and share it with the class.
- Create/understand how to fill the happy feet log day by day for two weeks

Healthy homework + Challenges

- Doing 15 minutes of daily extra-school walking (examples: walk to the supermarket, get off the bus first and walk the last few stops, do not use the elevator, ...)
- Try to do as much PA during extra school as you can. After two weeks teacher nominates the most active children

Final Discussion after homeworks and challenges

I was able to increase the PA levels/I was not. If no, why not?

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World Health Organization (2020). *WHO guidelines on physical activity and sedentary behaviour*. Geneva: World Health Organization. Avaiable at https://www.who.int/publications/i/item/9789240015128.

U.S. Department of Health and Human Services (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC: U.S. Department of Health and Human Services. Retrieved from https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf.

Happy Feet Log

Example of the structure

Daily Reports

- How many feet did I walk today?
- At what pace did I walk?
- Look at that pictures!

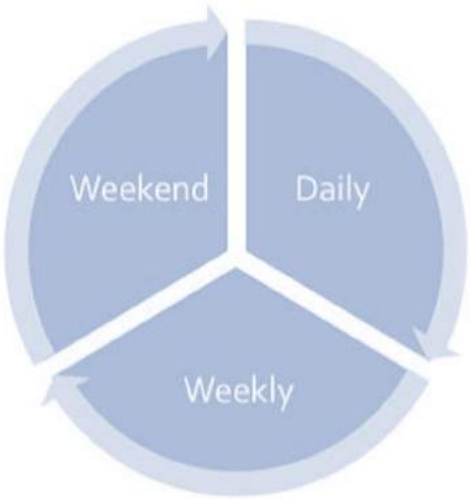
Weekly Reports

- How many feet did I walk this first week?
- At what pace did I walk?
- Look at that pictures!

Weekend Reports

- How many feet did I walk on Saturday - Sunday?
- At what pace did I walk?
- Look at that pictures!

Results shared with the class



2° LU WEEK TWO: LET'S TALK ABOUT INTENSITY

Goal:

Knowledge about the Mechanism of Heart Beat during different PA intensities

Key message:

WHO recommends for children and adolescents to perform at least 60 minute of Moderate to Vigorous PA

Material: Diary; smartwatch; Jar; Balloons; Straws	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** Science, Math

LET'S START PLAYING FOR HEALTH

Initial Discussion about Intensity

Talking about what is the intensity? How many intensities do you know? (Raise your hand) Which intensities are you able to reach? (Examples)

Learning points

- Explain the heart beat using a jar
- Explain the intensity using the Talk-Sing Test.

Classroom Activities

- All the children bring to school a jar, some water balloons, some drinking straws. A heart pump is built and its operation explained.
- The heart pump is activated during PA differently based on intensity but what is the intensity of PA?
- Laboratory: Light-walking (singing); Moderate-running (talking); Vigorous-jumping (breathing).

Healthy homework + Challenges

- Write a report/Drawing indicating the day, the time, the type of activity performed, its duration and intensity.
- Try to do as much PA during extra school as you can. After a week teacher nominates the most active children

Final Discussion after homeworks and challenges

I was able to break my sedentary time/I was not. If no, why not?

References:

World Health Organization (2020). *WHO guidelines on physical activity and sedentary behaviour*. Geneva: World Health Organization. Retrieved from https://www.who.int/publications/i/item/9789240015128.

3° LU WEEK THREE: WHAT IS SEDENTARY BEHAVIOR?

Goal:

Knowledge about WHO recommendation toward PA in children regarding limit the amount of time spent being sedentary

Key message:

It is recommended that:

› Children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.

Strong recommendation, low certainty evidence

Material: Active breaks Experience active breaks that can literally break the lesson/any kind of sedentary time. Collect each experience, feeling, describing the activity	**Methods:** Initial discussion, content of WHO guidelines, Group activity, healthy homework	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Physical activity

Talking about what is Sedentary behaviour? How much time does everyone usually spend in sedentary behaviour during the day? (Raise your hand) What do you usually do in your sedentary time (tv, gaming)?

Learning points

- Teacher starts to explain that every move counts for health!
- Explain the risk related to sedentary behaviour
- Talking about the balance between sedentary and active spent time (timing, frequency and duration for PA to break sedentary time).

Classroom activities

- Understand how to do an active break (try to sit up and jump)
- Let's invent an active break, and share it with the class.

Healthy homework + Challenges

- Each time you spent 1h in sedentary behavior (sitting at the pc), try to do an active break (examples: sit up and jump for 30 seconds)
- Write notes about the numbers and type of chosen active breaks
- Use the social networks to share active breaks created and done during extracurricular time

References

Chaput, J. P., Willumsen, J., Bull, F., Chou, R., Ekelund, U., Firth, J., Jago, R., Ortega, F. B., & Katzmarzyk, P. T. (2020). 2020 WHO guidelines on physical activity and sedentary behaviour for children and adolescents aged 5-17 years: summary of the evidence. *The international journal of behavioral nutrition and physical activity, 17*(1), 141. https://doi.org/10.1186/s12966-020-01037-z

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3° LU WEEK THREE: WHAT IS SEDENTARY BEHAVIOR?

Goal:

Knowledge about recommendation toward in children regarding limit the amount of time being sedentary particularly the amount of recreational screen time

Key message:

SIT

SEDENTARY BEHAVIOUR

No more than two hours per day of free time spent using electronic devices.

Material: Diary, Smartphone to calculate the time spent on instagram, tiktok and facebook	**Methods:** Initial discussion, content of the guidelines, healthy homework and challange	**Frequency**: One lesson	**Timing**: 30 minutes	**Potential Curricular Links:** Science

LET'S START PLAYING FOR HEALTH

Initial Discussion about Physical activity

Talking about the time spent using electronic devices, pc or watching tv. How much time does everyone usually spend sitting using electronic devices, pc or watching tv (Raise your hand).

Learning points

- Teacher starts to explain that every move counts for health!
- Explain the risks related to screen time sedentary behavior.

Classroom activities

- Try to limit the time spent using social network.

Healthy homework + Challenges

- Reported in the diary the numbers of hours spent using electronic devices in a week.
- School Contest: less hours of the use of electronic devices, more healthy points for alternative proposals for reduction. We calculated the healthier class.

Final Discussion after homeworks and challenges

I was able to reduce my sedentary time/I was not. If no, why not?
Collection of suggestions for alternatives to electronic gaming while sitting - create a collection of games (interviews with grandparents, parents: what did they play where and with whom).

References

Chaput, J. P., Willumsen, J., Bull, F., Chou, R., Ekelund, U., Firth, J., Jago, R., Ortega, F. B., & Katzmarzyk, P. T. (2020). 2020 WHO guidelines on physical activity and sedentary behaviour for children and adolescents aged 5-17 years: summary of the evidence. *The international journal of behavioral nutrition and physical activity, 17*(1), 141. https://doi.org/10.1186/s12966-020-01037-z

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5° LU WEEK FIVE: LET'S TALK ABOUT WALKING

GOAL:

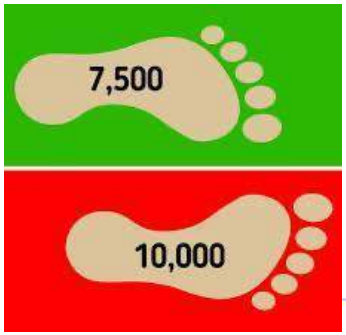
a) Knowledge of the use of Active Commuting, around the city, as a healthy lifestyle (Walking, Running, Cycling).

b) Getting around on foot (walking and running) with different intensity and in safety condition (walkway lane, respect of traffic rules).

c) Getting around by bike in safety condition (wearing a helmet, on bike lane, respect of traffic rules)

Key message:

Active Commuting is easy and sustainable, one of the ways to achieve WHO PA recommendations for children and adolescents to perform at least 60 minutes of Moderate to Vigorous PA or 7000 to 10000 daily steps.



Material: Happy feet log, Borg Scale	**Methods:** Group work on the topic of ACtive Commuting; applied group work in the gym; group work in the home challenges, recording of personal data in the diary.	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Science: Cardiovascular system; Physical Education: walking/running/cycling, correct posture, different applications and intensity; Mats: space-time-velocity; Geography: study of city maps.

NB. Group work assumes that groups are formed in relation to the fact that the student) can also work together extracurricular on home challenge tasks.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Active Commuting as Physical activity
Discussion about walking/running/cycling at various intensities and its contribution to cardiovascular health. Reflection on the sustainability of walking/running/Cycling in all environments, spaces, time and conditions.

Learning points
What is the meaning of Active Commuting?
- Teacher start to explain what is active commuting, why it is important for children
- How many steps children have to do in a day (running/walking)
- How many Chilometres hate to do in a day (cycling)

Classroom activities
- Group work on the functions and modifications of the cardio-circulatory and respiratory system in function of different intensities of physical-motor engagement. Production of a short manual, deduced from all the group work, to be delivered to each student/vault
- Group work: organising active commuting activities at different speeds (recreational activities, games, other). Each group presents and has everyone try their work (including measuring heart rates and applying the fatigue self-perception tool.
- Group work: calculating the different speeds of movement of different athletics disciplines (running,walking, Cycling) and comparing them with each other (based on national or Olympic records).
- Group work: research of tools for self-assessment of fatigue. At the end of the group work, the tool considered easiest and most usable for the self-evaluation of fatigue is chosen. Creation of the personal diary (what data to introduce, what kind of recording).
- Group work: studying street maps or city parks and calculating routes of equal or variable distance from home.

Healthy homework + Challenges
- During the week and on the weekend, together with the companions of the group working in class, calculate and realise together, giving appointment in an appropriate place, at least three paths: Groups A: three routes of equal distance, on the city map or on the map of a public park, to be carried out at low-medium-high intensity. Pulse calculation, individual speed calculation, differences, self-evaluation of fatigue perception with the chosen instrument. Group B: three routes of different lengths, on the city map or on the map of a public park, to be carried out at the highest possible speed. Pulse calculation, individual speed calculation, differences, self-evaluation of fatigue perception with the chosen instrument. Realise with the partners of the group the situations a) and b), in three different days of two different weeks.
- Record in the personal diary, chosen by the class through group work the elements chosen as data to be recorded.

Final Discussion after homework and challenges
Circle time about the home challenges, is it feasible? Do you enjoy homeworks?
I was able to increase the number of steps in a day? If no, why not?

ATTACHMENTS: EXAMPLE OF A DIARY PAGE

NAME SURNAME	FEMALE MALE	AGE	CLASS

QUESTIONS BEFORE THE ACTIVITIES

Are you aware of how important is the active commuting?	1	2	3	4	5	6	7	8	9	10
Can you control walking/running/cycling better or worse than other skills?	1	2	3	4	5	6	7	8	9	10
Can walking/running/cycling affect your heart?	1	2	3	4	5	6	7	8	9	10

ACTIVITIES

Day and place	1 Gentle run	2 Medium run	3 Intense run	Borg Correspondence
	1 route	2 route	2 route	Borg corrispondence
	BPM at start	BPM at start	BPM at start	1: ; 2: ; 3:
	BPM andata	BPM andata	BPM andata	1: ; 2: ; 3:
	BPM return	BPM return	BPM return	1: ; 2: ; 3:
	Velocity	Velocity	Velocity	
With parent	Vel.1	Vel.1	Vel.1	Borg average
With parent	Average bpm	Average bpm	Average bpm	1: ; 2: ; 3:

QUESTIONS AFTER THE ACTIVITIES (1=low, 10=high)

Do you understand the importance of active commuting?	1	2	3	4	5	6	7	8	9	10
Do you feel more in control on walking/running/cycling?	1	2	3	4	5	6	7	8	9	10
At what maximum speed can you walk/run and with how many heartbeats per minute?	1	2	3	4	5	6	7	8	9	10

	Impressions and personal sensations on the three routes
With the group partners	Description:

HOW DO YOU FEEL, COMPARED TO WAKLING AFTER THIS EXPERIENCE?





Referencces

World Health Organization (2020). *WHO guidelines on physical activity and sedentary behaviour*. Geneva: World Health Organization. Avaiable at https://www.who.int/publications/i/item/9789240015128.

U.S. Department of Health and Human Services (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC: U.S. Department of Health and Human Services. Retrieved from https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf.

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6° LU WEEK SIX: LET'S TRY TO HOPPING

GOAL:

● Objectives: - self-awareness and the implications that rhythm implies on a sense-motor level - know the rhythmic variables related to rhythmic exercise; awareness of rhythmic control of jumping in relation to speed, number of repetitions or application time.

● Skills: learning the technique of jumping with the tightrope - control of rhythmic variables related to jumping with the tightrope - respiratory control and fatigue.

● Competence: regulation of physical effort according to stress level (mild - medium intense - intense)

Key message:

Hopping is easy and sustainable activity, activity that can be done anywhere, even at home in a small space and can also be done by dancing.

Material: Happy feet log, Borg Scale	**Methods:** Participatory lectures on the topic of hopping; applied lessons in the gym; home challenges and recording of personal data in the diary	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** Sciences: time and rhythm in nature and in humans; Music: binary and ternary rhythm. Strong and weak times. Rhythmic cadences. Art: the use of the hop in tribal and modern dances, folk and traditional dances based on the hop (e.g., the Tarantella or Pizzica)

LET'S START PLAYING FOR HEALTH

Initial Discussion about Hopping
Discussion about hopping with different modes and different rhythms, the pleasure of free dancing expression, the pleasure of moving while having fun, keeping fit without mental fatigue.

Learning point

- Hopping is one of the movements included in dance with other types of movement such as jumping, bouncing, sidestepping, squatting, stomping, arm swings, twirls, and turns.
- In different cultural and ethnic groups, hopping is used inside typical dance for entertaining, reflecting on spirituality, telling stories, and for enjoyment.

Classroom activities

Encourages the learning of the use of the rope combined with the jumps - Teaches the recovery time and the defatigue between a series of jumps.

- Group work: try at least three different ways of hopping with the rope and apply them to binary and ternary rhythms. After this work, all groups propose their three hopping modes to each other and everyone tries everyone's mode. Each group chooses three modes out of all those presented (the ones they like best and they mark them in their personal diary). Each group tries the three chosen modes.
- Group works about time and rhythm - physical characteristics - applications and tools
- Group Work about density - intensity - quantity of rhythmic activities and elementary calculations related to them

Healthy homework + Challenges

- During the week, practice jumping jacks at home, every day for at least 15 minutes a day. On three days of the week meet with the work group and perform the activities together.
- Perform three different ways of hopping: 1) Mild and low intensity, 2) Medium intense by varying speed, number of jumps or application time; 3) One intense by jumping at maximum speed.
- Note in personal diary: How long can you hop in situation 1? How much time in situation 2? How much time in situation 3)
- Note in the diary the differences, between the three jumping modes, with reference to the detected heart rates (aspect already addressed in the LUs 5-6) and note the level of self-perceived fatigue.

Final Discussion after homework and challenges
I was able to do hopping every day during my healthy homeworks? If no, why not?

References

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Trending Topic | Physical Activity Guidelines. Available athttps://www.acsm.org/education-resources/trending-topics-resources/physical-activity-guidelines

ATTACHMENTS: EXAMPLE OF A DIARY PAGE

NAME SURNAME	FEALE MALE	AGE	CLASS

QUESTIONS BEFORE THE ACTIVITIES

How tiring is skipping in your opinion?	1	2	3	4	5	6	7	8	9	10
Do you feel able to control various hopping rhythms?	1	2	3	4	5	6	7	8	9	10
How long do you think you can hop without stopping?	1	2	3	4	5	6	7	8	9	10

HOME CHALLENGES

Week day	1 slow hopping	2 medium hopping	3 fast hopping	Borg corrispondence
Mon	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3:
Tue	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Wed	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Thu	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Fri	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Sat	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3
Sun	bpm_____T(s)____	bpm____T(s)____	bpm_____T(s)_____	1: ; 2: ; 3

QUESTION AFTER THE ACTIVITIES

What awareness have you gained in controlling the tempo and rhythm applied to jumping?	1	2	3	4	5	6	7	8	9	10
Do you feel more in your motor control?	1	2	3	4	5	6	7	8	9	10
How long are you able to hop without stopping (mild resistant stimulus)?	1	2	3	4	5	6	7	8	9	10
How long are you able to hop at full speed (intense stimulus)?	1	2	3	4	5	6	7	8	9	10

IMPRESSIONS AND FEELINGS ABOUT THE EXPERIENCE CARRIED OUT THREE WAYS OF HOPPING

Describe (also with your group partners):

Happy Feet Log

Example of the structure

Daily Reports

- How many feet did I walk today?
- At what pace did I walk?
- Look at that pictures!

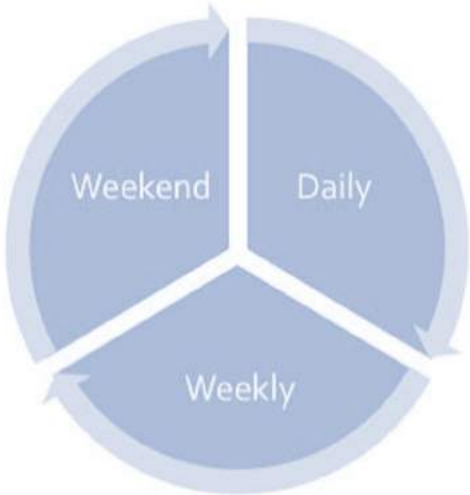
Weekly Reports

- How many feet did I walk this first week?
- At what pace did I walk?
- Look at that pictures!

Weekend Reports

- How many feet did I walk on Saturday - Sunday?
- At what pace did I walk?
- Look at that pictures!

Results shared with the class



7° LU WEEK SEVEN: HOW CAN I USE MY BODY IN MOTION?

Goal:

Measuring spaces with your body in motion, experimenting and knowing the relationship between movement and learning

Key message:

Coordination and body awareness

Material: Sheets, pens or pencils, metric distance wheel, excel sheet to report data on the measures taken	**Methods:** Initial discussion, laboratory, healthy homework, cross-subject-teaching	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** Math: movement and learning can be linked to numbers (count during movement) space and time Physical education: stimulate body control, balance, coordination, agility Physics: the movement of objects in space (uniform circular motion, angular motion)

LET'S START PLAYING FOR HEALTH

Learning point

- Lengths and measures; unit of measure; metric system; circumference and circle; time / distance calculation
- How can I move in space with different movements? (connection LU 7-8-9)

Classroom Activity

- Group activity: Choose the space to be measured: corridor, atrium, gym; yard measurements. Every group measures compared the distance of single student's steps using different style (normal step, long step, jump, sidestepping)
- A couple of students move in space with two different roles: one leads the other keeps his eyes closed
- Group activity: how much distance do you need to make 7000 to 10000 daily steps?

Healthy homework + Challenges

- Group activity walk for 10000 steps on an established path and recording the distance of the path x number of participants, three time per week
- Share collected data. Nomination of the winner group (the more members walk, the higher the distance traveled). (Linked with LU-7)

Final Discussion after homework and challenges

How do I feel after the activity? What difficulties did I encounter? What body parts did I use? Has my heart rate increased?

References

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U.S. Department of Health and Human Services (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC: U.S. Department of Health and Human Services. Retrieved from https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf.

Daily Steps and Health | Walking Your Way to Better Health. Available at https://www.acsm.org/blog-detail/acsm-certified-blog/2019/06/14/walking-10000-steps-a-day-physical-activity-guidelines

8° LU WEEK EIGHT: SPORT

Goal:

Knowledge about common SPORT for adolescents

https://www.nhs.uk/healthier-families/activities/

Key message:

Social and cultural factor related to SPORT

Material: Happy feet log Daily journal for children and parents. Collect each sport experience, feeling.	**Methods:** Initial discussion, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** History: Identify how sport is influenced by culture and the environment, researched and recorded three facts about how a sport developed in another country.; Physical education: how sport has been adapted to disability

LET'S START PLAYING FOR HEALTH

Initial Discussion about physical activity

Talking about what is sport? How much time does everyone spend in practicing the sport during the week? (Raise your hand) Which type of sport?

Learning points

- Sport has the potential to contribute both positively and negatively to wellbeing
- The effective promotion of sport ensures all children have the opportunity to: Participate to the highest level of their interest and ability Practice fair play in all situations, Experience and manage competition
- Competition: Team sports provide opportunities for student to develop teamwork and cooperation skills, manage success and disappointment, and to respect officials, teammates, and the opposition.
- Leadership: Opportunities to acquire skills of coaching, officiating, and administrating are thought to support a child's understanding and knowledge of game play and help to develop leadership skills.
- Culture: Students who experience sporting activities, in which cultural practices are expressed through movement, develop skills to identify and discuss the social and cultural significance that sport has for individuals and for society.

Classroom activities

- Let's choose one group sport activity and single sport activity and share it with the class.
- Create/understand how to fill the happy feet log day by day for two weeks regarding sport practiced

Healthy homework + Challenges

- Try to find a new sport you've never played from different country. Learn the rules of the game and try it if you can and share with class in the following week
- Group activity: trying to do as much sport during extra school as you can. After two weeks teacher nominates the most active children

Final Discussion after homework and challenges

I was able to perform the PA new sport? I know the new rules? I was not able. If no, why not?

References

U.S. Department of Health and Human Services (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC: U.S. Department of Health and Human Services. Retrieved from https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf.

European cart of Sport. Available at: https://www.coni.it/images/documenti/Carta_europea_dello_Sport.pdf

Happy Feet Log

Example of the structure

Daily Reports

- How many feet did I walk today?
- At what pace did I walk?
- Look at that pictures!

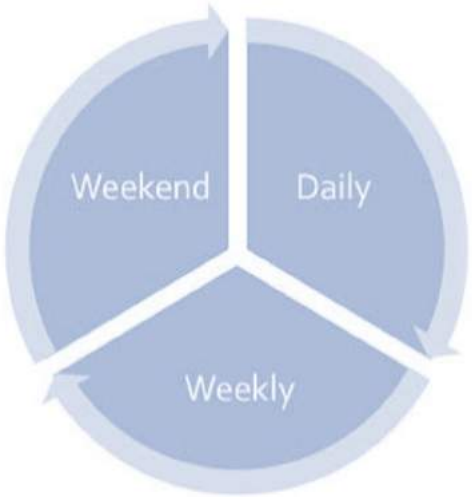
Weekly Reports

- How many feet did I walk this first week?
- At what pace did I walk?
- Look at that pictures!

Weekend Reports

- How many feet did I walk on Saturday - Sunday?
- At what pace did I walk?
- Look at that pictures!

Results shared with the class



9° LU WEEK NINE: WHAT IS A MOTOR TEST?

Goal:

Stimulate knowledge and body control to learn the self-evaluation of motor skills and stimulate proactive behaviours in favour of one's well-being

Key message:

Measure your motor skills and monitor their development over time

Material: ● Flexibility: “bending”: gymnastic bench (small box), measuring rod / ruler in cm; ● Long jump: “muscle power”: adhesive tape to mark the distance on the ground - marks every 5 cm starting from 50 cm up to 3 metres; ● 4x10 shuttle run: Clean, non-slippery floor. Stopwatch, adhesive tape, tape measure, three sponges of different colours and four cones ● 20m shuttle run test: A gymnasium or space large enough to mark out a 20m track, four cones, tape measure, CD-player and a pre-recorded CD of the test protocol.	**Methods:** Initial discussion about test, production of test material, healthy homework	**Frequency**: Two lessons	**Timing**: 60 minutes	**Potential Curricular Links:** With the introduction of motor tests, different didactic contents are possible in school subjects Sport: definitions of - endurance, strength, flexibility Biology: muscular, skeletal, balance Language: Description of a personal fitness development program, games and game rules Maths: use of test statistics, comparisons

LET'S START PLAYING FOR HEALTH

Initial Discussion about Motor test

Talking about what is a motor test? Do you know some motor tests?

Learning point

How important is it to be aware of our motor skills?

What am I able to do? How can I improve myself?

- Definition of motor skills
- Definitions of - endurance, strength, flexibility

The effective promotion of sport ensures all children have the opportunity to:

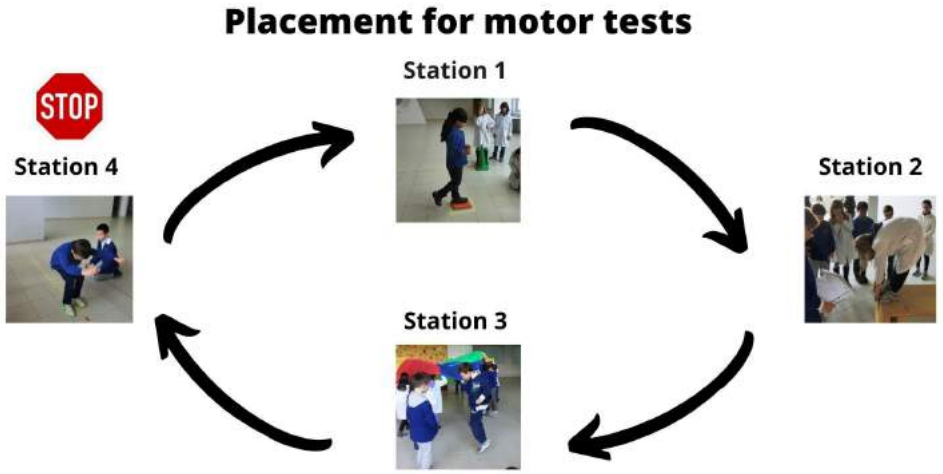
- Participate to the highest level of their interest and ability.
- Experience enjoyment and achievement.
- Become competent and enthusiastic participants.

Classroom activities

- The activity requires the organisation of the space in a gym or other large rooms, divided into 4 stations, 1 for each test (see diagram).
- The class is divided into 4 groups; each group presents itself in front of the test station numbered from 1 to 4 (clockwise rotation); each pupil has a personal sheet containing his personal data and the matrix to record the results; they all start together in the same time; the results are recorded by the assistants assisted by the teachers; for each station there must be at least 2 pupils to record the data.
- Collection and processing of data and initial 'self-assessment' to be achieved at the end of the school year.

If the activity is extended to other classes, the children / students in the pilot class take the roles of co-conductors together with the teachers.

This activity can be used to register the initial and final situation of a class (extended over a school year). Its repetition is therefore proposed and useful for self-assessing the progress, generated by the increase in daily movement.



Healthy homework + Challenges

- The activity can also be extended to families and friends. The four motoric tests can be organised with the help of the students who have experienced them at school. In this way they can be self-organised by every family. Otherwise, the school can organise a 'movement party'. Parents can measure their personal motor skills.
- As for the pupils, the adults can as well fix their individual motoric improvements (goals) over the time of a school year.
- Ultimate challenges: parent involvement in test performance

Final Discussion after homework and challenges

How do I feel after the activity? What difficulties did I encounter? What body parts did I use? Is it easy to balance?

References

Mulato, R. Riegger, S.(editors): Movement Health Learning. In: Child in the city. Growing up in activated spaces. pp 74 - 89. Comenius Projekt 2012 - 2014

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Motorfit: monitoring of the state of physical and motor well-being of students from Lombardy. Available at: https://unikore.it/phocadownload/ScienzeTecnicheAttivitaMotorieSpecialistica/Dispense/Pignato/protocollo_motorfit_2008.pdf

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U.S. Department of Health and Human Services (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC: U.S. Department of Health and Human Services. Retrieved from https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf

10° LU WEEK TEN: HOW MOVEMENT IS RELATED TO SUSTAINABILITY?

Goal:

Knowledge about the relationship between individual and collective behaviors with the environment.

Knowledge about alternative behavior and variable alternatives with the environment

Key message:

Environmental protection is only possible through individual and collective behavior.

Material: Movement diary; online software for calculating ecological footprint; excel sheet to record collected data; project and analysis material	**Methods:** Initial discussion, laboratory, healthy homework, cross subject teaching, internet research, project work	**Frequency**: --	**Timing**: --	**Potential Curricular Links:** Science: the meaning of ecological approach; Civics: the importance of personal choices in respect of the environment

LET'S START PLAYING FOR HEALTH

Learning point

- Do our habits cause effects on the environment? Can the effects caused by us on the environment be calculated?
- What is CO2 used for? Does it exist in nature? What happens if it isn't there? What happens if there is too much? What causes the increase in CO2? If I walk, how much do I consume? What if I run?
- Look on the internet (websites) what has been written about the dangers of CO2 (mark three points that are important to you); exchange ideas to solve the problem (personally, at home, together)

Classroom Activity

- Group activity: calculate my ecological footprint (EF): graph of the individual EF and average of the EF value (expressed for no. Of 'Worlds' or 'States')
- Diagnosis? How can we improve? Energy, food, transport: we plan small steps of change
- Walk of the class: 1 km in the schoolyard or near the school. How much CO2 do we save?

Healthy homework+ Challenges

- Group activity Walkability from a common point far 1 or 2 KMs from school at least three times or more per week with family: calculate the km CO2 saved in a week (comparison with teammates)

Final Discussion after homework and challenges

How do I feel after the activity? What difficulties did I encounter?

References

Global action plan on physical activity 2018–2030: more active people for a healthier world. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO Available at: https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf

11° LU WEEK ELEVEN: HOW DO I USE MY SENSES IN PHYSICAL ACTIVITY?

Goal:

Explore the schoolyard using all the human senses; learn to observe space with one sense only (blind, deaf, touch, smell) and represent it.

Key message:

Body awareness, orientation

Material: City Park; camera or smartphone	**Methods:** Initial discussion, laboratory, healthy homework	**Frequency**: --	**Timing**: --	**Potential Curricular Links:** Math: spatial orientation, trajectories and geometric figures; Informatics: Digital Maps creation; Art: production of colleges and artifacts.

LET'S START PLAYING FOR HEALTH

Initial Discussion about physical activity

Talking about which are the senses? How many senses do we have?

Learning point

- Teacher starts to explain the five senses and describes them.
- What is the sense you use most during physical activity?
- Other senses besides the classic ones involved during physical activity for example the kinesthetic sense.
- Do we learn to use them? Let's read the Google map of our Park together.

Classroom activities

- The class can be divided into groups: one group for each sense to be activated. Each group has a map to enrich and define according to the sense they activate to analyze the selected park
- In the classroom, the results of sensory exploration are reported, documented, shared and discussed together to create digital maps.
- The class can be divided into group: each group could represent a disability: deaf, blind, wheelchair, etc. to increase levels of physical activity and to raise children's awareness of people with disabilities.

Healthy homework + Challenges

Adolescent are invited to play at least three times per week in the same explored park during classroom activity to do the following challenges:

- How far can I run on the course before I feel tired? Can I do ten laps of the course?
- Delimited the organized path I try a game of movement with my friends
- Relay group challenge competition among groups

Final discussion

How do I feel after the activity? What difficulties did I encounter? Which sense did I used most? What is the best group in the relay?

References

Andrea Canevaro, Andrea Camerini, I explore my body and the environment. Games and activities for children aged two to seven, Erickson, 2013

Ilaria D'Aprile, Learning with joy. Outdoor education in schoolyards, La Meridiana, 2020

12° LU WEEK TWELVE:

HOW TO LEARN BY DOING PHYSICAL

Goal:

Experience and knowledge of the relationship between physical activity and learning

Key message:

Learning by doing

Material: Different writing tools, digital report for work group (excel, word)	**Methods:** Initial discussion, indoor/outdoor activity, and healthy homework	**Frequency**: --	**Timing**: --	**Potential Curricular Links:** Mathematics: learn how to do math´s complex operation; Literatures: memorise poetry with movement; Language: make a sentence in a foreign language

LET'S START PLAYING FOR HEALTH

Initial Discussion about physical activity

Talking about what learning by doing is?

Learning point

- Teacher starts to explain that it is possible to learn using physical activity and play/game
- Have you ever used a game to learn something new? Group discussion about how to learn using physical activity and game
- Build games/activities with which to learn curricular concepts/knowledge

Classroom Activity

- Group work: create a game/physical activity that uses letters to learn about literature
- Group work: create a game/physical activity that uses numbers to learn about maths
- Group work: organise challange between two teams. (example: the pupils of one team take turns miming the title of a work, poem, etc. by jumping on letters drawn on the ground; the pupils of the other team must interpret it correctly)
- Draw flat and solid geometric figures on sheets that are deposited in a container. The students draw a piece of paper and "draw" with the body by jumping over the represented figure

Healthy homework+ Challanges

- Groups exchange materials created in class and try to challenge each other at home by matching physical activity/game to expected learning and they reported all the results using social network

Final discussion

How do I feel after the activity? What difficulties did I encounter? Is it funny learning by doing?

Teacher checks what has been learned and how among the groups

References

Movement and Learning. The University of North Carolina at Chapel Hills. Available at: https://learningcenter.unc.edu/tips-and-tools/movement-and-learning/
School in Movemente Available at: https://www.schulebewegt.ch
Mulato R., Riegger S., Scarpe Blu. How to educate children to move around the city independently and safely, La Meridiana, 2013.

4

LEARNING UNITS ABOUT HEALTHY SLEEP FOR SECONDARY SCHOOL

1° LU WEEK ONE HOW MUCH SLEEP DO I NEED?

Goal:

Knowledge about recommendation toward healthy sleep habits in adolescents

Key Message:

Source: Centers for Disease Control and Prevention (CDC)

Material: "My secret sleep diary"	**Methods:** Initial discussion, content of guidelines on sleep hygiene, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

Talking about: What is Healthy Sleep? How many hours of sleep are enough for good health? How many hours per night do you usually sleep? (Raise your hand)

Learning points

- The teacher starts the lesson explaining the recommended number of hours of sleep for each age group (babies, children, adolescents, adults).
- Explain how lack of sleep affects health: Research has found that insufficient sleep is linked to an increased risk for the development of type 2 diabetes. Laboratory research has found that short sleep duration results in metabolic changes that may be linked to obesity. Epidemiologic studies conducted in the community have also revealed an association between short sleep duration and excess body weight. This association has been reported in all age groups—but has been particularly pronounced in children. It is believed that sleep in childhood and adolescence is particularly important for brain development.
- Children 6 to 12 years of age should sleep 9 to 12 hours per 24 hours on a regular basis to promote optimal health. Teenagers 13 to 18 years of age should sleep 8 to 10 hours per 24 hours on a regular basis to promote optimal health.
- Talking about the importance of being consistent and going to bed at the same time each night and getting up at the same time each morning, including on the weekends.

Classroom activities

- Let's create your own secret sleep diary. Understand how to fill the sleep diary day by day for one week.
- Discuss with the class your sleep habits: What time do you go to bed? What time do you get up in the morning? How many hours do you sleep? Do you keep a regular schedule during weekdays and during weekends?
- Collecting the experiences of the whole classroom, draw some graphs comparing the reported amount of sleep of each classmate with the recommended amount

Healthy homework + Challenges

- Try to sleep 9 to 12 hours per night (for children 6 to 12 years of age) or 8 to 10 hours per night (for teenagers 13 to 18 years of age).
- Define a set bedtime to meet a minimum number of hours of sleep.
- Record in the diary the time you went to bed and the time you woke up. Describe how you feel and describe in the diary how you feel during the day.

Final Discussion after homework and challenges

Was I able to sleep the recommended amount of hours? If not, why not?

References

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2° LU WEEK TWO: TIPS FOR BETTER SLEEP

Goal:

Knowledge about recommendation toward healthy sleep habits in adolescents

Key Message:

Follow the tips to improve your sleep quality in order to stay healthy!

Material: “My quality sleep diary”	**Methods:** Initial discussion, content of guidelines on sleep hygiene, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

Talking about the importance of good quality rest and sleep.

Learning points

- Explain how poor quality of sleep affects brain function and academic achievement.
- Explain sleep stages and their importance in allowing the brain and body to recuperate and develop. Failure to obtain enough of both deep sleep and REM sleep may explain some of the profound consequences of insufficient sleep on thinking, emotions, and physical health.
- Explain some habits that can improve sleep health:
  - Be consistent. Go to bed at the same time each night and get up at the same time each morning, including on the weekends.
  - Make sure your bedroom is quiet, dark, relaxing, and at a comfortable temperature (See also Learning Unit on Healthy Sleep n. 4)
  - Remove electronic devices, such as TVs, computers, and smartphones, from the bedroom (See also Learning Unit on Healthy Sleep n. 4 and Learning Unit on Physical Activity n. 4)
  - Avoid large meals, caffeine, and alcohol before bedtime (See also Learning Unit on Nutrition n. 13)
  - Avoid smoking tobacco.
  - Get some exercise. Being physically active during the day can help you fall asleep more easily at night (See also the Learning Units on Physical Activity).

Classroom activities

- Let's create your own quality sleep diary: the diary should include sections to be filled in with your behavior, for example: which time you go to bed and what time you get up, how many times you wake up during the night and why, if you use electronic devices before sleeping, if the room is quiet, dark and comfortable, what you eat and drink during the day and if you exercise during the day etc.
- Understand how to fill the quality sleep diary day by day for one week.

Healthy homework + Challenges

- Track your sleep at home using a quality sleep diary: record in the diary how many times you woke up during the night (i.e. to use the bathroom) and how many minutes you need to fall asleep, which time you go to bed and what time you get up (Answer to the question "Are you consistent during the week?"), which are your habits after going to your bedroom, how many times you wake up during the night and why, if you use electronic devices before sleeping, if the room is quiet, dark and comfortable, what you eat and drink during the day (small or large meal at dinner, caffeinated items e.g. soda,

chocolate, tea etc.), if you exercise during the day and for how long and if you take a nap. Record how you feel (rested or tired) when you wake up for the day and your mood during the day (pleasant or unpleasant).

- After completing your diary, try to find out which behaviors are healthy and which ones are unhealthy.

Final Discussion after homework and challenges

Do you think your behaviors are healthy or unhealthy? Do you agree or disagree with your parents?

References

Centers for Disease Control and Prevention (CDC) (Available at: https://www.cdc.gov/sleep/index.html; https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.htm)

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3° LU WEEK THREE: FEEL COMFORTABLE AND RELAXED

Goal:

Knowledge about recommendations toward sleep positions and relaxation techniques

Key Message:

Choose your ideal sleeping position and practice relaxation techniques when you go to bed

Material: Tatami or carpet	**Methods:** Initial discussion, group activity, practice training, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion

Start talking about sleep positions: what position do adolescents usually sleep in?

Learning points

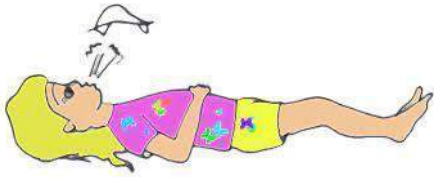
- Focus on the importance of a comfortable sleep position in order to have a good rest and a healthy attitude for every part of your body (vertebral column, stomach, neck, circulation).
- The best sleep position is one that promotes healthy spinal alignment from your hips all the way to your head. Specifically, sleeping on the side or back is considered more beneficial than sleeping on the stomach. In either of these sleep positions, it's easier to keep your spine supported and balanced, which relieves pressure on the spinal tissues and enables your muscles to relax and recover.
- Explain how different sleep positions can provide different benefits that may be helpful for you in various health conditions, such as back pain, allergies, acid reflux, nasal congestion.
- Think about how a good resting position could help you fall asleep faster than usual and thus achieve the correct amount of sleeping hours (see also LU n.1 on Sleep: "How much sleep do I need?")

Classroom activities

- The teacher shows on a tatami or on a carpet:
  - Various sleeping positions:

  - Tips to find comfortable positions:

– Elementary relaxation techniques (breathing control and muscles relaxation):



- Practice training: following the instructions of the teacher, try the different positions to fall asleep and the relaxation techniques.

Healthy homework + Challenges

- Every night, before bedtime, practice the relaxation techniques and use the suggested sleeping positions (remember that it is better not to sleep in the prone position). Try to mentally relax.
- Monitor the quality of your sleep (if you wake up at night and why, how rested you feel in the morning…). You can mark it in a daily diary.
- Try the suggested positions for 1 week and notice if the quality of your sleep improves.

Final Discussion after homework and challenges

Was I able to find a comfortable position in my bed and to relax before falling asleep? If not, why not?

References

Sleep Foundation (Available at: www.sleepfoundation.org)

4° LU WEEK FOUR: MY IDEAL BEDROOM

Goal:

Knowledge about the importance of a right sleep setting to promote a good rest

Key Message:

A proper setting is fundamental in order to improve your sleep quality and to help you to fall asleep

Material: Sketch book	**Methods:** Initial discussion, content of CDC guidelines, Group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

Start talking about the adequacy of the setting to improve the quality of sleep and to achieve a good rest.

Learning points

- Focus on the ideal bedroom: explain that the bedroom should be quiet, dark, relaxing, and at a comfortable temperature (18°-20°C);
- Focus on the different types of light color in your bedroom: blue light has the strongest impact on the quality of your sleep, because it influences the circadian rhythms. The exposure to blue light (and white light, which contains blue light) 1 or 2 hours before bedtime can make it difficult for you to fall asleep and stay asleep. On the contrary, red light has no effect on the circadian clock, so you can use a dim red light at night. Lastly, yellow and orange light have little effect on the clock.
- Focus on electronic device usage and their presence in the bedroom: explain why using electronic devices before going to bed negatively affects sleep quality: electronic devices emit strong blue light; when you use these devices, blue light floods your brain, tricking it into thinking it's daytime. As a result, your brain suppresses melatonin production and works to stay awake. You should take away all electronic devices from your bedroom.

Classroom activities

- Describe your dreaming bedroom: how do you imagine it, according to directions you have just heard? Talk about it with your mates.
- Think with your mates about alternative activities to electronic devices, before going to sleep (reading books, listening to audiobooks, listening to relaxing sounds or music, gentle stretching or meditation…)
- There is a genetic link for the morningness or eveningness tendency: some people are naturally "early to bed and early to rise" and tend to have more difficulties working at night, so they are represented by a lark. On the other hand, people that are naturally "late to bed and late to rise", have fewer difficulties working at night and tend to have more trouble with early morning start times, so they are represented by an owl. Which of these animals represents you better? Discuss about it with your mates.

Healthy homework + Challenges

- Project your ideal bedroom;
- Organize your bedroom (take away everything that is not related to sleeping; reduce lighting for 1-2 hours before bedtime: use room-darkening shades or heavy, lined draperies, or wear an eye mask during sleep; reduce noise: wear earplugs and turn off the cell phone; set the right temperature: 18-20° but if this won't work for you, the generally accepted temperature range for sleep is 15.6 to 19.4°C);

- Use your bed and pajamas only when sleeping; wear something else during the day and weekends;
- You may enjoy your favorite scent with an aromatherapy diffuser
- Try not to use your smartphone or computer while you are in your bedroom for 1-2 hours before bedtime; try instead to do something else for a week. If you must use these devices before bedtime, remember to turn down the screen brightness (choose night shift/night light) and stop using them when you are falling asleep.
- Try to organize your bedroom following these directions for 1 week and notice if the quality of your sleep improves

Final Discussion after homework and challenges

Was I able to create a proper setting in order to fall asleep easily? If not, why not?

References

Centers for Disease Control and Prevention (CDC) - Sleep Hygiene Tips (available at: https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html)

Centers for Disease Control and Prevention (CDC) - Sleep and Sleep Disorders (available at: https://www.cdc.gov/sleep/about_sleep/index.html)

5° LU WEEK FIVE: MY SLEEP ROUTINE

Goal:

Knowledge about recommendation toward healthy sleep habits in adolescents

Key Message:

A sleep routine can improve your sleep quality

Material: Bedtime routine list	**Methods:** Initial discussion, content of CDC guidelines, group activity, healthy homework	**Frequency**: One lesson	**Timing**: 60 minutes	**Potential Curricular Links:** This learning unit is not specific for a particular school subject.

LET'S START PLAYING FOR HEALTH

Initial Discussion about Healthy Sleep Habits

Talking about the importance of achieving a healthy sleep routine.

Learning points

- Focus on why a bedtime routine is important. A bedtime routine is a set of activities you perform every night in the same order, 30 to 60 minutes before going to bed. It can help you relax and set your mind for sleeping.

Classroom activities

- Think with your mates about the best activities to do before bedtime to relax and fall asleep easily, and how to plan them everyday at the same time. Turn them into a bedtime routine. Here some tips:
  - If you need to relax you can take a warm bath about an hour before going to sleep;
  - Listen to relaxing music;
  - Do some light yoga, stretching or breathing exercises (see also Learning Unit on Healthy Sleep n. 3);
  - Read a relaxing book;
  - Write down a to-do list or journal for the next day to reduce anxiety;
  - If you find yourself anxious at bedtime, choose a moment during the day to write down your worries and free your mind;
  - Limit napping time to less than 1 hour. Do not take a nap if it's late in the afternoon or in the evening;
  - Remember to take a little time for yourself: relax and enjoy your own company!
  - You can also schedule a morning routine to begin the day, including, for instance:
  - open blinds first thing in the morning;
  - get up at the same time every day, even on weekends or during vacations.

Healthy homework + Challenges

- Follow your bedtime routine for a week and notice if the quality of your sleep improves

Final Discussion after homework and challenges

Was I able to create and consistently follow my sleep routine? If not, why not?

References

Centers for Disease Control and Prevention (CDC) (available at: http://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html)

American Academy of Sleep Medicine (available at: http://www.aasm.org/)

Sleep Foundation (available at: http://www.sleepfoundation.org)

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Project

Let's move Europe:

School-based promotion of healthy lifestyles to prevent obesity

Parents Toolkit for promoting healthy lifestyles

Co-funded by the
Erasmus+ Programme
of the European Union

1 Physical activity

1.1 Understanding "physical activity"

1.2 Benefits of physical activity

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4 Dietary habits

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5 Physical Education

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1

PHYSICAL ACTIVITY

1.1 Understanding “physical activity”

What do we mean when we talk about physical activity?

It’s easier if you know about the physical activity domains.

PHYSICAL ACTIVITY
This is the broadest notion and refers to “any bodily movement produced by skeletal muscles that requires energy expenditure” [1].

PHYSICAL INACTIVITY
When a person has an insufficient physical activity level to meet present physical activity recommendations [2].

For children and adolescents, physical activity can be undertaken in educational, home, and community settings under **two main domains:**

1

INFORMAL

(i.e. unplanned, unstructured, self-directed) as part of leisure-time (play, games), active transportation (wheeling, skating, walking and cycling), or household activities.

Leisure-time physical activity
Physical activity performed by an individual that is not required as an essential activity of daily living and is performed at the discretion of the individual. Such activities include recreational and unstructured activities such as going for a walk, dancing, or playing [2].

Household activity
Physical activity undertaken at home for domestic duties (such as cleaning, caring for children, gardening etc.) [2].

Transport domain physical activity
Physical activity performed for the purpose of getting to and from places, and refers to walking, cycling and wheeling (the use of non-motorized means of locomotion with wheels, such as scooters, rollerblades, manual wheelchair, etc.) [2].

2

FORMAL

(i.e. planned, structured, directed) as physical education, sports and exercise.

Physical education
Physical Education is the only space available to all children and adolescents during their compulsory education to learn the different aspects of physical activity and be exposed to a range of physical activity experiences with specialised qualified professionals, in inclusive and safe conditions, with appropriate resources.

Sports
A range of activities performed within a set of rules and undertaken as part of leisure or competition. Sporting activities involve physical activity carried out by teams or individuals and are typically supported and regulated by an institutional framework, such as a sporting agency [2].

Exercise
This is a subcategory of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective [2].

1.1 What does it look like to be physically active?

You need to know the guidelines and understand how to quantify the amount of physical activity.

The Physical Activity guidelines to be physically active:

- Children and adolescents aged between 5 and 17 years-old should do at least an average of 60 minutes per day of moderate-to-vigorous intensity, mostly aerobic, physical activity, across the week [2].
- Vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, should be incorporated at least 3 days a week [2].

To quantify the amount of physical activity, it is important to acknowledge the following notions:

Frequency

How often each person does physical activity. It is usually measured by considering the number of physical activity sessions done per day (e.g. did 2 sessions per day), per week (e.g. did 4 sessions per week), or the number of days each week (e.g. did physical activity 3 days in the last week).

Duration

The minutes of each session, or exercise bout, per day (e.g. 60 minutes of physical activity per day), or per week (e.g. 150 minutes of physical activity per week).

Intensity

How much energy is expended when participating in physical activities to the extent that higher intensities lead to shorter durations of physical activity sessions. Participation in physical activity can be categorized in three types of intensity levels, namely:

Light intensity Refers to activities that result in a light increase of heart rate or breathing rate (i.e. one can speak or sing while doing the activity) [2]. At the personal level, this refers to a perceived exertion score of 2 to 4 on a scale between 0 and 10.

Moderate intensity Refers to activities that result in a moderate increase of heart rate or breathing rate (i.e. one can engage with short speech while doing the activity) [2]. At the personal level, this refers to a perceived exertion score of 5 to 6 on a scale between 0 and 10 [2].

Vigorous intensity Refers to activities that result in a significant increase of heart rate or breathing rate (i.e. one cannot speak or sing at all while doing the activity) [2]. At the personal level, this refers to a perceived exertion score of 7 to 8 on a scale between 0 and 10 [2].

1.2 What does it look like to be physically active?

Table 1. Physical activity intensity and examples of activities.

INTENSITY	ACTIVITY (EXAMPLES)
Vigorous	Run, football, basketball, swim, rope jumping
Moderate	Aquatic gymnastics, climbing chairs, walking (>= 4km/h)
Light	Cooking, making the bed, wash dishes, walking (<=4 km/h), standing, watching tv-dvd standing
Sedentary	Sitting, quietly lying, watching television - sitting, working at the computer seated, playing video games - sitting

Other important concepts for understanding the physical activity guidelines

Aerobic activity

Activity in which the body's large muscles move in a rhythmic manner for a sustained period of time. Aerobic activity – also called endurance activity – improves cardiorespiratory fitness. Examples include walking, running, swimming, and bicycling [2].

Muscle strengthening activity

Physical activity and exercise that increase skeletal muscle strength, power, endurance, and mass (e.g. strength training, resistance training, or muscular strength and endurance exercises) [2].

Bone strengthening

Physical activity primarily designed to increase the strength of specific sites in bones that make up the skeletal system. Bone-strengthening activities produce an impact or tension force on the bones that promotes bone growth and strength. Running, jumping rope, and lifting weights are examples of bone-strengthening activities [2].

1.3. Benefits of Physical Activity

For children and adolescents, physical activity has many benefits [2, 4, 5, 6, 7, 8] including:

- **Physical fitness =** higher cardiorespiratory and muscular fitness.
- **Cardiometabolic health =** better blood pressure, reduced dyslipidemia, improved glucose and insulin resistance.
- **Bone health =** higher bone density
- **Cognitive outcomes =** higher academic performance and cognitive skills.
- **Mental health =** reduced symptoms of depression, anxiety and stress.
- **Body composition =** reduced levels of body fat.
- **Sleep =** improved sleep quality.
- **Psycho-social health =** improved social and emotional skills.
- **Movement competence =** improved motor competence and coordination.

1.4 The problem: Levels of physical activity and physical inactivity

There is evidence [9, 10, 11, 12, 13, 14] supporting that worldwide:

About 80% of adolescents **do not meet the physical activity recommendations to benefit their health.**

About 18% of adolescents **do not practice physical activity during the week**, 39% practice **between 1 and 3 times/week**, 26% **4 to 6 times/week**, and only 17% **practice daily.**

The prevalence of **physical inactivity increases from childhood to adolescence.**

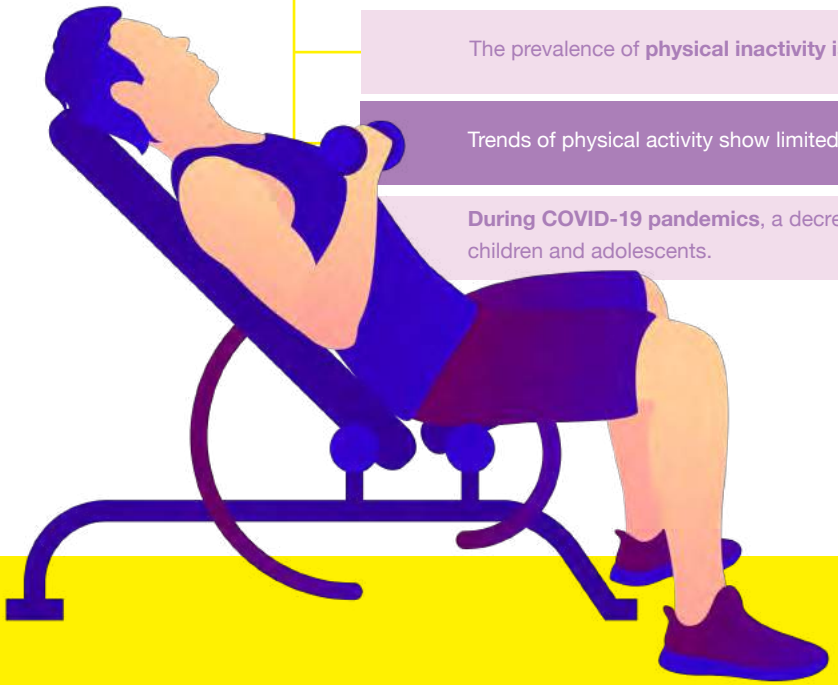
At all ages, **girls are more likely than boys to be physically inactive**, with this gender gap increasing with age.

Physical activity is also particularly low among children and adolescents from **poorer families.**

The prevalence of **physical inactivity is higher in young people from high income countries.**

Trends of physical activity show limited global improvement or no progress in the last decades.

During COVID-19 pandemics, a decrease in physical activity levels and health-related fitness has been identified in children and adolescents.



1.5 Practical strategies for promoting physical activity

Other helpfull resources: [15], [16], [17], [18] & [19].

1. Encourage your children and adolescents to be active every day, inside or outside your home. Every move counts and everyone can always improve their skills, confidence, motivation, and learn to enjoy moving for life.
2. Even if children and adolescents are not meeting the daily physical activity recommendations, remember that doing some physical activity is better than doing none and that this will benefit their health.
3. Provide your children and adolescents with safe and equitable opportunities and encouragement to participate in physical activities that are enjoyable, offer variety, and are appropriate for their age and ability.
4. Encourage your children and adolescents to move, play, and be active everyday in as many ways as they can and have fun in as thet can and have fun. Find out their favourite activites and help them set a routine for being active.
5. For promoting physical activity, consider all the different domains where physical activity can take place: leisure time, household, school physical education, transportation; and also explore indoor and outdoor options.
6. Remember that the physical activities don't have to be organized, competitive and/or paid activities to be beneficial. Creativity can overcome the challenges of limited time and money. There are many ways to be active without costs and using materials usually available at home!.
7. Your children and adolescents should start by doing small amounts of physical activity (e.g. 5 minute bouts during the day), and gradually increase the frequency, intensity, and duration over time.
8. Moderate to vigorous intensity physical activity benefits children and adolescent's health.
9. Find out what are your children and adolescents favourite activities. Help them set a routine, overcoming the barriers of physical activity (e.g. lack of time, transportation), set a plan and get started in being active.
10. Provide constant support (e.g. encourage, emotional - value physical activity, logistical - transportation, buying equipment; co-participation; observe training sessions) for your children/adolescents to get regularly involved in formal (sport clubs) or informal (in the street with friends) physical activities.
11. Be physically active yourself and be a role model for your children and adolescents.
12. Spread your enthusiasm to others. Doing physical activity with your children and adolescents is a great way to develop parenting relationships while modelling healthy behaviors.
13. Take account of the types of activities your children/adolescents participate in.
14. Explain, support, and provide them with ideas to be active and meet the recommendations of physical activity. Below is an example of a physically active school-day.

Table 2. Meeting the physical activity guidelines: physically-active school-day example for children/adolescents.

ACTIVITY	TIME (MIN)	INTENSITY
Walking the dog (before or after school)	15	Light
Stop the car / Leave on bus one stop earlier and walk the rest to the school	10	Light
Play games during the school recess.	10	Moderate
Physical education lesson	60	Moderate to vigorous (included muscle-strengthening and bone -strengthening activities)
Homework (sitting)	20	Sedentary (non recreational)
Watch television with the family	1h	Sedentary (recreational)
Play games with family	30	Light to Moderate

YES

More than 60 minutes of Moderate to vigorous physical activity?
Vigorous physical activity
Muscle strengthening activities
Bone strengthening activities

15 Help monitor the progress of your children and adolescent regarding their physical activity level, the types of activities involved, and if they are meeting the recommendations of physical activity.

16 Use technology as an ally for physical activity (e.g. pedometers, exercise apps, smartwatches). It can help children and adolescents to monitor their progress and get inspired for doing physical activity.

17 Try to switch sitting with being active. Encourage your children/adolescents to get off the bus a stop earlier, or to meet friends for a game in the park rather than spend their leisure time with sedentary behaviour on a screen.

18 Be an active family and have fun together. Set aside time to be active together as a family – visit playgrounds, parks, nature reserves, beaches, and all other places where children can be active. Try out new activities, explore new environments, take a walk-in nature, for example during the weekends.

19 Support physical education and school-based physical activity practices (before and after school programs, recess, active breaks, school sport).

20 Celebrate your children and/or adolescent's progress, success and being physically active and healthy!

2

SEDENTARY BEHAVIOUR

2.1 What is Sedentary behaviour?

Sedentary behaviour is any waking behaviour characterized by a low level of energy expenditure while sitting, reclining, or lying [1]. Most desk-based office work, driving a car, standing on rolling stairs, and watching television are examples of sedentary behaviours.

There are some activities, such as schoolwork, working on a computer, or travelling, that may need to be done while you are sitting. However, other activities, such as sedentary screen time (e.g. TV, computer, mobile devices) in recreational moments, don't and can be replaced with more active behaviours.

2.2 Sedentary behaviour and health

In children and adolescents, available emerging research suggests that higher amounts of sedentary behaviour are associated with the following poor health outcomes [1]:

- **increased adiposity.**
- **poorer cardiometabolic health, fitness.**
- **poorer behavioural conduct/pro-social behaviour.**
- **reduced sleep duration.**

At this moment, research suggests that the benefits of limiting the amount of sedentary behaviour for children and adolescents outweigh the harms. This means that less time spent in sedentary behaviours appears to be better for health [2].

It is acknowledged that not all sedentary behaviour is harmful. Pursuits such as reading, doing puzzles, drawing, crafting, singing, board games, music are important for child/adolescent development and have cognitive as well as other benefits.

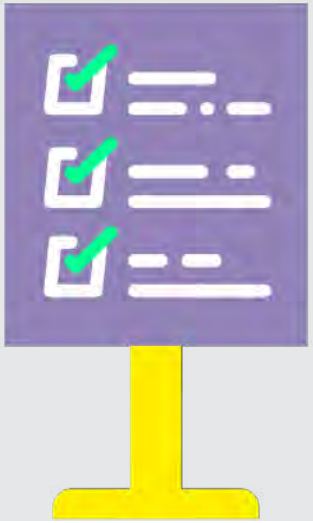
2.3 Sedentary behaviour guidelines

Children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time [1].

Despite WHO considering that there is insufficient research to specify any time limits on sedentary behaviour, the Canadian[13] and Australian 24h movement guidelines [14] suggest that children and adolescents should:

Limit recreational screen time to no more than 2 h per day

Breaking up long periods of sitting as often as possible.



2.4 The problem: Levels of sedentary behaviour

Regarding the levels of sedentary behaviour, there is evidence [1, 3, 4, 5, 6, 7, 8, 9, 9, 10, 11, 12, 13, 14] supporting that worldwide:

1. Sedentary behaviours dominate adolescents' daily lives today.
2. Young people spend approximately 60% of their waking time sitting, making sedentary behaviour the most common behaviour (besides sleep) for children and adolescents.
3. Screen-time-related sitting is the most common sedentary behaviour, covering between 40% and 60% of overall sitting time.
4. More than 50% of 15-year-olds reported watching TV for two hours or more per day.
5. Over 80% of 15-year-old boys and more than 70% of girls of 15 in many countries and regions exceeded two hours of computer use in 2014.
6. In most countries, children and adolescents are spending greater time engaged in sedentary behaviours, particularly for recreation, such as screen-based entertainment (television and computers) and digital communications, such as mobile phones.
7. Using a computer for two hours or more for non-gaming (such as surfing the Internet or doing homework) and gaming activities showed a continuous steep increase between 2002 and 2014 across all countries, regions and age groups].
8. Increases in sedentary behaviour related to study and academic work relate with secondary education years with higher academic demands.

2.5 Practical strategies for reducing sedentary behaviour

- Limited time should be spent sitting, particularly the amount of recreational screen time.
- Limit sedentary recreational screen time to no more than 2 hours per day and establish consistent boundaries (e.g. duration; content; quality).
- Allocate specific time periods for electronic media use, preferably not during daylight hours when children can be active outside
- Rewarding good behaviour with active family time, rather than with electronic media use.
- Instead of screen time, consider encouraging quality sedentary behaviour like reading, storytelling and puzzles which support healthier growth and development with non-digital formats to further develop fine-motor skills.
- When using screen-based electronic media, positive social interaction and experiences should be encouraged (e.g. watching a movie together, playing screen-based games together).
- Help your children and adolescents to find opportunities to stand up and move more whenever they can during the day. For example, encourage them to get off the bus a stop earlier, or to meet friends for a game in the park rather than spend their leisure time sedentary on a screen.
- Stimulate the use of active modes of transportation (walking, cycling) instead of passive transportation.
- Park away from the destination for active transportation.
- Make bedrooms a screen free zone or limit screen-use outside the bed-time routines.
- Turn off TV or any other screen related devices during meal times.
- Remember your child/adolescent to break-up long periods of sitting, as often as possible.
- Children/adolescents see and do what you do. Set a good example. Be an active role model, sit less and move more. Limit and monitor your family screen time and sedentary behaviour.
- Do at least one active pause for each hour you spend seated. Get up from your chair, regularly!

Other helpfull resources: [16] & [17].

3

SLEEP

3.1 What is sleep?

Sleep Is a physiological process that is essential for parents' and children's health and wellbeing. Waking and sleeping cannot be separated. Our sleeping patterns have a direct influence on our waking behaviour and our daytime activities influence our sleep.

In the process of sleep, humans go through five different phases that constitute a sleep cycle. A complete sleep cycle takes 90 to 110 minutes on average and its fulfilment is crucial to body homeostasis. Thus, it is very important to get enough sleep every day [1].

Despite the importance of getting enough sleep every day, the quality of sleep is also very important.

Sleep quality. Is the measurement of how well a person sleeps. In practice, improving sleep quality can help ensure that sleep cycles won't be interrupted, which in turn helps assure that people wake up feeling energized. Four items are generally assessed to measure sleep quality [2].

Sleep latency

A measurement of how long it takes to fall asleep. Drifting off within 30 minutes or less after going to bed suggests that the quality of sleep is good.

Sleep waking

A measurement refers to the frequency of waking up during the night. Frequent wakefulness at night can disrupt your sleep cycle and reduce sleep quality. Waking up once or not at all suggests that the sleep quality is good.

Wakefulness

A measurement of how many minutes you spend awake during the night after you first go to sleep. People with good sleep quality have 20 minutes or less of wakefulness during the night.

Sleep efficiency

The amount of time spent sleeping while in bed. This measurement should ideally be 85% or more for optimal health benefits.

Insomnia. Is characterized by the recurring difficulty to fall or remain asleep despite motivation and means to do so. The condition can be short-term (acute) or can last a long time (chronic). Acute insomnia lasts from 1 night to a few weeks. Insomnia is chronic when it happens at least 3 nights a week for 3 months or more [4,5].

Sleep apnea. Is a condition marked by abnormal breathing during sleep. People with sleep apnea have multiple extended pauses in breath when they sleep. These temporary breathing lapses cause lower-quality sleep and affect the body's supply of oxygen, leading to potentially serious health consequences.

In children, nightmares, bedwetting, sleep walking are some examples of common sleep disorders that can affect and compromise their sleep and, consequently, their development [4] .

3.2 Effects of (not) sleeping

Sleep interferes with people's daily lives and can generate positive and negative effects on their health and well-being, which can be visible from their mood, appearance and ability to do everyday tasks and work.

The main effects of poor sleep include [4]:

- Physical effects (sleepiness, fatigue, hypertension, higher risk of obesity and type II diabetes).
- Cognitive impairment (deterioration of performance, attention and motivation; diminishment of mental concentration and intellectual capacity and increase of the likelihood of accidents at work and during driving).
- Mental health complications.

In children and adolescents, there is moderate to strong evidence related to sleep effects showing that [3, 6, 7, 8]:

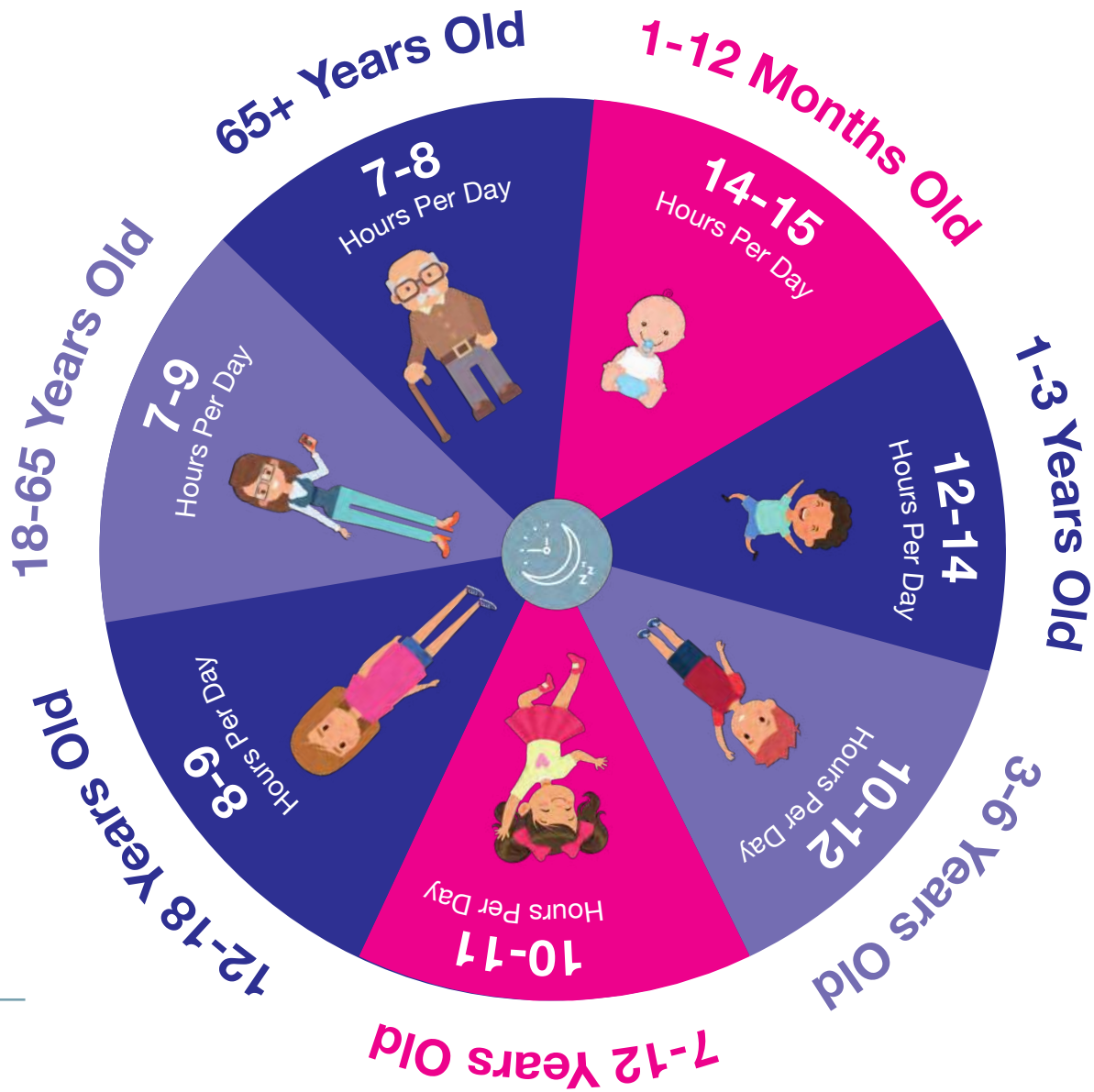
- Short sleep duration increases the risk of obesity.
- Inadequate sleep is associated with type 2 diabetes.
- Poor sleep is related with poorer cognitive performance, and with depression, anxiety, conduct problems, and hyperactivity.
- Sleeping long enough is positively correlated with school performance.

3.3 Sleep guidelines

Despite WHO considering that there is insufficient available evidence to specify sleep time by age, the Canadian 24h movement and National Sleep Foundation guidelines recommend [10, 11, 12]:

To children and adolescents, uninterrupted 9 to 11 hours of sleep per night for those aged 5–13 years and 8 to 10 hours per night for those aged 14–17 years.

For all ages, it is crucial to have consistent bed and wake-up times.



Adapted from The Sleep Charity from the United Kingdom (https://thesleepcharity.org.uk/how-much-sleep-does-my-child-need/)

3.4 The problem: Levels and quality of sleep

Regarding the levels and quality of sleep in children and adolescents, there is evidence [7, 13, 14, 15, 16, 17] supporting that:

Nowadays insufficient sleep quantity and poor sleep quality are common among adults as well as children and adolescents.

Insufficient sleep duration is associated with bad dietary habits, longer screen time, and obesity in children.

Screen time is adversely associated with sleep outcomes and its use has grown exponentially in recent years by children, adolescents and adults.

The average sleep duration has decreased in children during the past few decades. Estimates in Europe are that between 20 – 40% of children suffer from poor sleep, with half of them having persistent problems over time.

The prevalence of insomnia has been increasing in Europe in recent years, with an average of 10%, moreover.

3.5 Practical strategies to improve sleep quality and quantity

1. Create a routine which includes a regular bedtime: go to sleep at the same time each night, and get up at the same time each morning. In that routine try to relax before bed by reading a book, or taking a bath.
2. Turn off computers, TV screens, video games, and other bright lights.
3. If any device is to be used (e.g. an electronic device for reading a book) lower the light intensity.
4. Avoid doing exercise before bed time and sleep.
5. Eat dinner early and long before going to bed.
6. Reduce irregular or long daytime naps.
7. Avoid falling asleep on the sofa or any other place that makes you move during the night.
8. If your children and adolescents tend to lie awake and worry about things, make a to-do list before they go to bed. This may help you put their concerns aside for the night.
9. Avoid scary or violent content at night.
10. Picking a stuffed animal or security blanket for the night for toddlers.
11. If your children and adolescents can't fall asleep at night, provide a calm activity, like reading instead of using your phone or playing video games.
12. Do not toss and turn, relax and do not pick up any devices in the middle of the night.
13. Make the bedroom comfortable: dark, quiet, and not too warm or too cold.

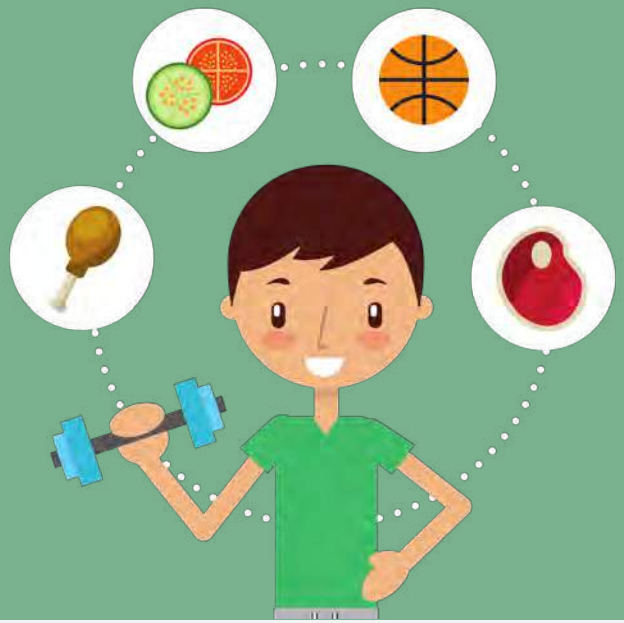
4

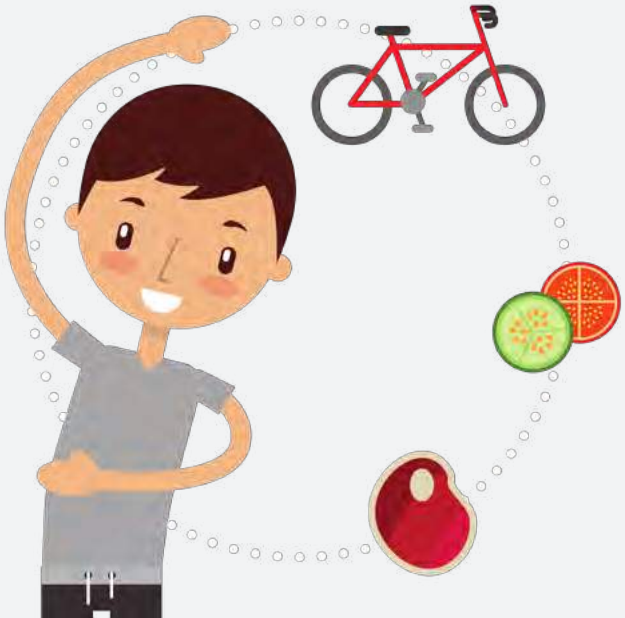
DIETARY HABITS

4.1 What are dietary habits?

A complete and diversified diet is crucial for healthy growth and development. Through drink and food consumption the body gets water and nutrients that are essential to its development, functioning and survival.

People's bodies need energy to keep alive and for organs to function normally. The more active a person is, the more energy the person will have to consume to be able to carry out the daily life. The amount of energy in an item of food or drink is measured in calories.





Dietary habits

Are the food choices preferred by people in their daily life. Proper dietary choices require a varied consumption of vitamins, minerals and three macronutrients: carbohydrates, proteins, and lipids/fats. Dietary habits and choices play a significant role in human health [1].

Vitamins

Are organic compounds that people need in small quantities. Most vitamins are present in natural foodstuffs and having too little of any vitamin may increase the risk of developing certain health issues.

Minerals

Are a chemical element required as an essential nutrient by organisms to perform functions necessary for life. They are important for making enzymes and hormones and to keep bones, muscles, heart, and brain working properly.

Carbohydrates

Are a source of energy to body and brain activity by sugars, starches and fibers found in fruits, grains, vegetables and milk products. Carb intake for most people should be approximately 60% of total calories [2]. Carbohydrates are classified as simple (fructose found in fruits and galactose found in milk products) or complex (referred to as starchy foods and include beans, potatoes, corn, whole-grain breads and cereals) and the difference remains between the two forms of the chemical structure and how quickly the sugar is absorbed and digested (simple are faster).

Proteins

Are present in every body cell, and an adequate protein intake is important for keeping the muscles, bones, and tissues healthy. Both animal and plant foods can be excellent sources of protein. Protein intake for most people should be approximately 15% of total calories [2].

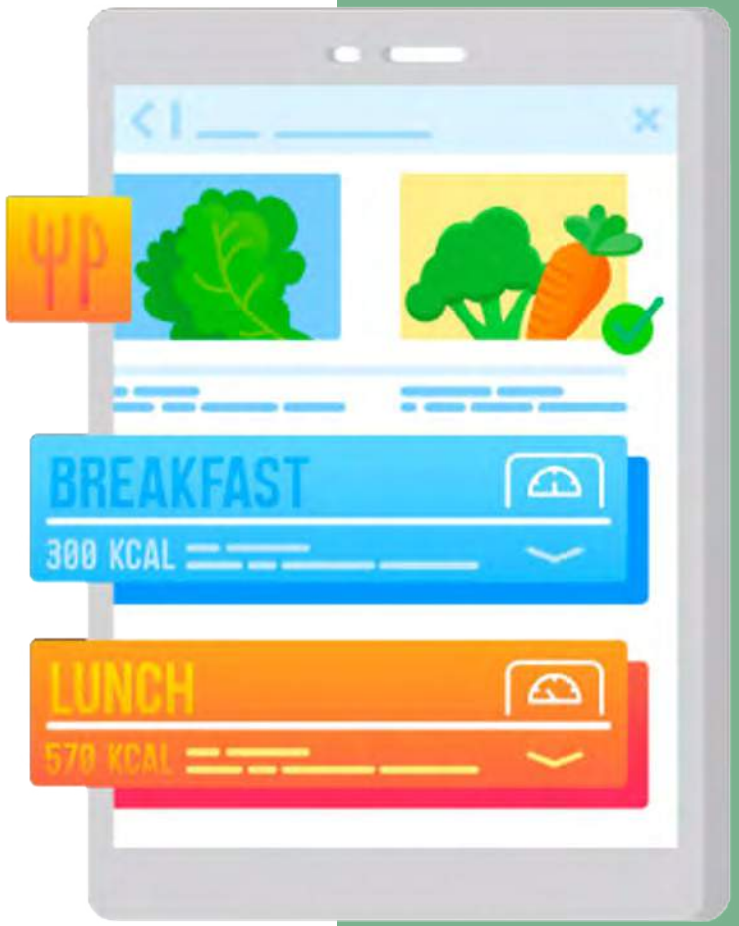
Lipids

Mostly known as fats, lipids are concentrated sources of energy as well as structural components of cell membranes. Fats provide more than double the energy per gram than protein or carbohydrates, so it has more energy density. They are critical for maintaining body temperature, cushioning vital organs, regulating hormones, transmitting nerve impulses, and storing memory. Lipids intake for most people should be approximately 25% of total calories [2].

The energy intake (calories) should be in balance with energy expenditure.

If a person does not regularly consume the energy needed for their daily lives or if excesses his needs of intake of energy it is called malnutrition. Historically, it has been addressed two separate broad groups of conditions [3, 4]:

- **undernutrition**, which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals);
- **overweight/obesity** and **diet-related noncommunicable diseases** such as heart disease, stroke, diabetes and cancer.



Body Mass Index

Is normally used to calculate a body composition, which allows to locate a person as underweight, normal, overweight or obese. The limitation is that the Body Mass Index formula does not distinguish weight associated with muscle from weight associated with fat which is not spent, only stored as fat.

4.2 Global overview of dietary habits

Regarding the dietary habits of children and adolescents, there is evidence [3, 4, 5, 6] suggesting that:

Increased production of processed foods, rapid urbanization and changing lifestyles have led to a shift in dietary patterns. People are now consuming more food which is high in energy, fats, free sugars and salt/sodium, and many people do not eat enough fruit, vegetables and other dietary fibre such as whole grains.

The prevalence of obesity is estimated to account for 10–13% of deaths in Europe.

Globally, in 2017, one in five deaths is associated with poor diet (an estimated 11 million deaths).

In 2020 an estimated 39 million children under the age of 5 were overweight or obese.

Children with obesity are very likely to remain obese as adults and are at risk of developing serious noncommunicable diseases.

Most people consume too much sodium through salt (corresponding to consuming an average of 9–12 g of salt per day) and not enough potassium (less than 3.5 g). High sodium intake and insufficient potassium intake contribute to high blood pressure, which in turn increases the risk of heart disease and stroke.

In 2016, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 650 million were obese.

In 2016, 39% of adults aged 18 years and over were overweight, and 13% were obese.

Over 340 million children and adolescents aged 5-19 are overweight or obese in 2016.

4.3 The importance of having healthy dietary habits

Eating a variety of food and consuming less salt, sugars and saturated and industrially-produced trans-fats are essential for a healthy diet.

Obesity in adulthood is a major risk factor for the world's leading causes of poor health and early death including cardiovascular disease, diabetes, cancers and osteoarthritis. Preventing obesity has direct benefits for children's health and wellbeing, in childhood and continuing into adulthood [7].

It is essential to guarantee food consumption that is adequate to the nutritional needs and energy expenditure of each child and adolescent. Opting for a balanced, adequate and varied diet is an important step towards a happy and healthy lifestyle.

Vitamins and minerals in the diet are vital to boost immunity and healthy development.

An individual with healthy dietary habits tends to be more confident, with a better self-esteem. When inadequate and chronic, eating behaviours contribute to the development of chronic diseases, such as hypertension, obesity, type 2 diabetes, dyslipidemia and cardiovascular diseases. Food and nutrition education is an important process to implement healthy options [7].

Healthy dietary habits can also contribute to an adequate body weight. Eating behaviours are acquired at young ages and tend to persist into adulthood.

4.4 Dietary habits guidelines

A healthy diet includes the following:

Fruit, vegetables, legumes (e.g. lentils and beans), nuts and whole grains (e.g. unprocessed maize, millet, oats and brown rice).

At least 400 g (i.e. five portions) of fruit and vegetables per day, excluding potatoes, sweet potatoes and other starchy roots.

Less than 30% of total energy intake comes from fat. Unsaturated fats (found in fish, avocado and nuts, and in sunflower, soybean, canola and olive oils) are preferable to saturated fats (found in fatty meat, butter, palm and coconut oil, cream, cheese, ghee and lard) and trans-fats of all kinds. It is suggested that the intake of saturated fats be reduced to less than 10% of total energy intake and trans-fats to less than 1% of total energy intake. In particular, industrially-produced trans-fats are not part of a healthy diet and should be avoided.

Less than 10% of total energy intake from free sugars, which is equivalent to 50 g (or about 12 level teaspoons) for a person of healthy body weight consuming about 2000 calories per day, but ideally is less than 5% of total energy intake for additional health benefits. Free sugars are all sugars added to foods or drinks by the manufacturer, cook or consumer, as well as sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates [8].

Less than 5g of salt (equivalent to about one teaspoon) per day. Salt should be iodized [9].

Drink water regularly along the day. Remember that more should be consumed in hot climates and due to sickness or exercise.

Healthy Eating Plate

Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

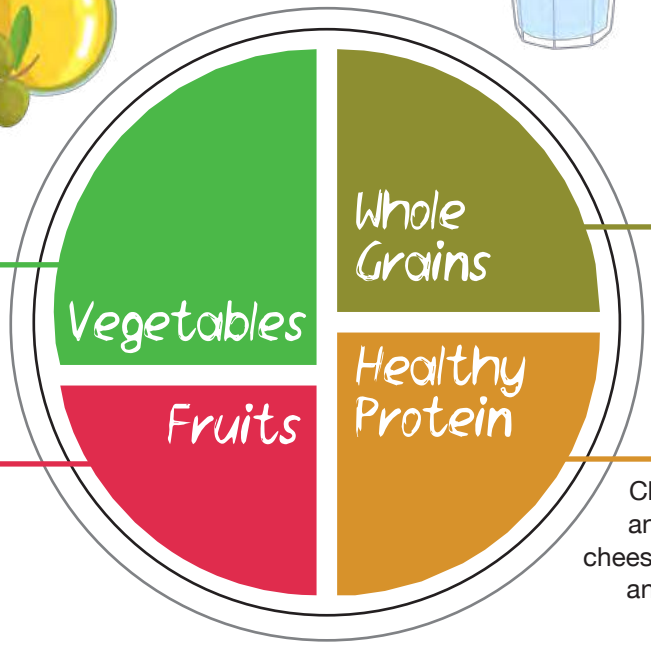
The more veggies - and the greater the variety - the better. Potatoes and French fries don`t count.

Eat plenty of fruits of all colors.

Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.



4.5 Practical strategies to have good dietary habits

- Eat and provide a nutritious diet based on a variety of foods originating mainly from plants, rather than animals.
- Pay attention to portion size and ingredients.
- Eat and provide a variety of vegetables and fruits, several times per day (at least 400g per day or 5 items) and include it on children's and your snacks.
- Plan food shopping and avoid going shopping hungry.
- Involve your children in food shopping and preparing meals.
- Encourage your children to eat slowly.
- Eat and provide meals together as a family as often as possible.
- Encourage your children to drink water regularly.
- Control fat intake (not more than 30% of daily energy) and replace most saturated fats with unsaturated vegetable oils or soft margarines.
- Don't completely deprive yourself or children/adolescents of the foods that you love.
- Avoid eating sweets and drinking soft drinks.
- Choose a low-salt diet. Total salt intake should not be more than one teaspoon (6g) per day, including the salt in bread and processed, cured and preserved foods.
- Avoid the number of times you go to fast food restaurants.
- Avoid eating immediately before main meals.
- At main meals seek to have a dish with varied colours and macronutrients.

5

PHYSICAL EDUCATION

5.1 What is Physical Education?

Is a subject area in the school context that plays an important and unique role in educating and in promoting an active and healthy lifestyle among children and adolescents.

Physical Education

> “Physical education is the most effective means of providing all children and youth with the skills, attitudes, values, knowledge and understanding for lifelong participation in society.”
> The Declaration of Berlin 2013 – UNESCO’s World Sports Ministers Conference (MINEPS V) [9]

All students should have access to quality physical education experiences, meaning:

Quality Physical Education

> “The planned, progressive, inclusive learning experience that forms part of the curriculum in early years, primary and secondary education. In this respect, quality physical education acts as the foundation for a lifelong engagement in physical activity and sport. The learning experience offered to children and young people through physical education lessons should be developmentally appropriate to help them acquire the psychomotor skills, cognitive understanding, and social and emotional skills they need to lead a physically active life”. (UNESCO) [9]

To prepare children and adolescents for a lifetime of physical activity and engage them in physical activities. In Physical Education, students learn to enjoy physical activities and that's where teachers, knowing their students closely, can organize activities and appropriate raining processes, tailored to their individual needs [1, 3, 4].

Physical Education's aim

> “Physical Education is like building a house: each exercise, drill or game represents one brick that the teacher puts down on another to set up a wall making sure that all stones are interlinked to be solid; there is a wall for each school year, and the house is finished when the roof is fixed at the end of compulsory education. The house should be ready for lifelong use.” [7]

The school, through Physical Education, is the place where all children and young people are, where the child's education process is guided by validated criteria by qualified teachers with accredited scientific and pedagogical training, engaged in continuous professional development, to provide adequate and inclusive learning and development experiences.

5.2 Physical Education benefits

Physical education has many benefits [1, 6, 9, 10, 11, 12, 13, 14, 15, 20, 21]:

1. Promotes physical, social, affective and cognitive benefits;
2. Is a privileged way to develop physical literacy;
3. Is the only curriculum subject whose focus combines the body and physical competence with values-based learning and communication, providing a learning gateway to grow the skills required for success in the 21st Century;
4. Regular participation in quality physical education and other forms of physical activity can improve a child's attention span, enhance their cognitive control and speed up their cognitive processing;
5. Is a worthwhile investment in education that may lead to improvements in cognition and academic performance;
6. Is the entry-point for lifelong participation in physical activity. Globally, many of the major causes of death connect to non-communicable diseases (NCDs) associated with physical inactivity.
7. Is a developmentally approporiate and inclusiveway to develop motor skills, motor competenceand pysical fitness, raising physical capacities;
8. Worldwide, attending physical education classes was positively associated with physical activity participation among adolescents regardless or sex or age group;
9. It allows a multilateral and harmonious development, through the practice of sporting physical activities, expressive physical activities and physical activities exploring the nature;
10. Promotes sociability because it is always done with others;
11. Promote pleasure for the regular practice of physical activities and ensure the understanding of its importance as a health factor and component of culture, in the individual and social dimension;
12. It is a context of social inclusion: is a platform for inclusion in wider society, particularly in terms of challenging stigma and overcoming stereotypes.

5.3 Recommendations for Physical Education in schools

There are several important recommendations for Physical Education in schools [9, 21,22, 23] and that parents should be aware. Some of them are:

From birth and during early childhood, Physical Education should include daily active play, enjoyable games, and sports aiming to develop core neuromotor skills, physical, psychological, and social attributes. In primary and secondary education, Physical Education should include a broad variety of different games, dance, sports, and physical exercises. Physical Education should be fun, enjoyable, motivating and bring novelty to maximise children's willingness and desire to learn and participate.

The Physical Education curriculum content should include physical activities according to the human development phases considering the favourable periods that allow the full development of neuromotor abilities and skills.

The Physical Education curriculum should include health education concepts like personal and social wellbeing, health promotion, and healthy lifestyles from a broader perspective beyond the practice of physical activity and sport.

Everyone should be able to participate in Physical Education and extracurricular activities through inclusive, differentiated and adapted methodologies and activities, especially less active and less skilled children.

Worldwide, several documents have identified huge differences between countries regarding the minimum taught time in Physical Education. Thus, the minimum Physical Education taught time recommended during the compulsory education period should be increased to at least 5 lessons per week (~ 5 hours).

Physical Education is a necessary part of school curriculum, and exemptions should only be granted in extraordinary circumstances.

Qualified and specialised Physical Education teachers should be preferred at all educational levels. When not possible, as a minimum, qualified Physical Education teachers or certified coaches should consult and support general teachers.

5.4 Practical strategies for parents to support Physical Education

Parents have a decisive role in ensuring quality Physical Education for their children [10]. They can influence children's activity in two ways:

1 by being a role model and adopting and maintaining an active and healthy lifestyle.

2 by providing encouragement (e.g. verbal motivation) to their children/adolescents to actively learn and participate in physical education classes and for leading an active lifestyle.

Parents should [9]:

- Encourage children to be competent in the Physical Education area;
- Ensure Physical Education is a core part of school curricula;
- Demand and ensure the quality of the Physical Education facilities in which it is developed;
- Demand and ensure the qualification and quality of Physical Education teachers;
- Know the purposes and objectives of Physical Education curriculum programs;
- Help students continue to build their fitness skills at home continuing what is done in part of Physical Education the classes;
- Pledge support for school community-sport partnerships.

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