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NWOG
NEW WHEELS OF CHANGE

Curriculum

A Guide to Sustainable and Active Transport Education in Schools

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CURRICULUM ACTIVITIES

01 Traffic Signs

02 Traffic Rules

03 Repair

04 Safety and Protection

05 Safety Equipment

06 Riding Skills

07 Behavior On The Road

CURRICULUM ACTIVITIES

08 Sustainability

09 Health and Sport

10 Good to Know

INTRODUCTION

Introduction

The training on the different types of mobility and their integration in the school curriculum is of great importance. It is one of the many important segments that contribute to achieving a comprehensive process of teaching and learning, promotion of new skills and knowledge acquisition and, in turn, developing improved attitudes towards different types of mobility.

The traditional sustainable types of transport such as bicycles, kick scooters, regular scooters, rollerblades, skates, and skateboards have been widely used throughout Europe for recreation, but also for everyday transport from point A to point B. On the other hand, the modern trends necessitate the integration of electric micromobility devices, such as electric skateboards, e-bicycles, and e-scooters/kick scooters, which have recently evolved significantly from toys to means of transport. Usually, the legislatively mandated restrictions for them are defined in such a way that they can drive with a maximal speed of 25km/h, which makes them ideal for leisure activities, short or medium trips. Both the traditionally sustainable and electric transport can help in the fight against climate changes and, at the same time, improve the accessibility to public transport and leisure activities for everyone and everywhere.

It is especially important for the children and the young people to obtain training about mobility and transport, in order to be authorized to make decisions about their own habits regarding mobility and to learn about the benefits of using sustainable transport and practicing sustainable mobility. Through training children and young people can reduce the likelihood of accidents and reduce the risk of injuries by knowing, understanding, and complying with the road traffic rules. In addition, it is important that the children are competent to adequately handle/use various types of sustainable transport. This is provided through theoretical and practical training.

Mobility and transport related learning (micromobility and active mobility) can be easily integrated in several school subjects including physical education, social sciences, political education, technical education, and even foreign language courses. In addition, mobility and traffic education can also be offered during the official curricula and/or during extracurricular activities.

In order to successfully achieve the learning objectives, set in this manual, it is necessary to implement high quality and creative activities for the students to be able to acquire the necessary skills based on theoretical and practical knowledge and to implement them in realistic traffic situations. This manual is intended for teachers, bicycling instructors, all other educators, and parents interested in the proposed topics. It comprises 10 modules and each module contains 5 activities, grouped in 5 levels, subdivided by level of complexity from 1 (easiest) to 5 (most complex).

This manual is based on 3 pillars:

a) Applicability:
Because mobility and transport education is a combination of theoretical knowledge and practical training, all proposed activities/training must be designed so that they can be implemented in practice.

b) Accessibility:
All proposed activities/training should utilize inexpensive tools and materials that are also easily accessible and broadly known to the public at large.

c) Sustainability:
The content and information in this handbook can be easily transferred throughout the education system, into school learning plans and to different generations of students (follow-up teaching).

Guidelines for using this manual:

This manual represents a pedagogical tool aimed at helping teachers, bicycle instructors and other educators organize curricular and extra-curricular activities in reference to active mobility, traffic education and terminology/glossary. The manual itself contains the necessary instructions for planning, development, and implementation of activities as part of a training on the topic of bicycle education. Still, this is not the only pedagogical tool needed during the classes on proper, safe, and successful implementation of the teaching process.

The following guidance is recommended:

1. Adaptation of the content in accordance with the conditions

The content and the activities in this manual can and should be adapted to the circumstances in the class and in the school, as well as to the available resources and the overall environment. However, please always comply with the traffic rules and signs in your country. They can be found on the official websites of the ministries of the interior, the ministries of transport and the websites of various other related organizations – transport and traffic unions, organizations working in the field of transport (walking, bicycling, e-mobility), etc.

Never adjust, maintain, or repair the bicycles of the students yourself. This also applies to the other bicycles. If necessary, contact and visit a professional bicycle mechanic or take the bicycle in a bicycle repair shop.

2. Creativity

This manual is prepared in a way that not only promotes the creativity of students, but also of teachers, bicycling instructors, and other educators. There is a great potential for creativity when implementing these activities/training, as well as when selecting the training material.

3. Following the trends in the mobility industry

In order for the activities and the training to be up to date, the teachers, the bicycling instructors, and other educators should follow the current trends in the fact changing mobility industry.

The role of schools in bicycle/micromobility education:

The schools, their employees, and the school directors should generally be open to integrating topics such as active mobility and sustainable transport. The adults should serve as examples and be aware what kind of transport they use to attract the children and the young people to or from school. If all the employees in a school are an example of active mobility, then they are more credible in class and the professionally and authentically convey their knowledge to the students.
The use of sustainable forms of transport can reduce the morning traffic congestion before schools and increase the safety of everyone involved. The school management is also responsible for providing sufficient safe parting places for bicycles, kick scooters and other sustainable means of transport. These measures for promoting active mobility (walking, bicycling, using a kick scooter, etc.) can also increase the number of students that behave properly in traffic and thus mitigate one of the main traffic problems, the so called "parent taxi services", where the parents take/pick up their children to/from school.

The role of local authorities:

The local authorities play an important role in the promotion of sustainable and active urban transport, and, at the same time, they have an obligation to facilitate accessible, efficient, ecological, and most importantly, safe transport. Special focus should be placed on the planning around the school zones as risky areas full of circulating vulnerable groups of students that participate in traffic (children).

Some of the key aspects where the local authorities have an important role are:

1. Infrastructure planning

Roads and streets, sidewalks, bicycle paths, pedestrian zones. In the time that we live in, the main priority of the local authorities should be planning and construction (and/or modification) of infrastructure that supports sustainable types of transport, and which is also efficient and safe.

2. Development of policy to promote active transport / alternative types of transport

Local authorities should promote policy with a view of increased active, sustainable, and ecological transport. This policy can be with a view of improving the infrastructure for non-motorized transport, vehicle parking restrictions, promoting bicycling and walking, etc.

3. Support the creation and implementation of educational programs

Local authorities should strive to increasing the activities for networking with organizations and/or companies that work in the field of mobility, and the objective should be the creation of education program and their integration in the education systems (accent on primary and secondary education). The content of the education programs of this type should focus of creating a public / collective awareness about sustainable and active mobility, changes of the behavior, development of sills, understanding of policy, involvement of the community, and bouiding sustainable and long-term partnerships and cooperations.

Conditions for the implementation of school activities:

- If the content of this manual is conveyed by external bicycling instructors, then these classes or workshops should be decares as school events, or school projects in the area of sustainable transport, bicycling, active mobility, or traffic safety. The supervision duty always remains with the grade or subject teacher, depending on the age of the children. The external bicycling instructors should have passed appropriate training by the organization and/or company that created the content, or that is certified implementing such activities with children.

- If the content is taught by internal teachers (employed in the schools), then they have to go through a specialized training offered by the organization/institution that development the content and the activities (for example the partner organizations in this project), and then they should plan whether the activities connected with this copic will be realized during the classes (as part of the curriculum), or as extracurricular activities.

- Suitable premises should be available or provided. For example, the classroom that the pupils attend. It is assumed that this room is safe and has been approved by the school. The room should be equipped with suitable audio-visual equipment. A computer, projector and speakers would be ideal, but if you can't provide everything, then make sure you at least have a working computer.- Provision of appropriate controlled/fenced space. For example, schoolyard which is presumed to be safe and under supervision by a technical person employed in the school and/or the teachers.

- A suitable traffic-calmed area should also be available. For example, a school playground that is assumed to be safe and supervised by a technical person employed by the school and/or the teachers.

- Good communication with the school community is essential in order to be able to promote the topic better and more efficiently and to obtain sufficient support in the coordination of meetings and subdivisions into groups/classes. Every school has its own school community, consisting of parent councils, student councils and/or parliaments and teacher collectives. Whether you are an external cycling instructor or employed by the school and have completed the training, it does not matter - always seek good communication with the school staff.

- Each child needs a bike, scooter etc. and a helmet (all practical sessions require helmets). If not every child has their own bike, the teachers/ educators should allow more time to carry out the activities, as the available bikes are used by several children.

- The teacher should have a computer and/ or another suitable tool for carrying out all online activities. A projector would be an advantage as some of the activities should be displayed on the monitor/screen. The larger the screen, the wider the students' view.

- The teacher should ideally have a bike, a helmet and basic tools to explain the content of the 'familiar terrain' to the students, i.e. to use his/ her own bike on a terrain he/she knows well. activities with children.

-- Make sure that the activities are sufficiently interesting and interactive and that all children are equally involved. Be creative - experiment. The content of this handbook is intended only as an example of how to carry out mobility activities. You are welcome to use your own activities, just make sure that they are orientated towards the objectives of the individual modules.

We wish you every success with your work!

MODULE 1:
TRAFFIC SIGNS

Activity / Level 1: Cautionary signs

Activity / Level 2: Restriction signs

Activity / Level 3: Obligation signs

Activity / Level 4: Prohibition signs

Activity / Level 5: Informative and additional traffic signs

01

Description of the topic:

Traffic signs are a fundamental part of the rules that guide us in traffic and are important for the safety of all participants. Knowing the signs and being able to read or interpret them is very important and should start at a relatively early age. Regardless pedestrian, cyclist or motor vehicle driver, everyone must know and respect traffic signs. This can directly contribute to increasing the safety of all road users. According to the meaning, traffic signs are divided into several categories. Road signs is one category with subcategories: Cautionary signs, Explicit order signs (Restriction signs, Prohibition signs, Obligation signs), Informative and additional traffic signs.

Training on different types of traffic signs and their interpretation and application in school curricula is of great importance. One of the many important segments for comprehensible learning, which promotes new skills and the acquisition of knowledge, thus acquiring an attitude towards different types of mobility, as well as increasing general traffic safety. It is important that children and young people receive training in recognizing traffic signs, so that they can make the right decisions when participating in traffic and thereby contribute to their own and general traffic safety. Through training, with knowledge, understanding and respect for traffic signs, children and young people can reduce the likelihood of traffic accidents and injuries. That is why training in both theory and practice is needed.

This topic is useful in the context of physical education, social sciences, political education, technical education, and even in the teaching of foreign languages. In addition, mobility and traffic education can be offered after school and/or during extracurricular activities.
In order to successfully achieve the learning objectives set in this training module, it is necessary to implement high quality and creative activities/training so that students can acquire the necessary skills based on theoretical knowledge and practical training and implement them in real traffic situations.

This module is intended for teachers, cycling instructors, all other educators and parents who are interested in the proposed topics.

Recommended age group for implementation: 6-14 year olds. This module contains 5 activities grouped into levels. Activities can be modified depending on the age of the participants.

Structure of Activities / Training Module 1: Traffic signs

How to implement this module and activities proposed in it:

Introductory activities (theory)

Introduction to the theory of the proposed content through explanation/communication/ discussion using various audiovisual tools and exercises (presentation, videos, memory cards).

Discuss with the students about the signs they recognize and regardless of the answers, make sure that you have well explained the role of the road users.

Main activities (practical part)

Transferring theory into practice through training, demonstrations, workshops or other form chosen by the responsible person, inside or outside the classroom (depending on the type of activities/training).

- Divide the students into groups of 4, (if you can and the conditions allow, make the groups mixed so that there are both boys and girls) We recommend that this activity be implemented in the school yards in open air conditions.
- To mark the space for the practical part (can also be for the theoretical part) use chalks or tapes. If there is no way to organize it in such a way, you can also use video monitors.

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the "teacher" and the "students". It is also possible to offer an online questionnaire (Google sheet).

Reflection, review of the objectives of this module

After the realization of all of the levels and exercises proposed in this module, you can reflect and review the set objectives by ensuring the following:

1. The child is aware of the importance of traffic signs.
2. The child recognizes different traffic signs.
3. The child knows how to read traffic signs.
4. The child knows how important it is to read and obey traffic signs correctly.

Also check: What is the child not aware of?

Draw a conclusion about this module

Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module

- The teacher should have prior knowledge of traffic signs.
- The field for performing the activities should be isolated from the rest of the traffic. Marking cones, printed or made traffic signs can be used and recreation situations can be taken from a digital file.
- Free GoToWebinar Registration

· Download the "NewWheelsOfChange" app.

· Download the board game "NewWheelsOfChange".

- additionally see required material for each level

01

Level 1: Cautionary signs

Type of activity
- Classroom activity/training
- Activity/training outside the classroom

Topic
- Improving knowledge about Warning Signs

Learning Objectives
- Transferring knowledge about situations related to the application/violation of warning signs
- Recognizing the dangers relevant to pedestrians, cyclists, etc.

Target group/students
- Students from 3rd to 9th grade
- School teachers

Required material
- Danger traffic signs - StVO
- Digital database of situations
- Intersection (improvised or in a protected environment/polygon)
- Traffic participants (roles)
- Pictures of different situations at an intersection

Duration of activities: 40-60 min.

Activities Level 1

Introductory activities (theory)

Print the signs you are offered. Talk to the children. Do they recognize them, do they know what can happen?

Main activities (practice)

PUZZLE Divided into groups of 4-6 children, create a section of road (mockup or on your classroom floor) that will require the use of these signs. Groups can draw a number to determine which part of the polygon they will create. When all parts of the training ground are joined, the groups compete one by one to see which group can place the pre-printed danger signs in the correct place in the fastest time.

Closing activities

In agreement with the students, you can decide on a final activity. If it is a quiz or a memory they can participate in making the materials. You can discuss which signs you think are more useful for cyclists/pedestrians and why. At what distance should they be placed...
After the children have completed the activities/training in the schools, a final discussion can be held. Keep the learning objectives of the module in mind while asking the following questions:

1. What did the children learn?
2. What improved with this activity/training?
3. What is the problem?

01

Level 2: Restriction signs

Type of activity
- Classroom activity/training
- Activity/training outside the classroom

Topic
- Improving knowledge about Traffic Restriction Signs

Learning Objectives
- Transferring knowledge about situations related to the application/violation of traffic signs for restriction.
- Recognition of hazards relevant to pedestrians, cyclists, etc.

Target group/students
- Students from 3rd to 9th grade
- School teachers

Required material
- Restriction traffic signs - StVO
- Digital database of situations
- Intersection (improvised or in a protected environment/polygon
- Traffic participants (roles)
- Pictures of different situations at an intersection

Duration of activities: 40-60 min.

Activities Level 2

Introductory activities (theory)

Print the signs you are offered. Make a quiz, offer them 3 options. Talk to the children, do they know what can happen if they don't respect the signs?

Main activities (practice)

PUZZLE Divided into groups of 4-6 children, if you do not have the opportunity to use a polygone, create a section of road in the school yard (either indoors, on a model or on the floor of your classroom) that will require the use of one of these signs. Groups can draw a number to determine which part of the polygon they will create. When all parts of the training ground are joined, the groups compete one by one to see which group can place the pre-printed danger signs in the correct place in the fastest time.

Closing activities

IIn agreement with the students, you can decide on a final activity. You can discuss which signs you think are more useful for cyclists/pedestrians and why. At what distance should they be placed...
After the children have completed the activities/training in the schools, a final discussion can take place. Keep the learning objectives of the module in mind while asking the following questions:

1. What did the children learn today?
2. What improved with this activity/training?
3. What is the problem?

01

Level 3: Obligation signs

Type of activity
- Classroom activity/training
- Activity/training outside the classroom

Topic
- Improving knowledge about Obligatory Traffic Signs

Learning Objectives
- Transferring knowledge about situations related to the application/violation of traffic signs for obligation. Recognizing hazards relevant to pedestrians, cyclists, etc.

Target group/students
- Students from 3rd to 9th grade
- School teachers

Required material
- Obligatory traffic signs - StVO
- Digital database of situations
- Intersection (improvised or in a protected environment/polygon)
- Traffic participants (roles)
- Pictures of different intersection situations

Duration of activities: 40-60 min.

Activities Level 3

Introductory activities (theory)

Print the signs you are offered. Children divided into groups of 4 choose one of the group who draws the best. He gets a sign by chance and starts to draw it on the board. It is Pictionary. The other members of the group have to guess which sign it is, in the shortest possible time.

Main activities (practice)

PUZZLE Divided into groups of 4-6 children, create a section of road (mockup or on your classroom floor) that will require the use of these signs. Groups can draw a number to determine which part of the polygon they will create. When all parts of the training ground are joined, the groups compete one by one to see which group can place the pre-printed danger signs in the correct place in the fastest time
ROLE PLAYING In each group, one of the children can be designated as a policeman, and the rest are traffic participants who should behave according to a certain pre-agreed situation with this type of signs. Police officers register traffic offenses and collect points.
OPTION: At the end, the policemen from each group compare who collected how many fines, i.e. with the help of the teacher, it is determined which policeman is the best.

Closing activities

In agreement with the students, you can decide on a final activity. You can discuss which signs you think are more useful for cyclists/pedestrians and why. At what distance should they be placed...
After the children have completed the activities/training in the schools, a final discussion can be held. Keep the learning objectives of the module in mind while asking the following questions:

1. What did the children learn?
2. What improved with this activity/training?
3. What is the problem?

01

Level 4: Prohibition signs

Type of activity
- Classroom activity/training
- Activity/training outside the classroom

Topic
- Improving knowledge about Prohibition Traffic Signs

Learning Objectives
- Transferring knowledge about situations related to the application/violation of prohibition traffic signs. Recognition of hazards relevant to pedestrians, cyclists, etc.

Target group/students
- Students from 3rd to 9th grade
- School teachers

Required material
- Prohibition traffic signs - StVO
- Digital database of situations
- Intersection (improvised or in a protected environment/polygon)
- Traffic participants (roles)
- Pictures of different situations at an intersection

Duration of activities: 40-60 min.

Activities Level 4

Introductory activities (theory)

Print the signs you are offered. Children divided into groups of 4 choose one of the group who draws the best. He gets a sign by dragging and starts to draw it on the board. The other members of the group have to guess which sign it is in the shortest possible time.

Main activities (practice)

PUZZLE: Divided into groups of 4-6 children, create a section of road (mockup or on your classroom floor) that will require the use of these signs. Groups can draw a number to determine which part of the polygon they will create. When all parts of the training ground are joined, the groups compete one by one to see which group can place the pre-printed danger signs in the correct place in the fastest time
ROLE PLAYING: In each group, let one of the children be designated as a policeman, and the rest are traffic participants who should behave according to a certain pre-agreed situation with this type of signs. Police officers register traffic offenses and collect points
OPTION: At the end, the policemen from each group compare who has collected how many fines, i.e. with the help of the teacher, it is determined which policeman is the best.

Closing activities

In agreement with the students, you can decide on a final activity. You can discuss which signs you think are more useful for cyclists/pedestrians and why. At what distance they should be placed, how they can be improved, they can also draw.
After the children have completed the activities/training in the schools, a final discussion can take place. Keep the learning objectives of the module in mind while asking the following questions:

1. What did the children learn?
2. What improved with this activity/training?
3. What is the problem?

01

Level 5: : Informative and Additional Traffic Signs

Type of activity
- Classroom activity/training
- Activity/training outside the classroom

Topic
- Improving knowledge about Traffic Signs

Learning Objectives
- Transferring knowledge about situations related to these traffic signs. Recognizing hazards relevant to pedestrians, cyclists, etc.

Target group/students
- Students from 3rd to 9th grade
- School teachers

Required material
- Prohibition traffic signs
- Digital database of situations
- Intersection (improvised or in a protected environment/polygon)
- Traffic participants (roles)
- Pictures of different situations at an intersection

Duration of activities: 40-60 min.

Activities Level 5

Introductory activities (theory)

Print the signs you are offered. Talk to the children. Do they recognize them, do they understand them, some statistics can be pointed out to them.

Main activities (practice)

Bingo: Each student makes cards with 6 pictures of different traffic signs of this type (from a pre-arranged file). Then the teacher pulls out from a bowl a textual explanation and reads it. Further the rules are as for Bingo

Hunting for signs: If there is an opportunity for outdoor activity, children divided into groups can be sent to cover a pre-arranged radius with an escort. To find and take a picture of a traffic sign, to send the picture and an explanation of the sign. The group with the most correct signs collected wins.

Closing activities

In agreement with the students, you can decide on a final activity. You can discuss which signs you think are more useful for cyclists/pedestrians and why. At what distance they should be placed, how they can be improved, they can also draw. Did they notice from the signs they hunted where they were respected and where they were not.
After the children have completed the activities/training in the schools, a final discussion can take place.

1. What did the children learn?
2. What improved with this activity/training?
3. What is the problem?

MODULE 2:
TRAFFIC RULES

Activity / Level 1: Knowledge of the Law

Activity / Level 2: Two-way traffic rule

Activity / Level 3: Horizontal signaling

Activity / Level 4: Signs given by uniformed police officers

Activity / Level 5: Hand signaling for cyclists

02

Description o the topic:

Traffic rules are rules that apply to road users who use road surfaces, to the greatest extent rules for behavior in traffic. There are special traffic signs, signals and horizontal signaling that are in accordance with the traffic rules.

Training for different types of mobility and their integration into the school curriculum is of great importance. It is one of the many important segments that contribute to achieving a comprehensive teaching and learning process, promoting the acquisition of new skills and knowledge and thus developing improved attitudes towards different types of mobility.

Conventional personal transport such as bicycles, scooters, rollerblades, skates and skateboards are widely used throughout Europe. Micromobility devices such as electric skateboards, e-bikes and e-scooters have recently evolved significantly from toys to transportation. They can be driven at a maximum speed of 25 km/h, making them ideal for leisure activities, travel and short trips. Both conventional and electric private transport can help fight climate change and improve accessibility to public transport and leisure activities for everyone.

It is important that children and young people receive mobility and transport training, so that they are empowered to make decisions about their own mobility habits and learn the benefits of using sustainable transport and active mobility. Through training, children and young people can reduce the likelihood of accidents and reduce the risk of injury by knowing, understanding and obeying road traffic regulations. It is also important for children to be competent in handling different vehicles. This is provided through theoretical and practical training.

Mobility and transport-related learning (micromobility and active mobility) can be easily integrated into several school subjects. This topic is useful in the context of physical education, social sciences, political education, technical education, and even in the teaching of foreign languages. In addition, mobility and traffic education can be offered after school and/or during extracurricular activities.

In order to successfully achieve the learning objectives set in this training module, it is necessary to implement high-quality and creative activities/training so that students can acquire the necessary skills based on theoretical knowledge and practical training and implement them in real traffic situations.

This module is intended for teachers, cycling instructors, all other educators and parents who are interested in the proposed topics.

Structure of Activities / Training Module 2: Traffic rules

How to implement this module and activities proposed in it:

Introductory activities (theory)

Introduction to the theory of the proposed content through explanation/communication/ discussion using various audiovisual tools and exercises (presentation, videos, memory cards)

Main activities (practical part)

Transferring theory into practice through training, demonstrations, workshops or other form chosen by the responsible person, inside or outside the classroom (depending on the type of activities/training)

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the "teacher" and the "students". It is also possible to offer an online questionnaire (Google sheet).

Reflection, review of the objectives of this module

After the realization of all the levels and exercises proposed in this module, you can reflect and review the set objectives by ensuring the following:

1. The child is aware of the importance of traffic rules.
2. The child knows and can repeat different traffic rules.
3. The child knows how important it is to follow the traffic rules.

Also check: What is the child not aware of?

Draw a conclusion about this module

Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module

- The teacher should have prior knowledge of traffic rules.
- The field for performing the activities should be isolated from the rest of the traffic. Marking cones, printed or made traffic signs can be used and recreation situations can be taken from a digital file.-

· Free GoToWebinar Registration
· Download the "NewWheelsOfChange" app.
· Download the board game "NewWheelsOfChange".

- additionally see required material for each level

02

Level 1: Knowledge of the Law

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
- Improving knowledge of the Traffic Safety Law

Learning Objectives
- Transferring knowledge about situations related to the application/violation of legal provisions. Communication with other road users. Recognizing hazards relevant to pedestrians, cyclists, etc.

Target group/students
- Students from 1st and 2nd dept
- Students in 3rd and 4th grade
- Students from 5th to 9th grade
- School teachers

Required material
- Traffic Safety Law (eg Art. 86, 88, 98, 99)
- Prioritization situations
- Intersection (improvised or in a protected environment/polygon)
- Traffic participants (roles)
- StVO-Regulation of traffic (signaling)
- Pictures of different intersection situations
- Tokens (instead of money to pay fines)

Duration of activities: 40-60 min.

Activities Level 1

Introductory activities (theory)

Introduction to the theory of the proposed content through explanation/communication/ discussion using various audiovisual tools and exercises (presentation, videos, memory cards)

Main activities (practice)

Transferring theory into practice through training, demonstrations, workshops or other form chosen by the responsible person, inside or outside the classroom (depending on the type of activities/training)
ROLE PLAYING (divided into groups of 4-6 children in which one of the children can be a policeman and the rest are traffic participants who should behave according to a certain pre-agreed situation)
OPTION: At the end, the policemen from each group compare who collected how many fines, i.e. with the help of the teacher, it is determined which policeman is the best.

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the "teacher" and the "students". It is also possible to offer an online questionnaire (Google sheet).

- QUIZ
- MEMORY

In agreement with the students, you can decide on a final activity. If it is a quiz or a memory they can participate in making the materials

- DISCUSSION

After the children have completed the activities/training in the schools, a final discussion can take place. Keep the learning objectives of the module in mind while asking the following questions:

1. What did the children learn?
2. What improved with this activity/training?
3. What is the problem?

02

Level 2: Two-way traffic rule

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
Actions in traffic. Movement in traffic: turning, passing, passing, overtaking, going around, stopping.

Learning Objectives
- Transferring situational awareness skills related to different movements in two-way road traffic. Increased attention and risk assessment. Communication with other road users.

Target group/students
- Students from 1st and 2nd dept
- Students in 3rd and 4th grade
- Students from 5th to 9th grade
- School teachers

Required material
- Rules for two-way traffic situations
- Intersection/Roundabout
- Traffic participants - StVO
- Videos of various traffic situations related to the topic
- Tags for each of the participants in the activity depending on the role

Duration of activities: 20-30 min.

Activities Level 2

Introductory activities (theory)

Two-way traffic takes place on most of the roads. In our country, vehicles move on the right side of the road. To ensure the safe flow of traffic, appropriate traffic signs and horizontal signaling are used to ensure smooth and safe traffic flow. For this purpose, observations of the traffic in the surrounding area should be made as well as info videos.

Main activities (practice)

On a surface (e.g. in the schoolyard, playground, concrete, asphalt, grass, etc.) a roadway is improvised (with cones, etc.) and the students are allowed to demonstrate two-way traffic on bicycles or on foot with a sign indicating which traffic participant they represent . (During this activity, the children/participants can be in groups of 4-6 members. Some of them will be participants in the traffic (car, motorcycle, etc.), and some will be vertical signaling (sign, traffic light...) Children can make a sign of what they represent out of cardboard or something similar.
Children should perceive and understand the dangers of traffic movements, diverging, passing, overtaking, going around, stopping. The conditions in which vehicles from one direction have an advantage over vehicles from the other are highlighted.

Closing activities

In which cases is the two-way traffic interrupted? Which signs are used for it? Which lanes are used when pedestrians and bicyclists cross the flow of two-way traffic? Suggestions from children on how to improve safety.
After the children have completed the activities/training in the schools, a final discussion can take place. Here teachers can ask questions, etc.:

- What did the children learn?
- What will be improved by this activity/training?

Keep the learning objectives of the module in mind while asking the following questions:

- The child can/cannot evaluate ... in two-way traffic
- The child recognizes signs and horizontal signaling in two-way traffic
- The child is aware of ... rules by which two-way traffic takes place
- The child is aware/unaware of the exceptions

02

Level 3: Horizontal signaling

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
Understanding, and using the different types of horizontal signage.

Learning Objectives
Transferring skills to recognize and manage situations related to road traffic where horizontal traffic signals are used. Special knowledge of features relevant to bicycles and pedestrians.

Target group/students
- Students from 1st and 2nd dept
- Students in 3rd and 4th grade
- Students from 5th to 9th grade
- School teachers
- Cycling instructors
- Local authorities
-

Required material
- Road markings (lines, arrows, inscriptions/longitudinal, transverse)
- Lines (solid, dashed, double, combined, yellow, hair, stop)
- Prohibited zone
- Crossing of cyclists
- Pedestrian crossing in the street
- StVO
- Pictures of different tags
- Cardboard, tapes, scissors, white/yellow paint for making models of intersections or parts of a settlement (help videos)

Duration of activities: 40-60 min.

Activities Level 3

Introductory activities (theory)

Introduction to the theory of the proposed content through explanation/communication/ discussion using different audiovisual tools and exercises (presentation, quiz, etc.) Showing images of horizontal road signage, and explaining where it is applied.

Main activities (practice)

If there is a traffic area in the school, the horizontal signaling is analyzed. The streets around the school and their horizontal signage are also being considered. To see where the pedestrian crossings are located. Emphasize the importance of the stop line before each pedestrian crossing (zebra). To explain the meaning of dashed lines, solid lines and double solid lines. To explain how bicycle lanes, paths and crossings are marked. Next, students should select a part of the school's surroundings and make a mock-up of the streets with special emphasis on accurate horizontal signage. Different groups can work different parts so it comes like a puzzle.

Closing activities

The analysis of what has been learned can be done through impromptu cart traffic on the made models. At the same time, students will have to explain their actions. An online questionnaire (Google sheet) can also be offered.

After the activities/training in the schools are over, a final discussion can be held:
- What did they learn?
- What will be improved by this activity/training?

Keep the learning objectives of the module in mind while asking the following questions:
- Where does a solid line apply, where does a double solid line apply?
- Where does a dashed line apply?
- What is a stop line and where is it applied? How are bicycle crossings marked?
- How are bike lanes and footpaths marked?

Keep the learning objectives of the module in mind while checking if:
- The child can/can't notice…
- The child recognizes different elements of horizontal signaling and that...
- The child is aware of ... rules by which two-way traffic takes place
- The child is aware/not aware of...

02

Level 4: Signs given by uniformed police officers

Type of activity
- Online (webinar)
- Classroom activity/training

Topic
Acquaintance with all types of signs used by uniformed police officers

Learning Objectives
Transferring knowledge of this type of signaling to deal with situations related to signs intended for all road users. This knowledge can also be useful in situations where we do not know the official language of the country in which we are staying.

Target group/students
- Students from 1st and 2nd dept
- Students in 3rd and 4th grade
- Students from 5th to 9th grade
- School teachers
- Cycling instructors

Required material
- Signs given with hands and body position
- Sound signs
- Light signs
- Other signs
- Pictures of uniformed traffic policemen and different signaling

Duration of activities: 20 min.

Activities Level 4

Introductory activities (theory)

An introduction to the theory of suggested content through images

Main activities (practice)

MEMORY: Students can participate in making memory cards, half of the cards can have pictures of this type of signage, and half can be the explanation of them written in text. When playing the game, one card with a picture and one with an explanation is considered a suitable pair
BINGO: Each student makes a card with 6 pictures of different signals of this type. Then the teacher pulls out a textual explanation and reads it. Further, the rules are as for Bingo.

Closing activities

From the cards explaining the signs with body position, there can be a draw, and by registering, whoever knows can show the appropriate position (possibility of scoring and rewarding).

02

Level 5: Hand signaling for cyclists

Type of activity
- Activity/training outside the classroom

Topic
The practical implementation of bicycle signaling rules.

Learning Objectives
Mastering practical skills for communicating with other road users while riding a bicycle.

Target group/students
- Students from 1st and 2nd dept
- Students in 3rd and 4th grade
- Students from 5th to 9th grade
- School teachers
- Cycling instructors

Required material
- Required Knowledge on: Bicycle signaling, situations, intersection (improvised or in a protected environment/polygon)
- Equipped bicycles
- Protective gear

Duration of activities: 30 min.

Activities Level 5

Introductory activities (theory)

Introduction to the theory of proposed content through explanation/communication/discussion using various audiovisual tools and exercises.

Main activities (practice)

Transferring theory into practice through training, demonstrations, giving a situation that the student has to recreate and show appropriate signaling.

Closing activities

The analysis of the conducted activities/trainings. Suggestions and additions from students.
After the children have completed the activities/training in the schools, a final discussion can be held.

MODULE 3:
REPAIR

Activity /Level 1: Assembly and control of reflectors, bells and lights

Activity/Level 2: Adjustment of bicycle saddle/ scooter handlebar

Activity/Level 3: Inflate a inner tube

Activity/Level 4: Change the front tire and repair the inner tube

Activity/Level 5: Removal and installation of rear wheel and chain

03

Description o the topic:

The main objective of the module "repair" is to provide students, the basic skills needed to maintain and repair their own bicycles and scooters, thus improving safety and autonomy while driving. The module provides general information on the subject. The skills acquired make users autonomous with respect to the use of the bicycle for its ordinary maintenance and troubleshooting such as, for example, a flat tire.
Information about the control of the vehicle for complete safety, on the assembly and dismantling of different parts of a bicycle such as the chain, inner tubes, tires and wheels are provided. Detailed instructions on how to conduct workshops with students will be provided, in order to understand the means of transport, through practical activities.

1. Activity / Level 1: Assembly and control of reflectors, bells and lights
Fitting and checking reflectors, bells and lights for road safety: it provides instructions on how to correctly fit these devices to your bicycle or scooter. Additionally, advice can be given on how to check them periodically to ensure they are functional and visible when driving at night.

2. Activity / Level 2: Adjustment of the bicycle saddle and scooter handlebar
Adjusting the bicycle saddle and scooter handlebars: provides guidance on how to correctly adjust the bicycle saddle or scooter handlebars to ensure a comfortable and ergonomic riding position. Detailed instructions will be provided on how to make the correct adjustments.

3. Activity / Level 3: Inflate a inner tube
Inflate a tire: how to properly inflate a bicycle or scooter tire using a pump or air compressor. Advice will be given on the correct tire pressure and precautions to take when doing so.

4. Activity / Level 4: Change the front tyre and repair the inner tube
Remove the front wheel and repair the inner tube: detailed observation and reproduction activities on how to remove and replace the front inner tube of a bicycle or scooter.

5. Activity / Level 5: Removal and installation of rear wheel and chain
Removing and installing the rear wheel: how to properly remove and install the rear wheel of a bicycle. Details will be provided on how to disassemble and reassemble the chain, as well as how to make the necessary adjustments for correct positioning of the wheel in relation to the frame.

Bicycle use is becoming more and more popular, both as a means of transportation and as a form of recreation and physical activity. However, just like any other means of transportation, bicycles also need maintenance and occasional repairs to function at their best. In this module, we will explore the benefits of knowing how to repair your own bicycle and make adjustments to your scooter, inflate and repair kits, bicycle tire repair kits, and how to repair your bicycle step by step.

Knowing how to repair your own bike has many benefits. First, it saves you money because you won't have to take your bike to the mechanic every time a problem occurs. Also, being able to do small repairs and maintenance can help prevent more serious and costly breakdowns in the future. Learning how to repair your own bike also means you will have a greater understanding of your equipment and its specific needs. This allows you to customize your bike to your preferences and needs, thus improving your riding experience. Finally, it can be extremely rewarding and increase your self-esteem. In general and depending on continuous and habitual use, investing time in learning how to repair your own bike can lead to greater safety on the road, saving money and personal satisfaction.

The learning of this module includes the adoption by schools of skills and tools aimed at facilitating the use of means of active mobility. Students will learn from the nomenclature of components to their replacement, from the positioning of reflectors to the checks to be carried out before pedaling. The module also helps to improve the effectiveness of teaching and ensure that students acquire the necessary skills and knowledge. The objective to be achieved in this module is the acquisition of practical skills in carrying out manual operations on bikes and scooters. This module can be particularly useful within technical and physical education programs where students can learn practical and procedural skills to gain a greater understanding of the operating principles of means of transport. Additionally, the module can provide detailed information on common problems and solutions, allowing teachers to address specific repair scenarios during workshops.
The collection of results is useful for evaluating the effectiveness of the teaching methodologies and teaching materials used. This allows teachers to make any changes or improvements to their pedagogical approach to optimize student learning.

Schools, their teachers and principals should be generally open to integrating issues such as mobility and transport. Adults should act as role models and be aware of the type of transport they use when accompanying children to and from school or going to school. If all teachers in the school set an example of active mobility, they are more credible in the school context and can transmit knowledge in a professional and authentic way.

Structure of Activities / Training Module 3: Repair

This module is based on 3 focal points:

A) Applicability:
Since mobility and transport education is a combination of theoretical knowledge and practical training, all proposed activities/training must be designed in such a way that they can also be implemented in practice.

B) Availability:
Any proposed activity should use tools and materials that are inexpensive, easy to obtain and widely known to the general public.

C) Sustainability:
The content and information of this module can be easily transferred into the education system, school learning plans and different generations of students (subsequent classes).

This module presents a pedagogical tool that aims to help teachers, cycling teachers and other educators in organizing school teaching activities on the topic of active mobility, road safety education and their terminology/vocabulary. The module itself contains the necessary instructions for planning, developing and implementing the activities/training. However, it is not the only pedagogical tool needed during lessons to carry out the teaching process correctly, safely and successfully. The following guidelines are recommended:

1. Customization
The content and activities of this module can and should be adapted to classroom and school contexts, as well as available resources and the general environment. All activities/training should be planned so that they can be easily adapted.
Please note the following: always respect traffic rules/road signs according to the traffic law

2. Creativity
This module is prepared in such a way as to promote not only the creativity of students, but also that of teachers, cycling instructors and other educators. There is great potential for creativity when carrying out these activities/training, as well as when selecting training materials.

3. Monitoring trends in the mobility sector
Children's toys similar to vehicles, (e)bicycles, scooters, etc. In order to keep activities up to date, teachers, cyclists instructors and other educators are advised to follow current trends in the rapidly evolving mobility sector.

How to implement this module and activities proposed in it:

Introductory activities (theory)
Introduction to the theory of the proposed contents through: explanation/communication/discussion using various audiovisual tools and exercises (PowerPoint presentation, quizzes, etc.).

Main activities (practical part)
Transfer theory into practice through educational workshops.

Closing activities
The analysis of the activities/training carried out can be carried out in a discussion between "teacher" and "students". It is also possible to develop an online questionnaire (Google Form) to submit to students.

Reflection, review of the objectives of this module
1. The child can…
2. The child recognizes...
3. The child is aware, etc

Draw a conclusion about this module
Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module
If modules are carried out by external instructors it is important to agree with the school direction. The duty of supervision always falls to the class teacher.
· If the modules are carried out by internal teachers, they must complete specific training offered by the organisation/institution (e.g. Easy Drivers cycling school) that developed the modules and their content.
· Provision of suitable and delimited spaces.
· Equip classrooms with adequate audiovisual equipment if necessary.
· Support of the teachers in coordinating appointments and dividing groups/classes.
additionally see required material for each level

03

Level 1: Fitting of reflectors, bells and lights

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
- In this module, all the skills to verify the functionality of reflectors, bells and lights of vehicles (bicycles, scooters, etc.), as well as to adjust and install them, are developed and taught. The topic includes:

Learning Objectives
- Transmit the skills to check the functionality of reflectors, bells and lights of vehicles (bicycles, scooters, etc.), adjust and install them. Provide knowledge of traffic law compliant assembly and knowledge of the traffic law guidelines.

Target group/students
- Primary school students
- Lower secondary students

Required material
- bell or honk
- front light, rear light
- pedal reflector and reflective tape for the wheel
- spokes
- reflective vest and stickers
- Multitools
- Bicycle/ Scooter
- · Free GoToWebinar Registration
- · Download the "NewWheelsOfChange" app.
- · Download the board game "NewWheelsOfChange".

Duration of activities: 20 min.

Activities Level 1

Introductory activities (theory)

The fundamental bicycle accessories that also represent a safety system are:

1)Reflectors differ based on color and position:
-From the front, the reflectors must be white to allow others to understand that you are positioned in front of the direction of travel.
-At the rear, the reflectors are red to make it clear to anyone coming from behind (car, bike, bus, etc.) that they are behind a bicycle.
The reflectors on the pedals have double importance because they are visible both from the front and from the rear and are yellow or orange. Other locations for yellow/orange reflectors are: grips, helmet, saddle, wheels (spokes). It is essential that all reflectors are firmly attached to the bicycle and that they do not affect the correct functioning of the bike.

2) Bells:
they are of equal importance to the other accessories, but they mostly have the purpose of acoustic communication with other users because they send out an alert signal, warning that someone is approaching. Communication with bells is especially with cyclists or pedestrians. They do not work with cars due to the structural and insulation of this mean of transport

3) Lights:
There are different types of lights but the fundamental characteristics of all of them are:
-White light in front of the bicycle, used to have visual ability during the night and to indicate one's position and direction of travel.
-Rear red light: it can be flashing and has the major role of signaling rather than lighting.
Lights of other colors: other lights may be present on the frame that come from amateur applications or temporary electrical installations, they have equal importance on the bicycle because they allow greater visibility of the cyclist on the road.

Main activities (practice)

Reflector exercise: Place all the reflectors using the appropriate tools (multitools, wrenches, screwdrivers), bring two bicycles into a dark room, one equipped with reflectors and the other without, and try to illuminate them to understand the visibility on each reflector
Bell exercise: learn to place the bell in a comfortable place accessible to the thumb or forefinger.
Lighting exercise: use the appropriate tools to position the front and rear lights and try to orient them in the right position to be visible both from the front and rear.

03

Level 2: Adjustment of the bicycle saddle and choice of scooter size

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
In this module, all the skills necessary to adjust the saddle on a bicycle and adapt the height of the handlebars on a scooter (if possible) are developed and taught. Terms to use and learn are: saddlehandlebar, ergonomics, English keys, Multitool, Quick release, Seatpost, Vertical tube, Handlebar stem/stem, rear suspension fork

Learning Objectives
- Transmit the skills to adjust the saddle on a bicycle and adapt the height of the handlebars on a scooter. Transmit knowledge skills on vehicle setup options for safety and maneuverability during travel

Target group/students
- Primary school students
- Lower secondary students

Required material
- · English keys
- · Multitools
- · Scooter
- · Bicycle
- level,
- hex keys
- wrenches
- tape measure
- Calculator

Duration of activities: 20 min.

Activities Level 2

Introductory activities (theory)

The bicycle saddle has an ergonomic shape such that it can be used to rest the buttocks comfortably on the bicycle. But the position may vary based on body shape and frame length.
To place a saddle on the seat tube we will need a multitool or a wrench. Once attached to the seat tube, the correct adjustment consists of placing the saddle in a horizontal position.
The height of the saddle varies based on the height of the pelvic bones from the ground. The simplest adjustment is to position yourself next to the saddle and raise or lower it until it reaches the height of the pelvic bones.

Scooter handlebar adjustment:

The height of the scooter can make a big difference in how much you enjoy riding. We recommend that new scooter riders follow this size chart before making a purchase.

Person Height	Approx. Age	Suggested Scooter Height
95-112 cm	3-5 years	Less than 70 cm
112-126 cm	5-7 years	60-75 cm
126-138 cm	7-9 years	65-79 cm
138-149 cm	9-11 years	75-80 cm
149-160 cm	11-13 years	75-85 cm
160-172 cm	13-15 years	78-85 cm
More than 172 cm	More than 15 years	More than 79cm

In case you want more personal recommendations, we advise you to measure the distance from the ground to the hip of the person in question, and then find a scooter with a height between the hip and the navel.
Some experienced people prefer scooters with a high setup, while others prefer a low setup. It all depends on your style and how you are used to it.

Activities Level 2

Main activities (practice)

Depending on their age, let the students adjust their saddle to the correct height themselves or you as the teacher can adjust it. Let the other students check with each other that the height is correct.

If you have a scooter, you can do the same with the handlebars of the scooter, if available.

Closing activities

Have the students repeat the most important things at this level. Ask your students if they have any questions about the correct adjustment of the saddle or the height of the scooter handlebar.

03

Level 3: Inflate a tire

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
In this module, all the skills necessary to inflate a tire with different inflators are developed and taught. It provides knowledge about different valves, different tires and the corresponding tire pressure.

Learning Objectives
Terms to use/learn:
- Tire, inner tube, rim, wheel
- Car valve, French valve, ...
- PSI, ATÜ, BAR
- Stand inflator, portable inflator, ...
- Gauge

Skills on how to inflate a tire using different inflators under supervision and independently. Provide knowledge about different valves, different tires and corresponding tire pressure..

Target group/students
- Primary school students
- Lower secondary students

Required material
- Inflator
- Portable inflator
- Bicycle
- Different types of inner tubes with different types of valves

Duration of activities: 20 min.

Activities Level 3

Introductory activities (theory)

Inflating and understanding inner tubes
What types of valves are used on bicycles?

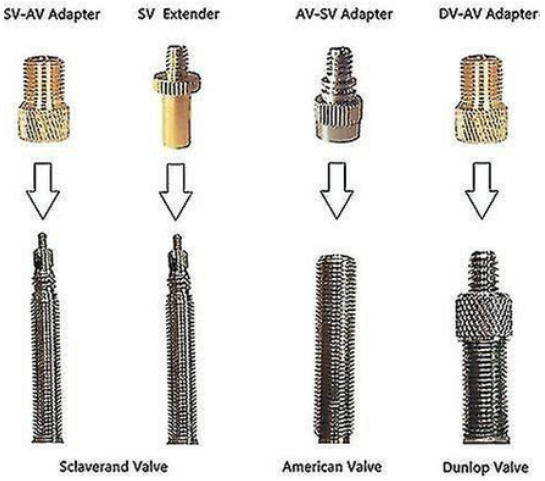
The French valve:

The car valve, also known as the Schrader valve:

The Dunlop valve, also known as the bicycle valve or Blitz valve:

Activities Level 3

For each valve there is a specific adapter to be mounted on the end of the pump



Main activities (practice)

Transfer theory into practice through educational workshops

Closing activities

After the children have finished the activities/training in the schools, a final discussion can take place. There teachers can ask questions, sing songs, draw together, etc.:

1. What did the children learn?
2. What will be improved by this activity/training?, etc

Keep the learning objectives of the module in mind when leading the discussion!

03

Level 4: Inner tube replacement and repair

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
In this module, all the skills necessary to identify damage to a front tire, remove and install the wheel, eliminate the cause, glue or replace the inner tube, inflate it and make the wheel functional again are developed and taught.

Learning Objectives
Terms to use/learn:
tire, inner tube, wheel, valve (PSI, BAR), pump, spoke protection tape, vulcanization, disc brake, rim brake, quick release, thru axle, disc brake caliper, brake levers, multitool, english key, hex key, cables, sheaths, braking track

Transmit the skills to, under supervision and independently, identify damage to a front tyre, remove and install the wheel, eliminate the cause, glue or replace the inner tube, inflate and make the wheel functional again.

Target group/students
- primary school students
- lower secondary students

Required material
- inflator
- inner tubes
- inner tube kit including tire lever, sandpaper, patches and putty, wrench
- quick release, thru axle
- basins/buckets with water

Duration of activities: 20 min.

Activities Level 4

In this lesson, children learn how to repair or change a flat tire. It will be important to underline that the exercises are not a race against time and that the important thing is to do things carefully.

Introductory activities (theory)

EXERCISE PREPARATION:
Prepare the demonstration bike. - Check that you have all the tools needed for the demonstration. Write the list of actions on a large sheet of paper.
According to the number of students, they prepare different corners where students can repair their bicycles. Prepare sets of repair kits, but do not distribute them until it is time to repair. Make sure the demo bike and student bikes have a flat tire. It's best to puncture the front tire, because it's the easiest to remove.

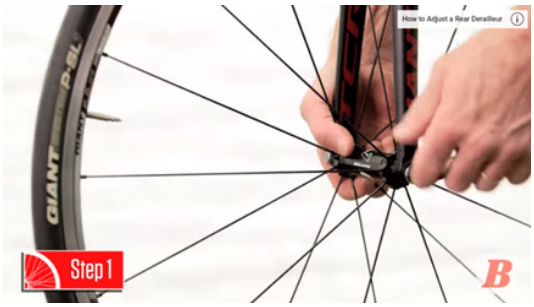
Check where you can find water and whether it is necessary to fill the buckets with water before the lesson or whether the children can easily do it themselves.

When the teacher and the children arrive, ask them to bring some heavy books to class, which they can use to glue the rubber patch to the inner tube.

Main activities (practice)

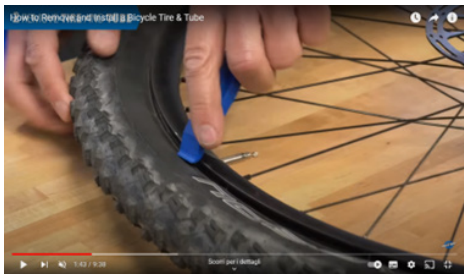
Operation images:

1st Remove the wheel: open the quick release or use wrenches to remove the wheel (remember to open the brake caliper), then remove the dust cover and remove the threaded washer, if present.



2nd Remove tire with "tire lever" tool by inserting it between the rim and tire. After inserting the first tire lever, add a second one and start moving it all around while maintaining insertion.

Activities Level 4



3rd Remove the inner tube and check: When the first edge of the tire is removed from the rim, remove the inner tube. Then check the tire (internal and external part) to identify what possibly punctured the tyre. Inflate and mark the point of the puncture, after having deflated the inner tube when you understand where the puncture is.

4th Gluing the patch: Pass some sandpaper around the hole and then distribute the glue on the puncture point and do the same thing with the patch. Wait for the glue to evaporate a little, then gently place the patch so that it adheres completely to the hole and put it under pressure for a variable time based on external temperatures - from 15 minutes to half an hour

Activities Level 4

5th Reassembly: Insert the inner tube inside the tyre, then position one side of the tire on the rim, then insert the other side using your hands and the tire levers. Remember to insert the valve and the threaded nut, check the orientation of the tire in the direction of rotation before assembling everything.

Closing activities

Discussion:
After the children have finished the activities/training in the schools, a final discussion can take place. There teachers can ask questions, sing songs, draw together, etc.:
1. What did the children learn?
2. What will be improved by this activity/training?, etc
Keep the learning objectives of the module in mind when leading the discussion!

03

Level 5: Removal and installation of the rear wheel and installation of the chain

Type of activity
- Online (webinar)
- Classroom activity/training
- Activity/training outside the classroom

Topic
In this module, all the skills to remove and install a rear wheel and to reassemble a “fallen” bicycle chain and make it functional again are developed and taught

Learning Objectives
Terms to use/learn:
disc brake, rim brake, quick release, thru axle, disc brake caliper, derailleur, derailleur hanger, cage,
· Crowns, pinions, cassettes, ...
· Chain oil, chain links, bicycle chain, ...

Convey the skills necessary to remove and install a rear wheel under supervision and independently and to subsequently fit a “fallen” bicycle chain in order to make the bicycle functional again.

Target group/students
- primary school students
- lower secondary students

Required material
- Bicycle
- Multitools
- Wrench
- Gloves
- Chain oil

Duration of activities: 20 min.

Activities Level 5

Introductory activities (theory)

Explain the process of removing a wheel and conduct it together with the students step by step.

Main activities (practice)

Remove a rear wheel:
Before removing the wheel you will have to release the brakes (cantilever, v-brake or arch), for disc brakes there is no need to release them.

Subsequently we proceed to release the axle: the rear wheels like the front ones have two most common types of releases; quick release and nuts for size 14 or 15 wrench (sometimes children's bicycles have a size 13 nut).
Tip: to remove a rear wheel it is advisable to position the chain on the heaviest rear gear, in order to facilitate release since there is less tension in the last gear and it is far from the fulcrum of the axle. Once the axle that holds the wheel to the frame has been loosened, you need to rotate the derailleur backwards to facilitate removal of the wheel from the chain.
To replace the wheel it is necessary to do the same procedure in reverse, remembering to place the brake in the correct position.

Closing activities

After the children have finished the activities/training in the schools, a final discussion can take place. There teachers can ask questions, sing songs, draw together, etc.:
1. What did the children learn?
2. What will be improved by this activity/training?, etc
Keep the learning objectives of the module in mind when leading the discussion!

MODULE 4:
SAFETY AND PROTECTION

Activity / Level 1: Chains and other barrier systems

Activity / Level 2: Dangers and risks

Activity / Level 3: Special dangers vehicles excluding bicycles

Activity / Level 4: Practicing Shoulder Gaze

Activity / Level 5: Safe Riding in a group

04

Description o the topic:

Participating in road traffic on a bike or scooter requires more than just knowing how to ride; it demands understanding and navigating potential hazards. Our "Safety and Protection" module equips educators and parents with the essential knowledge and skills to guide young people in safely navigating the roads.

Key Focus Areas:

- Understanding Risks: Participants will gain in-depth knowledge about the common risks associated with cycling and scooter riding, including traffic accidents, weather conditions, and mechanical failures.
- Protective Gear: The importance of proper protective gear, including helmets, gloves, and reflective clothing, will be emphasized. Participants will learn how to choose and properly wear these items for maximum safety.
- Safe Handling & Securing: Basic techniques for safe handling and securing bicycles and scooters will be covered, ensuring that participants can confidently control their vehicles and protect them from theft.
- Navigating Traffic: Participants will learn how to navigate various traffic situations, including intersections, roundabouts, and busy streets. Emphasis will be placed on understanding traffic rules, communicating with other road users, and anticipating potential hazards.
- Group Riding: Riding safely in groups presents unique challenges. This module will provide strategies for maintaining group cohesion, communicating effectively, and handling emergencies within a group setting.

Five Levels of Progression:

The module's five levels ensure a gradual build-up of knowledge and skills:

1. Basic Safety Awareness: Introduction to fundamental safety concepts and the importance of protective gear.
2. Safe Handling and Securing: Developing skills for confident control and secure storage of bikes and scooters.
3. Navigating Simple Traffic Situations: Learning to handle basic traffic scenarios and understand traffic rules.
4. Advanced Traffic Navigation: Mastering complex traffic situations and practicing defensive riding techniques.
5. Group Riding and Emergency Procedures: Developing teamwork and communication skills for safe group rides and handling unexpected events.

By completing this comprehensive module, educators and parents will be well-prepared to foster a culture of safety and responsibility among young cyclists and scooter riders. Participants will emerge with the confidence and skills to make informed decisions, protect themselves, and enjoy their rides safely.

1. Activity / Level 1: Chains and other barrier systems

The initial activity in this module focuses on the importance of securely locking bicycles and scooters to prevent theft. It covers the proper use of various locking mechanisms, such as chains, U-locks, and cable locks, and emphasizes the significance of choosing sturdy locking points and practicing vigilant parking habits. The aim is to educate participants on effective strategies to safeguard their bikes and scooters, fostering responsible ownership and reducing the risk of theft.

2. Activity / Level 2: Dangers and risks

This activity centers on recognizing and evaluating potential dangers and risks that cyclists and scooter riders may encounter in diverse road environments. It addresses scenarios like being overtaken by cars at night, navigating around obstacles, exercising caution near construction sites, and understanding the dangers of blind spots. The activity emphasizes the importance of proper conduct in each situation, highlighting the critical role of appropriate traffic equipment and enhancing visibility as a cyclist or scooter rider.

3. Activity / Level 3: Special dangers vehicles excluding bicycles

This activity focuses on the specific hazards that cyclists and scooter riders may face when sharing the road with larger vehicles, such as cars, trucks, buses, and trams. It covers crucial safety considerations like maintaining a safe distance from these vehicles, understanding their turning radius and blind spots, and anticipating their movements in traffic. The aim is to educate participants on the unique risks associated with different vehicle types and empower them to make informed decisions to protect themselves on the road.

4. Activity / Level 4: Practicing Shoulder Gaze

This activity highlights the critical skill of performing a shoulder check or "looking over the shoulder" while cycling or riding a scooter. It underscores the importance of this technique for maintaining awareness of surrounding traffic, especially when changing lanes, turning, or merging. Participants will learn how to execute a shoulder check effectively and seamlessly integrate it into their riding habits, promoting safer and more predictable maneuvers on the road.

5. Activity / Level 5: Safe riding in a group

The final activity in this module explores the dynamics of riding safely in a group. It covers essential practices such as maintaining safe distances between riders, effective communication within the group, and coordinated movements to ensure the safety of all members. The activity also explains the legal aspects of group riding, including when it is permissible to ride side-by-side. The goal is to equip participants with the skills and knowledge to enjoy group rides while minimizing risks and promoting a positive experience for all involved.

The Importance of Cycling Safety Education

As cycling gains popularity among young people, the need for comprehensive road safety education becomes paramount. Cycling offers numerous benefits, from reducing environmental impact to promoting physical fitness, but it also comes with inherent risks, particularly for young and inexperienced riders. This module aims to address these risks by providing young cyclists with the knowledge, skills, and practices necessary for safe road navigation. The five levels within this module go beyond teaching traffic rules; they foster a deep understanding of potential dangers and equip cyclists with strategies to avoid or mitigate them. The module combines theoretical knowledge with practical exercises, ensuring that participants can apply their learning in real-world scenarios.
The overarching goal is to cultivate responsible cycling practices and empower young cyclists to make informed decisions in various traffic situations. The knowledge and skills acquired from this module will enable them to navigate the roads confidently and safely, establishing a strong foundation for a lifetime of responsible cycling.

Integrating the Module into the Curriculum

This module is designed to complement the broader cycling curriculum, building upon previously learned concepts and skills. To effectively achieve the learning objectives, educators should possess a solid understanding of cycling safety and road safety principles. The emphasis is on clear, practical instruction combined with hands-on experiences under careful supervision, allowing students to directly apply theoretical knowledge to real-life situations.

Target Audience and Age Group

This module is tailored for teachers, cycling instructors, educators, and parents who are committed to promoting safe cycling practices. The recommended age group for implementation is 6 years and older, ensuring that young cyclists receive age-appropriate safety education as they embark on their cycling journeys.

Structure of Activities / Training Module 4: Safety and Protection

How to implement this module and activities proposed in it:

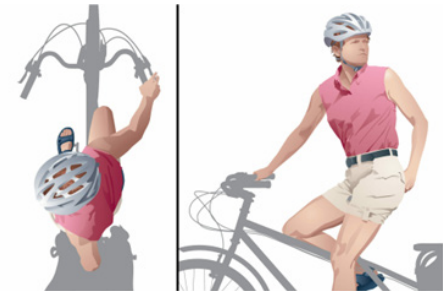
Introductory activities (theory)

The "Safety and Protection" module addresses the inherent challenges and risks associated with navigating road traffic on a bicycle or scooter. It equips educators and parents with the knowledge and tools to proactively address safety concerns and foster a culture of responsible riding. The module's activities are sequentially structured to enhance participants' awareness, skills, and practices, enabling them to effectively identify and mitigate risks in various traffic scenarios.
The module comprises five levels, each dedicated to specific safety and protection aspects. The progression of levels is designed to guide participants from foundational knowledge in secure bicycle and scooter handling and storage to advanced techniques for navigating complex traffic situations and group riding scenarios.

Main activities (practical part)

The main activities in Module 4 prioritize the practical application of safety and protection principles, providing students with hands-on experiences to reinforce theoretical knowledge. The activities are designed to be interactive and engaging, fostering a dynamic learning environment where students can actively practice safe cycling behaviors in a controlled setting. The following elaborates on the recommended approaches for the main activities:

- Skill Drills: The module includes a series of skill drills that target specific safety techniques, such as shoulder checks, hand signals, and obstacle avoidance. These drills are designed with a progressive approach, beginning with fundamental maneuvers and gradually increasing in complexity as students gain proficiency. The emphasis is on repetition and gradual skill development, ensuring that students master each technique before moving on to more challenging ones. The drills can be adapted to suit different age groups and skill levels, ensuring that all participants are challenged and engaged.



Shoulder check

Hand signals

- Traffic Simulations: The module incorporates realistic traffic simulations that allow students to practice navigating intersections, interacting with other road users, and responding to emergency vehicles. These simulations provide a safe and controlled environment for students to experience real-world traffic scenarios and apply their knowledge of safety rules and regulations. The simulations can be customized to include various traffic elements, such as traffic lights, pedestrian crossings, and different types of vehicles, providing a comprehensive learning experience.

- Group Rides: The module also includes organized group rides in traffic-calmed areas, offering students the opportunity to practice safe group riding techniques, communication, and cooperation. These rides emphasize the importance of maintaining safe distances, using clear hand signals, and being aware of other riders in the group. The rides can be tailored to the skill level of the participants, ensuring a positive and enjoyable experience for all.

- Safety Equipment Demonstrations: The module features interactive demonstrations on the proper use and adjustment of safety equipment, such as helmets, lights, and reflective gear. These demonstrations allow students to see firsthand how to correctly wear and adjust their safety gear, ensuring maximum protection while cycling. The interactive nature of the demonstrations encourages student participation and reinforces the importance of using safety equipment consistently.

- Interactive Games: The module incorporates fun and engaging games that reinforce safety concepts and promote teamwork and communication. These games provide a playful and interactive way for students to learn and practice safety skills, fostering a positive and collaborative learning environment. The games can be adapted to different age groups and skill levels, ensuring that all participants are actively involved and learning.

The main activities in Module 4 are designed to provide students with ample opportunities to practice and apply the theoretical knowledge they acquired during the introductory activities. The focus is on creating a safe and supportive learning environment where students can develop the skills and confidence they need to be safe and responsible cyclists and scooter riders. By actively engaging in these practical activities, students will gain valuable experience and develop the necessary skills to navigate the roads safely and confidently.

Closing activities

The closing activities in Module 4 serve as a crucial step in reinforcing the safety and protection concepts learned throughout the module. The activities are designed to encourage reflection, discussion, and evaluation of the learning outcomes. The following are some recommended approaches for the closing activities:

- **Reflective Discussions: Facilitate group discussions where students can share their experiences and insights from the practical exercises. Encourage them to reflect on the challenges they faced, the strategies they used to overcome them, and the importance of safety precautions.**

- **Quizzes and Games: Conduct quizzes or interactive games to assess students' understanding of safety concepts and reinforce key learning points. The quizzes and games should be fun and engaging, but also informative and relevant to cycling safety.**

- **Creative Projects: Encourage students to express their understanding of safety through creative projects, such as posters, presentations, or videos. The projects should showcase their knowledge and creativity while promoting safety awareness.**

- **Feedback and Evaluation: Gather feedback from students on their learning experience and the effectiveness of the module. Use this feedback to evaluate the module's strengths and weaknesses and make improvements for future iterations.**

Reflection, review of the objectives of this module

The reflection and review section of the module should focus on assessing the students' understanding and application of the safety and protection concepts covered in the activities. The following questions can be used to guide the reflection and review process:

- What did the children learn in this module? This question encourages students to reflect on the key takeaways from the module, such as the importance of secure locking, recognizing road hazards, understanding blind spots, responding to emergency vehicles, and practicing safe group riding techniques.

- How will it change their understanding of safety and their behavior on the road? This question prompts students to consider how the knowledge and skills they gained in the module will impact their cycling practices and decision-making on the road. It encourages them to think about how they can apply the learned concepts to enhance their safety and the safety of others.

The reflection and review process should also include an assessment of the students' ability to demonstrate the practical skills covered in the module, such as proper locking techniques, shoulder checks, and safe group riding maneuvers. This assessment can be done through observation during the practical activities or through specific skill assessments. The goal is to ensure that students not only understand the theoretical concepts but can also apply them effectively in real-world situations. The reflection and review process should be interactive and engaging, encouraging students to actively participate and share their thoughts and experiences. It should also provide opportunities for educators to provide feedback and reinforcement, ensuring that students have a clear understanding of the key safety and protection concepts covered in the module.

Draw a conclusion about this module

The "Safety and Protection" module plays a crucial role in empowering cyclists and scooter riders to navigate the roads safely and confidently. By addressing potential risks and hazards, the module equips participants with the knowledge and skills to make informed decisions and avoid accidents. The activities within the module foster a proactive approach to safety, encouraging participants to anticipate and respond effectively to various traffic situations. The module's emphasis on practical application and skill development ensures that participants can translate theoretical knowledge into real-world actions, promoting responsible and safe cycling practices. By integrating this module into the broader cycling curriculum, educators can contribute to creating a safer and more enjoyable cycling experience for all.

Requirements for implementing this module

The "Safety and Protection" module necessitates certain requirements for effective implementation. The following are the key requirements:

- Educator's Knowledge: The teacher or instructor should possess a comprehensive understanding of cycling safety, road safety rules, and the specific safety considerations for scooters. This knowledge is crucial for providing accurate and effective instruction to the students.

- Safe and Controlled Environment: The practical activities and simulations should be conducted in a safe and controlled environment, away from traffic and other potential hazards. This ensures the safety of the participants while allowing them to practice their skills in a realistic setting.

- Adequate Equipment: The module requires suitable bicycles, scooters, and helmets for all students. The equipment should be in good working condition and properly fitted to each student to ensure their safety and comfort during the activities.

- Additional Resources: The module may also require additional resources, such as traffic cones, chalk, and visual aids, to facilitate the practical exercises and simulations. The availability of these resources will enhance the learning experience and enable students to practice their skills in a variety of scenarios.

By fulfilling these requirements, educators can create a conducive learning environment that promotes safety, skill development, and responsible cycling practices among students. The module's effectiveness relies on the combination of theoretical knowledge, practical application, and a safe and supportive learning environment.

04

Level 1: Chains and other barrier systems

Type of activity
- Classroom activity/training
- Activity/training outside the classroom (weather permitting)

Topic
Understanding and using chains and other barrier systems for securing bicycles and scooters.

Learning Objectives
- Understanding the importance of securing bicycles and scooters to prevent theft.
- Identifying different types of chains and barrier systems and their appropriate uses.
- Learning how to properly lock a bicycle or scooter using a chain or other barrier system.
- Understanding the vulnerabilities of different locking methods and how to improve security.

Target group/students
- Students from 5th to 9th grade
- School teachers

Required material
- Various types of chains and locks (U-locks, cable locks, etc.)
- Bicycle and scooter examples
- Images or videos demonstrating proper locking techniques
- Worksheets or handouts with diagrams and instructions
- "Dummy" bike or scooter for practice
- Optional: A selection of easily-breakable locks to demonstrate weak points

Duration of activities: 40-60 min.

Activities Level 1

Introductory activities (theory)

- Begin with a discussion about the problem of bicycle and scooter theft, emphasizing its prevalence and impact.
- Introduce the concept of securing bikes and scooters using chains and other barrier systems.
- Show images or videos of different types of chains and locks, highlighting their strengths and weaknesses.
- Explain the importance of choosing the right lock for the situation (e.g., high-security lock for overnight parking, lighter lock for short stops).

Main activities (practice)

- Demonstration: Show students how to properly lock a bicycle or scooter using a chain and a fixed object (e.g., bike rack, lamppost). Emphasize the importance of securing both the frame and wheels.
- Hands-on Practice: Provide students with chains and locks, and have them practice locking the "dummy" bike/scooter or their own, if available. Offer guidance and feedback on their technique.
- "Lock-Picking" Challenge (optional): If available, provide a few easily-breakable locks and challenge students to identify their weaknesses and demonstrate how they could be bypassed. This reinforces the importance of choosing strong locks.
- Group Discussion: Discuss the different places where students typically park their bikes or scooters and the level of security needed in each situation. Brainstorm additional ways to improve security (e.g., using multiple locks, parking in well-lit areas).

Closing activities

- Quiz: Test students' understanding of the material with a short quiz about different types of locks, proper locking techniques, and theft prevention strategies.
- "Design a Lock" Activity: Encourage creativity by having students design their own "ideal" lock, considering factors like security, ease of use, and portability.
- Discussion: Summarize key takeaways and answer any remaining questions. Discuss how students can apply what they learned to protect their own bikes and scooters.

After the Activities/Training Discussion:

- What did the children learn? (About different locks, proper locking techniques, security risks, etc.)
- What improved with this activity/training? (Awareness of theft risks, confidence in securing bikes/scooters, understanding of lock strengths and weaknesses)
- What is the problem? (Bicycle and scooter theft is a common problem that can be prevented with proper security measures.)

04

Level 2: Dangers and risks

Type of activity
- Classroom activity/training
- Activity/training outside the classroom (weather permitting)

Topic
Recognizing and understanding potential dangers and risks associated with cycling and scooter riding.

Learning Objectives
- Identify common dangers and risks on the road, such as traffic, weather conditions, and road hazards.
- Understand the importance of defensive riding and anticipating potential problems.
- Develop strategies for avoiding or minimizing risks.
- Learn how to react appropriately in emergency situations.

Target group/students
- Students from 5th to 9th grade
- School teachers

Required material
- Images or videos depicting various road hazards and traffic situations
- Traffic safety signs and symbols (printed or displayed on a screen)
- Large map or diagram of a local area with streets, intersections, and potential hazards marked
- Optional: Bicycles or scooters for outdoor demonstration and practice

Duration of activities: 40-60 min.

Activities Level 2

Introductory activities (theory)

- Start with a brainstorming session, asking students to identify potential dangers and risks they might encounter while cycling or riding a scooter.
- Show images or videos of different road hazards and traffic situations, discussing how to recognize and respond to them.
- Review traffic safety signs and symbols relevant to cyclists and scooter riders.
- Introduce the concept of defensive riding, emphasizing the importance of being aware of surroundings and anticipating potential problems.

Main activities (practice)

- Hazard Identification on a Map:

Using the map or diagram, have students identify potential hazards and discuss strategies for navigating them safely.

- "What If?" Scenarios:

Present various traffic scenarios and have students discuss how they would react to avoid or minimize risks.

- Outdoor Demonstration and Practice (optional):

If possible, take students to a safe outdoor area to practice defensive riding techniques, such as scanning for traffic, signaling intentions, and maintaining a safe distance from other vehicles.

- Role-Playing:

Create scenarios where students act out different traffic situations, practicing safe responses and communication with other road users.

Closing activities

- Quiz or Game: Test students' understanding of the material through a quiz or interactive game about road hazards, traffic safety, and defensive riding.
- "Safety Tips" Poster: Have students work in groups to create posters with safety tips for cyclists and scooter riders.
- Discussion: Summarize key takeaways and encourage students to share their thoughts and experiences. Emphasize the importance of staying alert, following traffic rules, and making safe choices on the roa
- What did the children learn? (About different types of road hazards and traffic situations, defensive riding techniques, etc.)
- What improved with this activity/training? (Awareness of potential dangers, ability to anticipate and respond to risks, understanding of traffic rules)
- What is the problem? (Cycling and scooter riding can be dangerous if riders are not aware of potential risks and do not practice safe riding habits.)

04

Level 3: Special dangers: vehicles excluding bicycles

Type of activity
- Classroom activity/training
- Activity/training outside the classroom (with careful supervision and in controlled environments)

Topic
Recognizing and responding to the specific dangers posed by different types of vehicles, excluding bicycles, when cycling or riding a scooter.

Learning Objectives
- Identify different types of vehicles and understand their unique characteristics and potential dangers.
- Learn how to predict and anticipate the behavior of different vehicles on the road.
- Develop strategies for safely sharing the road with larger and faster vehicles.
- Understand the importance of maintaining a safe distance and being visible to other drivers.

Target group/students
- Students from 5th to 9th grade
- School teachers

Required material
- Images or videos of various types of vehicles (cars, trucks, buses, motorcycles, etc.)
- Traffic safety signs and symbols related to different vehicles (printed or displayed on a screen)
- Large map or diagram of a local area with streets and potential interaction points with different vehicles marked
- Optional: Bicycles or scooters for outdoor demonstration and practice (in a controlled environment)

Duration of activities: 40-60 min.

Activities Level 3

Introductory activities (theory)

- Begin by reviewing the different types of vehicles students might encounter on the road, highlighting their size, speed, and potential blind spots.
- Discuss the specific dangers associated with each type of vehicle (e.g., trucks making wide turns, motorcycles splitting lanes, buses stopping and unloading passengers).
- Emphasize the importance of being predictable and visible to other drivers, including using hand signals, wearing bright clothing, and using lights at night.
- Explain the concept of "sharing the road" and the need for mutual respect and understanding between all road users.

Main activities (practice)

- Vehicle Identification and Characteristics:

Use images or videos to have students identify different vehicles and discuss their specific characteristics and potential dangers.

- "Predict the Behavior" Game:

Present scenarios involving different vehicles and have students predict their likely behavior and how they would respond as a cyclist or scooter rider.

- "Safe Distance" Demonstration:

Use a bicycle or scooter (in a controlled environment) to demonstrate safe following distances from different types of vehicles.

- "Blind Spot Awareness" Activity:

Have students sit in a parked car or truck to experience blind spots from the driver's perspective, reinforcing the importance of being visible to other drivers.

Closing activities

- Quiz or Worksheet: Test students' understanding of the material with a quiz or worksheet about different vehicle types, their potential dangers, and safe riding strategies.
- "Sharing the Road" Poster: Have students create posters promoting safe and respectful sharing of the road between cyclists, scooter riders, and other vehicle drivers.
- Discussion: Summarize key takeaways and encourage students to share their own experiences and observations about interacting with different vehicles on the road. Reinforce the message of responsible and defensive riding to ensure safety for all.
- What did the children learn? (About different vehicle types, their potential dangers, and how to safely share the road with them)
- What improved with this activity/training? (Awareness of specific risks posed by different vehicles, ability to anticipate and respond to their behavior, understanding of safe following distances and visibility)
- What is the problem? (Sharing the road with larger and faster vehicles can be dangerous for cyclists and scooter riders, requiring heightened awareness and specific safety strategies.)
- potential risks and do not practice safe riding habits.)

Additional Material

04

Level 4: Practicing Shoulder Gaze

Type of activity
- Activity/training outside the classroom (in a safe and controlled environment)

Topic
Mastering the shoulder gaze technique for safe lane changes and turns while cycling or riding a scooter.

Learning Objectives
- Understand the importance of shoulder checks for assessing traffic behind.
- Develop the physical skill of performing a shoulder gaze while maintaining balance and control.
- Practice integrating shoulder checks into lane changes and turns.
- Build confidence in making safe and informed decisions on the road.

Target group/students
- Students from 5th to 9th grade
- School teachers

Required material
- Bicycles or scooters
- Helmets and other necessary safety gear
- Cones or other markers to create a practice course
- Optional: Video recording equipment to review and analyze technique

Duration of activities: 40-60 min.

Activities Level 4

Introductory activities (theory)

- Explain the concept of the shoulder gaze and its importance for safe lane changes and turns.
- Demonstrate the proper technique for performing a shoulder check while maintaining balance and control of the bike or scooter.
- Emphasize the need to look over the shoulder quickly and efficiently without swerving or losing control.
- Discuss the importance of signaling intentions clearly before making any lane changes or turns.

Main activities (practice)

- Stationary Shoulder Gaze Practice:

Have students practice the shoulder gaze technique while stationary, focusing on head movement, balance, and control.

- Slow-Speed Shoulder Gaze Practice:

Set up a simple course with cones or markers, and have students practice shoulder checks while riding at a slow speed.

- Lane Change and Turning Practice:

Incorporate shoulder checks into lane change and turning maneuvers on the practice course.

- Peer Feedback and Observation:

Encourage students to observe each other's technique and provide constructive feedback.

- Video Analysis (optional):

If available, record students performing shoulder checks and review the footage together to identify areas for improvement.

Closing activities

- "Shoulder Check Challenge": Create a fun challenge where students practice shoulder checks in different scenarios, emphasizing accuracy and speed.
- Discussion: Review key takeaways and discuss any challenges or questions students may have. Reinforce the importance of making shoulder checks a habit for safe riding.
- Real-World Application: Encourage students to practice shoulder checks regularly during their everyday rides and to share their experiences with the group.

After the Activities/Training Discussion:

- What did the children learn? (The importance of shoulder checks, proper technique, how to integrate them into lane changes and turns)
- What improved with this activity/training? (Ability to perform shoulder checks effectively, confidence in making safe lane changes and turns, overall awareness of surroundings)
- What is the problem? (Not checking blind spots before changing lanes or turning can lead to accidents.)

04

Level 5: Safe Riding in a group

Type of activity
- Activity/training outside the classroom (in a safe and controlled environment, progressing to real-world scenarios with careful supervision)

Topic
Developing skills and strategies for safe and enjoyable group rides on bicycles or scooters.

Learning Objectives
- Understand the dynamics of group riding and the importance of communication and cooperation.
- Learn and practice basic group riding formations and hand signals.
- Develop skills for maintaining a safe distance and avoiding collisions within a group.
- Understand how to handle common group riding challenges, such as varying skill levels and unexpected obstacles.
- Foster a sense of teamwork and responsibility among group members.

Target group/students
- Students from 5th to 9th grade
- School teachers

Required material
- Bicycles or scooters
- Helmets and other necessary safety gear
- Cones or other markers to create a practice course
- Communication tools (e.g., whistles, hand signals)
- First aid kit

Duration of activities: 60-90 min.
(can be extended for more complex scenarios and real-world practice)

Activities Level 5

Introductory activities (theory)

- Discuss the benefits and challenges of group riding, emphasizing the importance of communication, cooperation, and shared responsibility.
- Introduce basic group riding formations (e.g., single file, double file) and explain their advantages and disadvantages in different situations.
- Teach and practice essential hand signals for communication within the group (e.g., stop, slow down, turn left/right, hazard ahead).
- Emphasize the importance of maintaining a safe following distance and avoiding sudden movements within the group.

Main activities (practice)

- Formation Practice: Have students practice riding in different formations on the practice course, focusing on maintaining spacing and communication.
- Hand Signal Drills: Practice using hand signals to communicate within the group, simulating various scenarios and responses.
- Obstacle Course: Set up an obstacle course with cones and other challenges to practice group navigation and communication in dynamic situations.
- Real-World Group Ride (with supervision): Take students on a planned group ride in a safe environment, gradually increasing the complexity and incorporating real-world challenges (e.g., intersections, traffic, hills).
- Debrief and Reflection: After each practice session or ride, gather students to discuss their experiences, challenges, and successes. Encourage them to share feedback and suggestions for improvement.

Closing activities

- Group Riding Quiz or Game: Test students' knowledge of group riding formations, hand signals, and safety strategies.
- "Group Riding Rules" Poster: Have students collaborate on creating a poster outlining essential rules and guidelines for safe group rides.
- Discussion: Summarize key takeaways and emphasize the importance of teamwork, communication, and responsible riding in a group setting.

After the Activities/Training Discussion:

- What did the children learn? (About group riding formations, hand signals, safe following distances, teamwork, and communication)
- What improved with this activity/training? (Ability to ride safely and confidently in a group, communication skills, awareness of group dynamics and shared responsibility)
- What is the problem? (Group riding can be challenging and requires specific skills and strategies to ensure the safety and enjoyment of all participants.)
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MODULE 5:
SAFETY EQUIPMENT

Activity / Level 1: Helmet + correct putting on

Activity / Level 2: Equipping a roadworthy bicycle

Activity / Level 3: Special equipment vehicles

Activity / Level 4: Clothing “make yourself visible”

Activity / Level 5: Winter Special

05

Description o the topic:

The module on safety equipment for bikes is an essential component as it aims to provide comprehensive training and resources for teachers, school principals, and other educators, enabling them to effectively impart critical safety information to students, parents, and the broader community. This module is structured into five key activities, each targeting a specific aspect of bike safety equipment:

1. Activity / Level 1: Helmet + correct putting on

This section will cover the importance of wearing a helmet and give detailed instructions on how to correctly handle, wear and adjust a helmet to ensure maximum protection.

2. Activity / Level 2: Equipping a roadworthy bicycle

Here, we will focus on the essential equipment required to make a bicycle roadworthy, including lights, reflectors, brakes, and other critical components. The activity will include practical sessions on checking and maintaining these features.

3. Activity / Level 3: Special equipment vehicles

This part of the module will delve into the safety equipment necessary for specialized vehicles such as e-bikes, pedelecs, and rollers. It will highlight the unique requirements and safety considerations for each type of vehicle.

4. Activity / Level 4: Clothing "make yourself visible"

Visibility is a key factor in cycling safety. This activity will explore the importance of wearing high-visibility clothing and accessories, especially in low-light conditions. It will include practical tips on choosing the right clothing to enhance visibility on the road.

5. Activity / Level 5: Winter special

Cycling in winter presents unique challenges. This section will provide guidance on the specific safety equipment and clothing necessary for winter cycling, including tips for dealing with slippery roads and maintaining visibility during shorter daylight hours.

05

In an age where sustainable urban mobility is becoming increasingly crucial, the importance of ensuring the safety of cyclists cannot be overstated. However, with this rise in cycling activity, the need to educate and equip both new and experienced cyclists with proper safety knowledge and gear becomes imperative. The rise of e-bikes, pedelecs, and other specialized vehicles has introduced new safety considerations. These vehicles often travel at higher speeds than traditional bicycles and may require additional safety measures

The primary objectives of this module are to equip educators with the knowledge and tools necessary to teach students about the importance of safety equipment for various types of bicycles and similar vehicles. Furthermore, it will provide detailed instructions and hands-on activities that highlight the correct usage of safety gear, ensuring students understand and can practically apply this knowledge. It is specifically important to promote awareness among students and their families about the significance of using appropriate safety equipment to prevent injuries and fatalities.

The overall goal is to encourage a shift towards safer, more sustainable urban mobility through informed and responsible cycling practices. Through theoretical and practical training together students will not only be able to foster a culture of safe cycling practices for themselves but also to pass on that knowledge to others around them which will lead to a safer traffic environment.

The units can be included in the curriculum or offered as an extracurricular activity. To successfully achieve the learning objectives for this module, teachers need to be equipped with appropriate knowledge and this needs to be communicated in an easily understandable way. Simple practical instruction and individualized experimentation by students, including sensitive monitoring by teachers, is particularly important. In this way, students can directly apply what they have formally learnt and directly implement it in their participation in road traffic.

This module is intended for teachers, instructors of bicycling, all other educators and parents that are interested and/or work to promote safety equipment for cyclists and roller users.

Recommended age group for implementation: from 6 years. This module consists of 5 activities that deal with different road safety equipment topics and can be selected according to the priority of the target group.

Structure of Activities / Training Module 5: Safety Equipment

How to implement this module and activities proposed in it:

Introductory activities (theory)

- **Introduction to the theory of the proposed content through explanations / communication / discussion using (if you can) bicycles/helmets/clothing with appropriate safety equipment as practical aids or audiovisual tools (e.g. PowerPoint presentations).**
- **Subdivide the students into groups of 4 students, and if you can and if the appropriate conditions exist, make the groups heterogeneous comprising boys and girls. You can implement this activity both indoors and outdoors. We recommend implementing it in the schoolyard to have enough room for all the used equipment.**
- **Using totally safety equipped bikes/ helmets and clothing that will serve as a field of work both for the theoretical and the practical part. If you cannot organize this, display a detailed pictures of bikes/helmets and clothes on a video screen.**
- **You can also use not fully represented bikes/helmets/clothing as a bad example or puzzle of what is missing and create a narrative of what might happen if you were to use that bike/helmet/clothing.**
- **Discuss with your students about the equipment they see - whether they can recognize/name it, whether they know why and what this equipment is important for and how best to maintain it. Regardless of their answers - explain to them all about safety equipment, what it means and how it can protect us and other road users and make sure you emphasize the importance for safety of all these aspects.**

Main activities (practical part)

- Practical part in which the students are directly confronted with checking the safety equipment on the bike/scooter and practicing the correct way to wear a helmet. Either rental bikes/scooters/helmets or their own bikes/scooters/helmets are used to directly apply what they have learned in theory and to be able to assess their own equipment in terms of safety.

Note: For the sake of simplicity, the scooter is not always emphasized as an alternative to the bicycle in this curriculum. If you want to run a course for (e)-scooters only, try to adapt the script to this by paying attention to the differences (shifting gears, for example, is of course not necessary).

- Divide the students into groups of 8 participants and show them the different pieces of equipment. Make sure that all children can see and touch the equipment.
- Involve them in practical exercises, e.g. each child should have tried to put on the helmet correctly and check the functionality of the equipment, such as the brakes and lights. Give the children direct instructions and encourage them to give comments and corrections to their classmates.
- If you cannot carry out this activity outdoors or do not have any equipment on site, you can create a simulation in the classroom and project everything onto a screen using a video projector and explain the correct handling slowly and step by step so that the children can follow along well.

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the "teacher" and the "students". It is also possible to offer an online questionnaire (Google sheet).

Reflection, review of the objectives of this module

After the realization of all the levels and exercises proposed in this module, you can reflect and review the set objectives by ensuring the following:

- What have the children learned in this module?
- How will it change their understanding of safety?
- Ask the students what they should check on their bikes/scooters and helmets before they

pactively participate in road traffic.

After completing all the levels and exercises suggested in this module, you can reflect on and review the goals you have set by asking about the following outcomes to make sure the learning objectives of this module have been achieved.
The participant is aware of the importance of safety equipment when participating in road traffic and knows the consequences of missing or defective safety equipment.
Also check: What is the child not aware of?

Draw a conclusion about this module

Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module

- The teacher/educator should have prior knowledge of safety equipment and regulations of a roadworthy bicycle in his/her country as well as knowledge of safety standards for helmets
- The field for performing the activities should be isolated from the rest of the traffic. Marking cones, printed or made traffic signs can be used and recreation situations can be taken from a digital file.
- Suitable bicycles and helmets for all students.
- Free registration on "GoToWebinar"
- Download the application "NewWheelsOfChange".
- Download the social game "NewWheelsOfChange"
- additionally see required material for each level

05

Level 1: Helmet + correct putting on

Type of activity
- Online (webinar)
- Classroom activity
- Activities outside of the classroom

Topic
This level is about the helmet as the most important companion when riding a bike or scooter and about the safe storage, handling, checking and wearing of helmets.

Learning Objectives
- Spreading knowledge and raising children's awareness of the importance of wearing helmets when participating in traffic on a bike or scooter.
- being able to wear a helmet correctly for their own maximum protection
- special knowledge about the right handling of helmets

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- Helmets for all children and instructors or at least detailed pictures
- For ensuring that all helmets are adjusted perfectly, its good to have a helper on the side of the instructor who can help the children adjust the straps of the helmets.

Duration of activities: 20 min.

Activities Level 1

Introductory activities (theory)

- After explaining the most important safety aspects of the helmet, the instructor shows the most important steps for putting on the helmet correctly, which the children follow step by step. Memorizing the 5 steps is a good learning method so that the children do not forget any of the steps and internalize the procedure later. Once you have completed the 5-step instructions and all the children have followed your example, have them repeat the 5 steps together.

Main activities (practice)

5 Steps Exercise:

Step 1:
- Hold the helmet in front of you, open the chin strap and the size adjustment at the back of the head to the maximum (if available). Ask all students to do the same with their helmet until everyone has opened their helmet to the maximum size. Encourage them to check their classmates' mechanisms if there are different versions.

Step 2:
- Put the helmet on your head. If you want, have fun putting the helmet on correctly, e.g. the other way round or too high or too low, to get the students to join in and laugh, but also explain to them again what happens if the helmet is not fitted correctly. Then put the helmet on correctly, explain and show that the helmet should cover the forehead, temples and the back of the head and that it should end two fingers wide above the bridge of the nose. Then let the children put the helmet on correctly and encourage them to correct each other in the proper position of the helmet.

Step 3:
- Turn round and show the children that you are tightening the head ring in the helmet shell using the rear turn or slide control - make the children aware that this should not be too loose or too tight. Do a test to show the children how they can recognize for themselves that the helmet is too loose: bend the head forwards, the helmet should still sit on the head and not wobble. Hold your hands under the helmet so that if it falls, the helmet is caught and not damaged! Let the children carry out the test but make sure that they hold their hands in front of their head to catch the helmet if it falls.
- Also at this point, ask the student to repeat the Steps 1-3 to ensure that they internalize them as a sequence.

Step 4:
- Use the strap adjuster to adjust the front strap - the strap in front of the ear - and the rear strap - the strap that runs backwards under the ear - so that the ears are not pinched, and the straps are tight against the sides of the head and the straps are not twisted. The straps should form a triangle around the ear with the side edge of the helmet. Encourage the children to check that their classmates around them all have a triangle around the ear or if some helmets need to be adjusted.

- At this point there will be a few children who need help with the adjustment. Therefore, it is good to have a helper who can gradually adjust the straps for the children but so that they are not too distracted by the instructions.

Step 5:

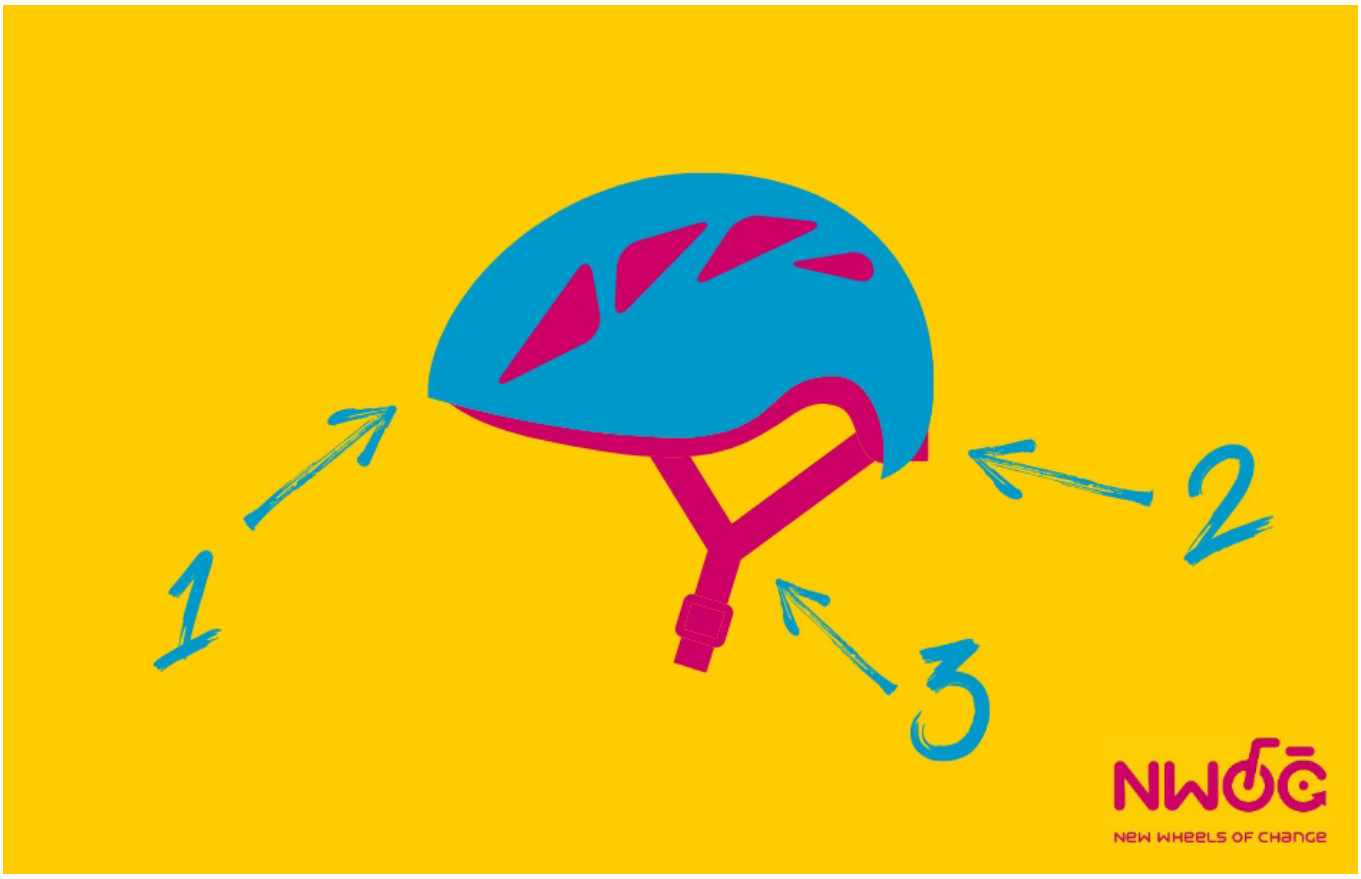
- Close the chin strap and adjust the width. Explain to the children that the chin strap should fit snugly on the chin but not constrict it. There should be room for two fingers between the chin and the chin strap. Let the children test whether there is room for two fingers or perhaps a whole fist. Encourage the students to check each other's chin straps and ask the person helping them to adjust any straps that are too loose.
- (Give a note on glasses and sunglasses: The arms of the glasses should be above the temples. This makes it easier for the glasses to fall off in the event of a fall, which prevents eye injuries caused by the glasses).

Closing activities

Have the children repeat all 5 steps and the most important parts they remember, make sure you repeat the most important things again yourself. Ask the students what they should check in relation to their helmet before they get on a bike. Give some additional information on proper handling, such as not hanging them on the bike handlebars, making sure the helmet never falls on the tarmac and changing it when its 5–6-year warranty expires. In addition, an online questionnaire can be offered (google sheet).

Activities Level 1

Additional Material:



1 - There should be room for two fingers lengthways on the forehead, between the eyebrows and the helmet
2 - The helmet should sit firmly on the head
3 - The straps should run in a triangle over the ear and not be twisted

05

Level 2: Equipping a roadworthy bicycle

Type of activity
- Online (webinar)
- Classroom activity
- Activities outside of the classroom

Topic
This level is about the equipment of a roadworthy bicycle, including lights, reflectors, brakes, and other critical components. The activity will include practical sessions on checking and maintaining these features.

Learning Objectives
- convey knowledge about the roadworthy equipment of a bicycle, including the naming and checking of the individual parts
- the ability to check the most important safety precautions on your own bike (e.g. brake check)
- understanding of the physics of power transmission on a bicycle (e.g. how does the gearbox of a bicycle work)

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- at least one fully equipped bicycle and if possible, fully equipped bicycles in the correct sizes for the children or very detailed pictures
- detailed knowledge about the equipment of a roadworthy bicycle in your country.
- roadworthy equipped bicycles for all children and instructors or at least detailed pictures

Activities Level 2

Introductory activities (theory)

What makes a bicycle a (roadworthy) bicycle?
Take a roadworthy bike (or a PowerPoint with very detailed pictures) and make sure that all children can see the bike clearly. First ask: what makes a bike a (roadworthy) bike? Let the children who want to say something come forward individually and point to the part they have described. Make sure you include everyone, there are clearly some parts that everyone can say something about (like bell, saddle, wheels, frame etc.)
Make sure that you include the roadworthy bike parts and point them out (if the child has not already done so).
In (e.g. Austria) these are:

- - Two independently functioning brakes
- - Bell or horn
- - White reflector to the front
- - Red reflector to the rear
- - 2 reflectors per pedal
- - Two side reflectors (cat's eyes) on each wheel, or a continuous reflective strip on the tire
- - White headlight to the front
- - Red rear light to the rear

When explaining these parts, make sure that the students understand why they are important for road safety (e.g. cat's eyes so that they can be seen from the side by a car).

Brake test
Explain the different brakes on a bicycle to the students and familiarize them in particular with the difference between the front and rear wheel brakes. Simulate what happens if only the front brake is applied when riding fast (rear wheel moves upwards)

Main activities (practice)

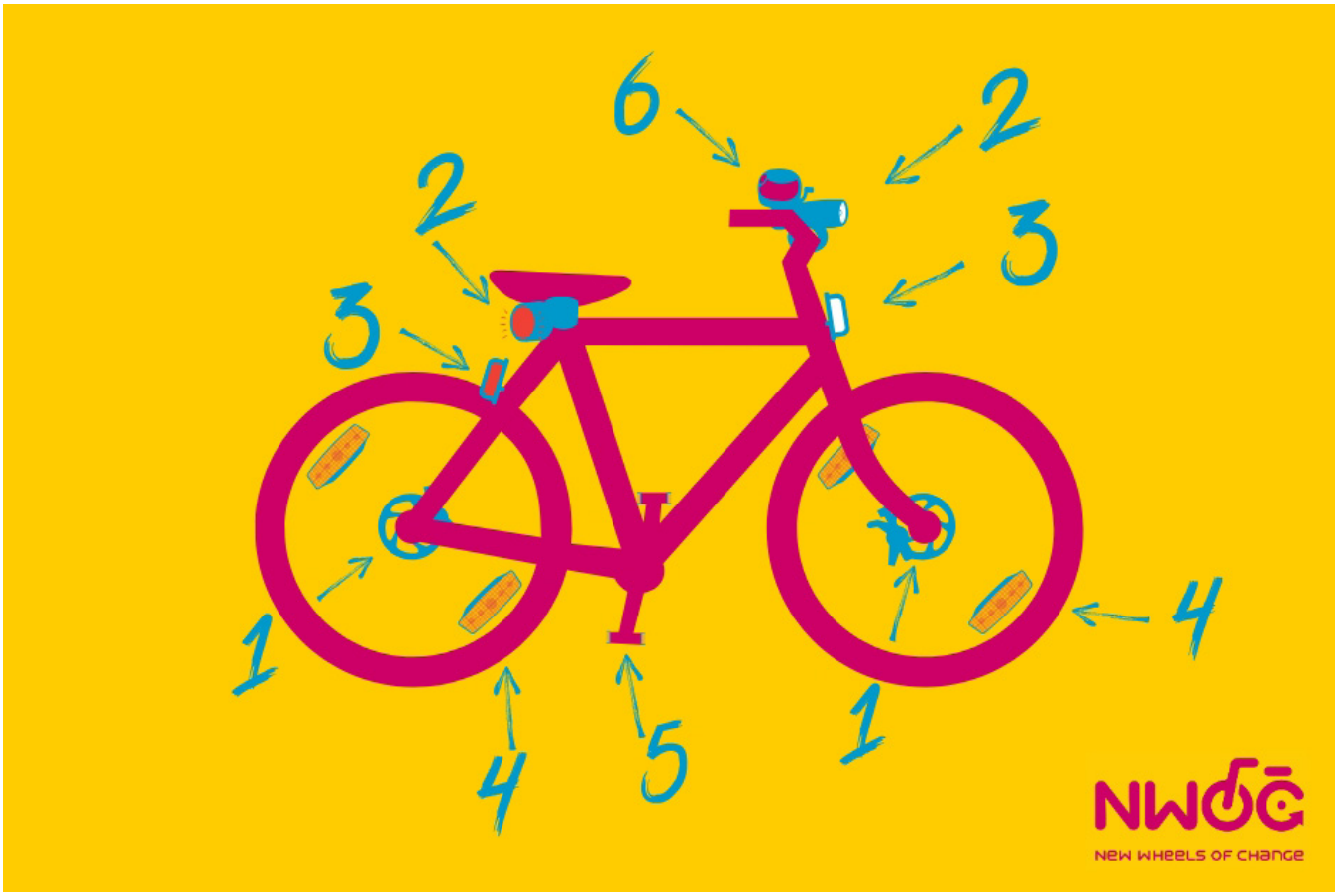
- Actively involve the children by asking them why they think these parts are important. Also mention that the same rules apply to (e-) scooters being used in road traffic.
- Depending on the grade of the students you go into details about the roadworthy equipment (e.g. children at the age of 6 should just know the basic most important parts like breaks but not be familiar with the exact location of the reflectors, while for children at the age from 9 on its important to know for their bicycle exam.
- Show the students how they can carry out a brake test on their own bike and advise them to do this before every ride. Have them carry out a brake test together.

Closing activities

Have the children repeat all the parts that must be present to equip a roadworthy bicycle; make sure that all parts are named, otherwise repeat them yourself. Ask the students what they should check in relation to their bike before they get on it. In addition, an online questionnaire can be offered (google sheet).

Activities Level 2

Additional Material:



1 - two independently functioning brakes
2 - white or yellow light in the front + red light at the rear (if visibility is not good)
3 - white reflector to the front + red reflector to the rear
4 - two reflectors per wheel or a continuous reflective strip on the tire
5 - two reflectors per pedal
6 - Bell or horn

05

Level 3: Special equipment vehicles

Type of activity
- Online (webinar)
- Classroom activity
- Activities outside of the classroom

Topic
This part of the module will delve into the safety equipment necessary for specialized vehicles such as e-bikes/ pedelecs (pedal electric bicycle) and rollers. It will highlight the unique requirements and safety considerations for each type of vehicle.

Learning Objectives
- imparting knowledge about the various vehicles and the different rules for their safe equipment. Raising children's awareness of the fact that an (e-)scooter is also a means of transport that is subject to certain rules in road traffic.
- understanding the necessity of the regulations
- the ability to recognize the safe equipment of the vehicles

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- roadworthy equipped model of an e-bike or pedelec and an (e-)scooter or detailed pictures
- detailed knowledge of the requirements for roadworthy equipment of these vehicles in your country.
- the teacher/educator should have prior knowledge of the regulations for roadworthy equipment for these vehicles in their country. The area where the activities of this module take place should be safe (isolated from other traffic), quiet enough for the students to concentrate and large enough for the vehicles and for all the students.

Duration of activities: 20 min.

Activities Level 3

Introductory activities (theory)

Explain the different safety equipment of the different special vehicles using pictures or, if you have an e-bike, pedelec and an (E-)Scooter.

Main activities (practice)

Actively involve the students by asking what they think why this equipment is important.

Closing activities

Have the students repeat all the equipment on special vehicles and let them compare it to the equipment of a road worthy bicycle. Make sure that all parts are named, otherwise repeat them yourself. Ask the students what they should always check in relation to the vehicle before they get on it. In addition, an online questionnaire can be offered (google sheet).

05

Level 4: Clothing "make yourself visible

Type of activity
- Online (webinar)
- Classroom activity
- Activities outside of the classroom

Topic
This activity will explore the importance of wearing high-visibility clothing and accessories, especially in low-light conditions. It will include practical tips on choosing the right clothing to enhance visibility on the road.

Learning Objectives
- imparting knowledge about the various ways to dress safely in road traffic and raising awareness of the importance of the right clothing in road traffic to prevent accidents.
- understanding of personal responsibility for these precautions

Target group/students
- 3rd to 9th grade students
- teachers
- bicycle instructors
- local authorities / agencies / directorates that work in these areas
- recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- precise knowledge of the possibilities of visible clothing in road traffic
- preferably clothing as an example to show (clothing that makes road users visible and clothing that does not make them visible), or a video projector showing pictures and videos
- flashlight or other source of light

Duration of activities: 20 min.

Activities Level 4

Introductory activities (theory)

How to make yourself visible in road traffic?
Start by comparing light-colored clothing with dark-colored clothing. If possible, demonstrate the difference in a semi-dark room so that the students can put themselves in the shoes of a driver at night. Give one or more students dark clothing (black, dark blue, dark brown) and another student light clothing and have the other students recognize the difference in different shades of darkness. Add movement (the two students who symbolize the cyclists and the other students who are the car drivers should both move) Ask the students what they have recognized (movement makes recognition in the dark even more difficult.
Bring reflectors into play and show the students in the same way how the reflectors improve visibility. Use a flashlight or other light source directed at the reflectors in the darkened room to better demonstrate this. Show the different places and parts of the body where reflectors can be attached (arms, legs, school bag, shoes etc.) and how this changes the driver's perception.

Main activities (practice)

Finally, you can give one or more children a high-visibility vest. The children should become aware of the combination of bright colors and reflectors and the resulting high level of safety precautions in road traffic.
If you do not have the clothing on site or a room that can be darkened, show the students pictures or videos on a video projector.

Closing activities

Have the children repeat what they learnt from the session and ask again how they should dress to be visible in road traffic. In addition, an online questionnaire can be offered (google sheet).

05

Level 5: Winter special

Type of activity
- Online (webinar)
- Classroom activity
- Activities outside of the classroom

Topic
In this section you will find advice on specific winter clothing and safety equipment required for cycling in winter, as well as tips on dealing with slippery roads and maintaining visibility during the shorter daylight hours.

Learning Objectives
- teaching about the dangers of cycling in winter and how to protect yourself with clothing and equipment in winter
- practicing a safe riding style in wet and icy conditions
- understanding personal responsibility for these precautions

Target group/students
- 3rd to 9th grade students
- teachers
- bicycle instructors
- local authorities / agencies / directorates that work in these areas
- recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- preferably winter clothing and a winter equipped bicycle as an example or very detailed pictures
- detailed knowledge of the dangers of cycling in winter
- place to demonstrate a slippery surface (if no winter, no snow) like a plastic sheet and water
- the instructor/trainer should have previous knowledge and ideally experience of safe cycling in winter and what needs to be considered.

Duration of activities: 20 min.

Activities Level 5

Introductory activities (theory)

How to prepare yourself for winter cycling?

Winter clothing:
Start by asking the students to think about winter days. What comes to mind? Have the students think about what clothing might be useful and what it should be made of. Think about the most important aspects such as protection from the wind, cold and wet, but also the particular importance of visibility. Together with the students, collect winter clothing for cyclists such as: Clothing in conspicuous signal colors, windproof, waterproof and breathable clothing, (rain) pants up to over the shoes to prevent the cold or wet from "rising", reflectors on clothing or in the form of clack tapes, sashes and high-visibility vests, warm and waterproof or water-repellent shoes, possibly cycling shoes, etc. Windproof or water-repellent hat that covers the ears, scarf or multifunctional scarf, glasses with UV protection against low sun, windproof and waterproof or water-repellent gloves that do not hinder braking and shifting gears.
If you have all the clothes available, you can ask a student to dress up in all the things their classmates are mentioning. If not, its good to have a picture of all the clothing and one example of someone wearing all these.
Also make sure to mention that service and cleaning of is extra important in winter.

Main activities (practice)

Bike with winter equipment:

After you have discussed optimized winter clothing, have your students think about an optimized winter bike. How can I best adapt my bike to winter conditions? Ask them to show on the bike what they are thinking of and complement their ideas. Go into detail about: the lower saddle, breaks, tires, gears, chains, frame, lights and reflectors, fender etc.

Training: How to ride safely over slippery surfaces:

Practice adapted riding technique in winter with your students. If available, set up a track with a wet plastic sheet for the students to ride straight over. Set up a second one in a curved lane.
Make sure that all students wear a helmet before they get on the bike and that the brakes are tested!

Round 1

Have the students ride around the track at a slow speed. Instruct them to observe the following:
- keep sufficient distance
- Ride in low gears and in a seated position
- Ride at a reduced speed and low lean angle on bends
- Riding on slippery roads without pedaling or braking

Round 2

Have the students cycle around the track at a slow speed, braking once on the straight wet plastic surface and once on the bend with plastic surface.
Instruct them to observe the following:
- Brake as gently as possible and allow for longer braking distances
- Increase the use of the rear brake

When students feel confident enough, you can instruct them to increase their speed so that they can get a feel for the danger of braking on a wet surface in winter.

Closing activities

Let the students tell you what they have learned in the session and in the practical training and ask them again how they should dress in winter and equip their bike according to the weather conditions. In addition, an online questionnaire can be offered (google sheet).

MODULE 6:
RIDING SKILLS

Activity / Level 1: Correct switching

Activity / Level 2: Stable straight riding

Activity / Level 3: One-handed riding

Activity / Level 4: Proper starting

Activity / Level 5: Safe braking

06

Description o the topic:

The Riding Skills module is designed to teach cyclists the key techniques for safe and efficient riding. It aims to provide teachers, school leaders and other educators with comprehensive training and resources that will enable them to effectively train cyclists' riding skills. This module is organized into five key activities, each targeting a specific aspect of riding skills.

1. Activity / Level 1: Correct Switching

This activity focuses on teaching cyclists how to change gears smoothly to maintain optimal pedaling efficiency and control. Proper gear shifting is essential for conserving energy and handling various terrains effectively, ensuring a comfortable and controlled ride.

2. Activity / Level 2: Straight riding

This segment emphasizes the importance of riding in a straight line, which is vital for stability and predictability on the road. Cyclists will learn techniques to maintain a steady course, reducing the risk of accidents caused by sudden swerving or loss of balance.

3. Activity / Level 3: One-Handed riding

This level trains cyclists to ride with one hand, enabling them to signal turns and communicate with other road users while maintaining control. Mastering one-handed driving is crucial for safe navigation and adherence to traffic rules, enhancing overall road safety.

4. Activity / Level 4: Proper Starting

Proper starting techniques are covered in this activity, ensuring cyclists can begin riding from a stationary position with stability and confidence. This skill is particularly important in urban environments where frequent stops and starts are common.

5. Activity / Level 5: Safe Braking

Safe braking techniques are the focus of this level, teaching cyclists how to stop effectively under various conditions. Understanding how to use front and rear brakes correctly, especially in emergency situations, is essential for preventing collisions and ensuring safe stops.

06

Description o the topic:

Developing proficient riding skills is crucial for cyclists to navigate various road conditions and scenarios safely. This module aims to provide practical training and knowledge to help cyclists of all ages and skill levels improve their riding techniques, ensuring they can handle their bikes confidently and safely.

The main objective of this module is to provide instructors with the knowledge and tools necessary to teach students safe riding behavior in a theoretical, but most importantly, practical way. There will be detailed instructions on how to train specific techniques to ensure understanding and implementation of the training in the participants' daily cycling. The aim of improving students' cycling technique is multi-faceted. It should help to increase the enjoyment of cycling, improve riding behavior and make participation in road traffic safer, as well as promote the bicycle as a practical, environmentally friendly, and healthy means of transport.

The units can be included in the curriculum or offered as an extracurricular activity. To successfully achieve the learning objectives for this module, teachers need to be equipped with appropriate knowledge, and this needs to be communicated in an easily understandable way. Simple practical instruction and individualized and repeated experimentation by students, including sensitive monitoring by teachers, is particularly important. In this way, students can directly apply what they have formally learned and directly implement it in their participation in road traffic.

This module is intended for teachers, instructors of bicycling, all other educators, and parents who are interested in or work to improve riding skills for cyclists and roller users. The recommended age group for implementation is from 6 years onwards. This module consists of five activities that deal with different topics of riding skills and can be selected according to the priority of the target group.

It's important to acknowledge that students come to class with varying levels of cycling proficiency. Not every child has had the opportunity to learn how to ride a bike, so this module also aims to teach basic cycling techniques in addition to improving existing skills. This inclusive approach ensures that all students, regardless of their initial skill level, receive the guidance and practice they need to become confident and safe cyclists.

Structure of Activities / Training Module 6: Riding skills

How to implement this module and activities proposed in it:

Introductory activities (theory)

- **Short introduction to the theory of the proposed content through explanations / communication / discussion demonstrating the riding techniques on bicycles with appropriate safety equipment or audiovisual tools (e.g. PowerPoint presentations).**
- **Subdivide the students into groups of 4 students, and if you can and if the appropriate conditions exist, make the groups heterogeneous comprising boys and girls. We recommend carrying out this short theoretical part directly outdoors, as the focus of this module is on the practical training of the students.**
- **Explain the respective riding techniques to your students and demonstrate them slowly several times, also showing the technical parts of the bikes (e.g. how do I see which gear I am in).**

Main activities (practical part)

- Practical part in which students can train cycling themselves and/or improve their own cycling technique. Either rental bikes/scooters/helmets or own bikes/scooters/helmets are used. Make sure that every student wears a helmet!
- Provide safety bikes/helmets and clothing in the correct size for each pupil. If you cannot organize this for every child, divide the class into two groups and let one group train while the other observes carefully.
- Set up a simple exercise course in which the children who can already ride a bike can ride continuously in an extended circle (U-shape). Make sure that the area is not too uneven and is well marked with traffic cones. Give the students clear instructions on how to behave during the exercise in the course, e.g. no overtaking, steady speed, no riding next to each other.
- Depending on the experience level of the children, give them clear instructions. If a child is not yet able to ride a bike, make sure that they can practice with one teacher at a time.
- It is strongly recommended to provide a traffic-calmed area and enough bicycles for each student for this module, because you can only improve your riding skills by practizing!

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the “teacher” and the “students”. It is also possible to offer an online questionnaire (Google sheet).

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the "teacher" and the "students". It is also possible to offer an online questionnaire (Google sheet).

Reflection, review of the objectives of this module

After the realization of all the levels and exercises proposed in this module, there can be a final discussion to recap the most important things. Proposed questions:

- What have the children learned in this module?
- How will it change their riding techniques? (for beginners: How did it feel to encounter riding a bike for the first time?)

After completing all the levels and exercises suggested in this module, you can reflect on and review the goals you have set by asking about the following outcomes to make sure the learning objectives of this module have been achieved.

- The participant is aware of various aspects of riding techniques and has improved their knowledge and skills in these aspects (shifting gears efficiently, riding in a straight line, braking safely, riding confidently with one hand and starting off quickly and safely).
- The participant knows how to train these techniques themselves.
- The participant is aware of the importance of a confident riding technique.

Draw a conclusion about this module

Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module

- The teacher/educator should have previous knowledge of the components of the bicycle and how it works and have experience with various riding techniques and tricks.
- Depending on the level of cycling ability, make sure that there are enough instructors to help those students who have no or very little cycling experience.
- The area where the activities of this module take place should be safe (isolated from other traffic) and large enough to set up an exercise course where groups of up to 20 participants can cycle at the same time.
- Suitable bicycles and helmets for all students.
- Free registration on "GoToWebinar"
- Download the application "NewWheelsOfChange".
- Download the social game "NewWheelsOfChange".
- additionally see required material for each level

06

Level 1: Correct switching

Type of activity
- Activities outside of the classroom

Topic
This activity focuses on teaching cyclists how to change gears smoothly to maintain optimal pedaling efficiency and control. Proper gear shifting is essential for conserving energy and handling various terrains effectively, ensuring a comfortable and controlled ride.

Learning Objectives
- to impart knowledge about the correct use of gears when cycling.
- to make students aware of how the energy level changes when changing gear.
- to familiarise students with correct and efficient gear shifting.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students
- traffic cones to set up the exercise course and chalk

Duration of activities: 20 min.

Activities Level 1

Introductory activities (theory)

Explain the gears on the bike. Show the students how the chain moves over the sprockets when shifting gears. Demonstrate this with a bicycle and let each child see the bouncing chain.
After you have explained to the students how the gears work and how to use the lower and upper gears, let them ride along the exercise course you have set up.

Main activities (practice)

To organize a safe start, line the students up in rows of 4 next to each other at one point on the exercise course. Count through. Each child memorizes their number, which is their own starting position, and should always start from this position. Return to the same starting position at the end of each exercise in this module.

Round 1: Lowest gear
- Instruct the students to shift into the lowest gear and drive a few laps around the track to experience how it feels.
- Check that each student is in first gear and ask those who are not yet in first gear why not (they may not know how the gears (twist shifters) work). Make sure that at the end of the exercise every student is riding in first gear.

Round 2: Highest gear
- Instruct the students to shift into top gear and ride a few laps around the track to experience how it feels. Point out that they should shift step by step and never all at once, as is possible with twist shifters.
- Check that each student is in top gear and ask those who are not yet in top gear why not (they may not know how the gears (twist shifters) work). Make sure that at the end of the exercise every student is riding in top gear.

Round 3: Medium-light gear
- Instruct the students to shift into medium gear (or a gear they are comfortable with) and ride a few laps around the track to experience how it feels. You can tell the students that you will keep this gear for the rest of the exercises.
- Finish the exercise by having the students return to the starting position (4 students in a row). You can do this by holding a stop sign in front of the first moving student (number 1).

Optional game: snail race

If you feel that the students have a good command and understanding of the cogwheel system, you can let them play a snail race.
Draw a start line and a finish line with a 5–8-meter stretch in between. Divide the class into groups of 4. Each group of 4 students stands behind the starting line with their bike. The task is to be the last to reach the finish line. It is not allowed to get off the bike, the feet must always remain on the pedals.
This exercise is a good way to see if the students have understood that the lowest gear will take them the slowest. The students will also learn that cycling slowly requires a lot of riding skills.

Closing activities

Finish the exercise by having the students return to the starting position (4 students in a row). You can have the children repeat what they have learnt in this practical session and what was explicitly fun about the snail race (if the game has been played). An online questionnaire can also be offered (google sheet).

06

Level 2: Stable straight riding

Type of activity
- Activities outside of the classroom

Topic
This segment emphasizes the importance of riding in a straight line, which is vital for stability and predictability on the road. Cyclists will learn techniques to maintain a steady course, reducing the risk of accidents caused by sudden swerving or loss of balance

Learning Objectives
- Developing safe straight-line riding skills to prepare students for narrow cycle paths or situations with heavy traffic
- Control over their own riding
- More judgement/confidence in their own riding style

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students
- traffic cones to set up the exercise course, wooden slats and an obstacle board (e.g. chicken or cat ladder)

Duration of activities: 15 min.

Activities Level 2

Introductory activities (theory)

Explain to the students what tricks they can use to master stable straight-line riding (e.g. hand firmly on the handlebars, looking straight ahead, not downwards). Actively involve the children by asking them why they think these parts are important.

Main activities (practice)

Narrowing slats

Show the students the two wooden slats and prepare them for the fact that they will be placed next to each other in two different places on the track and will become narrower and narrower over time.
Have each student repeat the starting numbers before having them ride in a circle for several laps. After a few laps, reduce the distance between the wooden slats. Check and ask the students to look forwards and not downwards.
You can end the narrowing by leaving only one of the wooden slats, on which the students ride straight ahead.
Finish the exercise by having the students return to the starting position (4 students in a row).

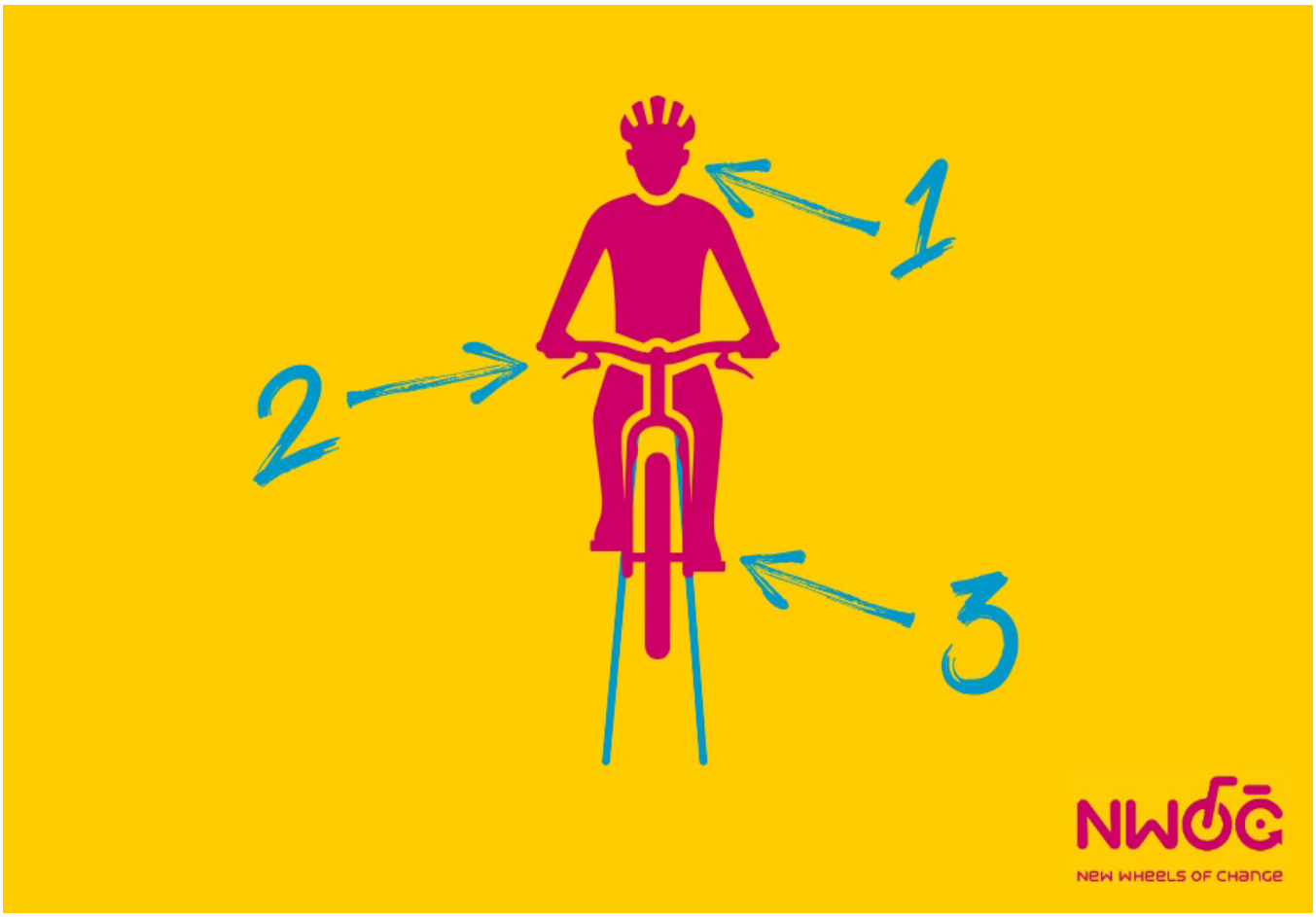
Chicken ladder

Prepare the students for the fact that instead of the wooden slats, a chicken ladder (board with wooden beams sticking upwards) will now be laid out at one point on the track. Explain how to ride safely over such an obstacle. Actively involve the children by asking them why they think these parts are important.
Let the students ride a few laps to gain experience. Make sure they have a firm grip on the handlebars when they ride over the ladder. If the group is not yet so strong in terms of riding technique, place the chicken ladder crosswise so that there is only a narrow obstacle. Place yourself or another teacher next to the obstacle to catch any students who fall.

Closing activities

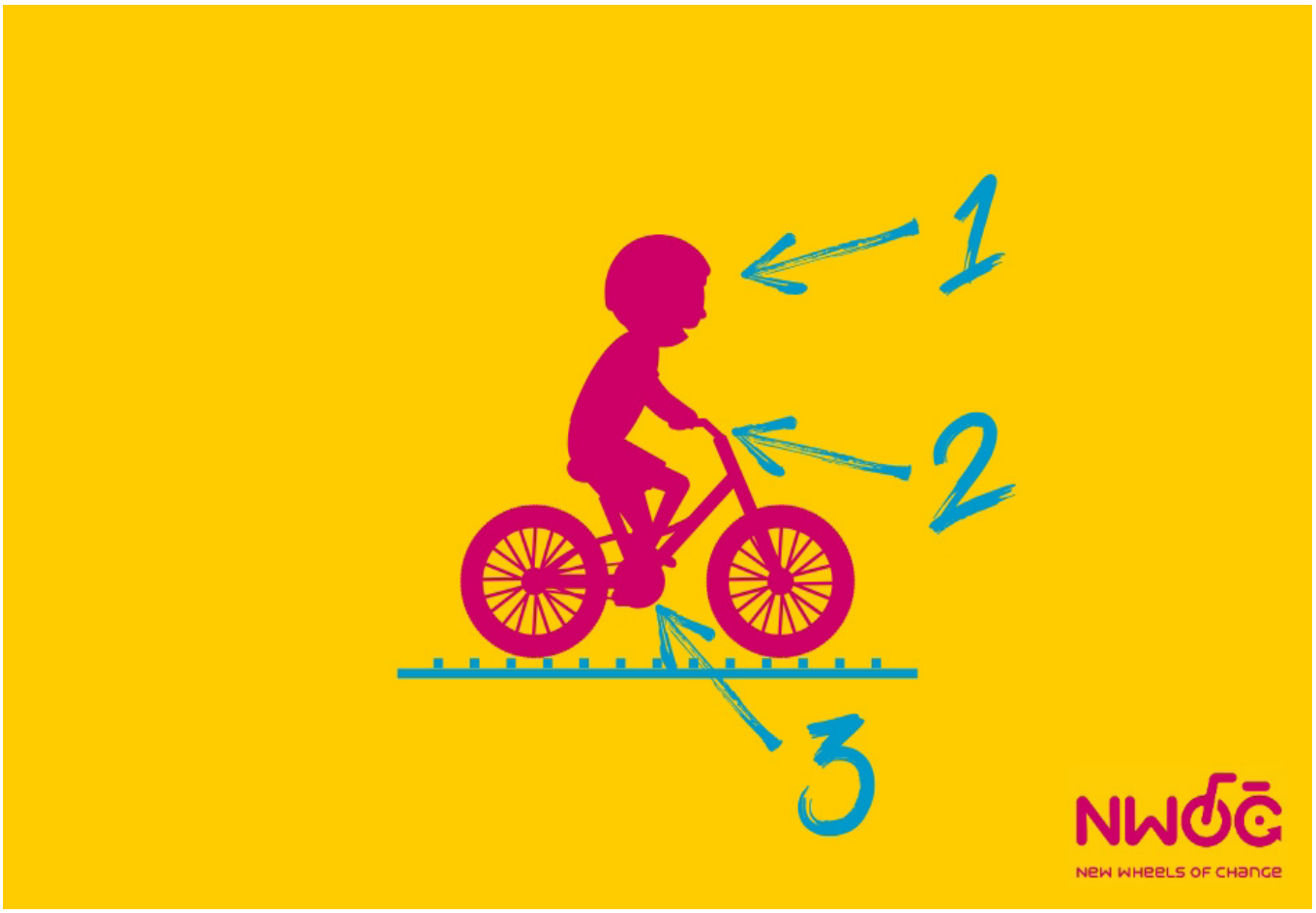
Finish the exercise by having the students return to the starting position (4 students in a row). You can have the children repeat what they have learnt in this practical unit and also repeat in which traffic situations it is particularly important to drive straight ahead in a stable manner. An online questionnaire can also be offered (google sheet).

Additional Material:



1 - Try to look forwards, not down at your own front wheel.
2 - Keep the hands straight on the handlbar
3 - Keep on padeling

Additional Material 2:



1 - Try to look forwards, not down at your own front wheel.
2 - Keep the hands straight on the handlbar
3 - Keep on padeling

06

Level 3: One-handed riding

Type of activity
- Activities outside of the classroom

Topic
This level trains cyclists to ride with one hand, enabling them to signal turns and communicate with other road users while maintaining control. Mastering one-handed driving is crucial for safe navigation and adherence to traffic rules, enhancing overall road safety.

Learning Objectives
- Development of safe one-handed driving behavior to enable students to communicate safely in traffic
- Control over their own riding behavior
- More judgement/confidence in their own riding style

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students
- traffic cones to set up the exercise course and chalk

Duration of activities: 15-20 min.

Activities Level 3

Introductory activities (theory)

Explain to the students why one-handed cycling is important and what they should bear in mind when riding with one hand on the handlebars. Actively involve the children by asking them why they think these parts are important.
Ask the students how we communicate with each other in road traffic. How do we indicate that we want to turn right or left? Actively involve the children by asking them why they think these parts are important.

Main activities (practice)

Riding with one hand

Have the students ride a few laps in a circle. Instruct them to place their left hand on their thigh while riding. Instruct them to place both hands on the handlebars when cornering.
After a few rounds ask them to place their right hand on their thigh while riding.
If you see that a student feels unsafe taking a hand off the handrails, you can trick them by waving at them. Perhaps they will intuitively wave back.
Finish the exercise by having the students return to the starting position (4 students in a row).

Practice hand signals

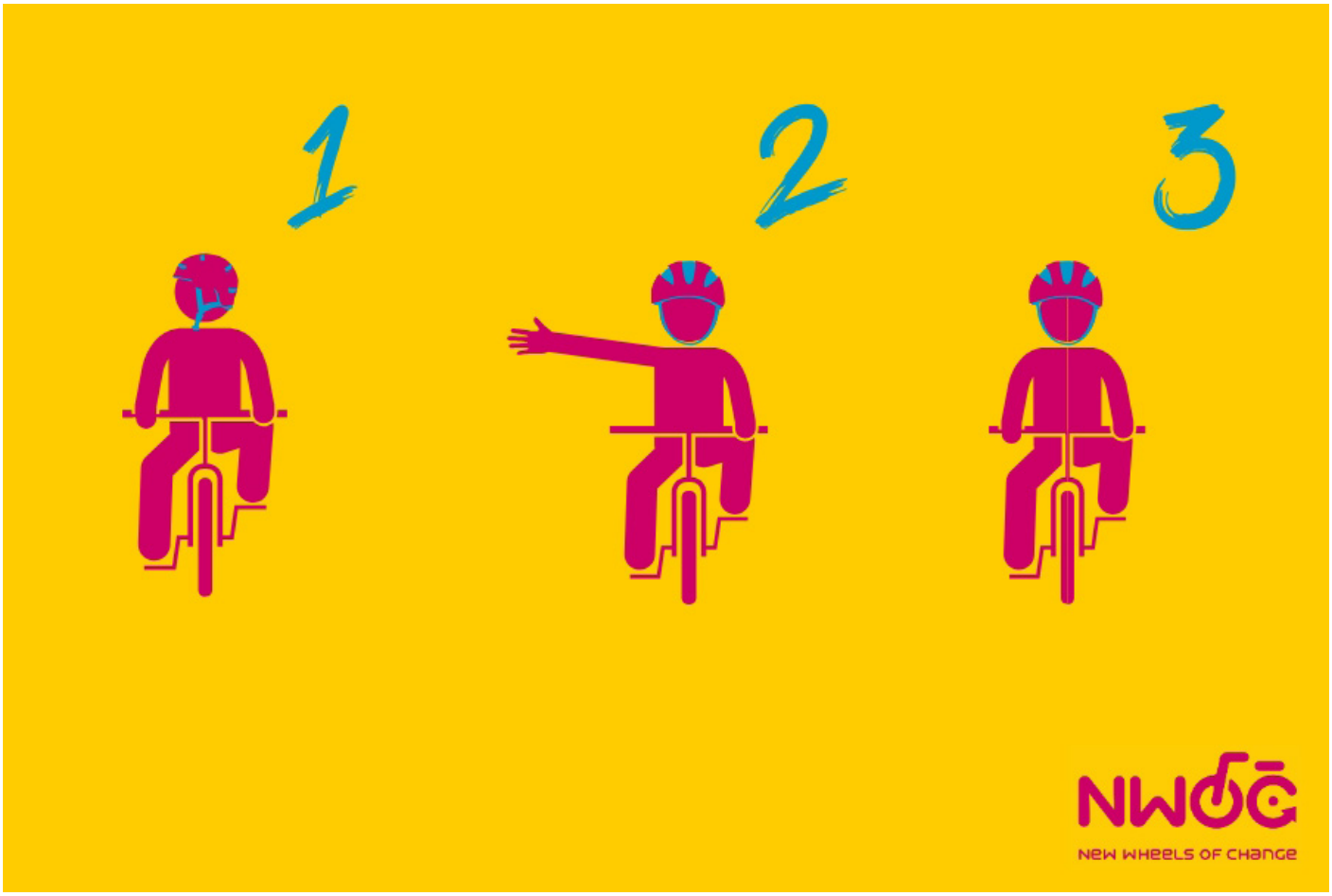
Note: This exercise also appears in Module 7 under Levels 1 and 2 and does not have to be carried out here.
Build a crossing with chalk or traffic cones. It is a good idea to mark out areas in front of the junction where they should look over their shoulders (step 1), then give hand signals (step 2) and then turn (step 3).
Then divide the class into two groups and line them up at different ends of the junction. Let the respective groups first pass each other on the right. Then one group should turn left, the other straight ahead and vice versa. Make sure you instruct the students to look at the school door and give clear hand signals.
Depending on the school level, you can also do a test run beforehand. To do this, walk along the junction with all the students (without bikes) and practice looking over your shoulder, hand signals and turning right and left. After this trial run, you can instruct the children to do the same on their bikes.
Have the students repeat the crossing a few times.

Closing activities

Finish the exercise by having the students return to the starting position (4 students in a row). You can have the children repeat what they have learnt in this practical unit and also repeat what they should always bear in mind before turning at a crossing. An online questionnaire can also be offered (google sheet).

Activities Level 3

Additional Material:



1 - shoulder gaze
2 - Hand signal in the intended turning direction
3 - Put both hands back on the handlebars before you turn off

06

Level 4: Proper starting

Type of activity
- Activities outside of the classroom

Topic
Proper starting techniques are covered in this activity, ensuring cyclists can begin riding from a stationary position with stability and confidence. This skill is particularly important in urban environments where frequent stops and starts are common.

Learning Objectives
- developing a quick and safe start in preparation for driving off at traffic lights or in other traffic situations
- control over their own driving behavior
- more judgement/confidence in their own riding style

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students
- traffic cones to set up the exercise course

Duration of activities: 10-15 min.

Activities Level 4

Introductory activities (theory)

Explain to the students why it is important to start off correctly and quickly when riding on the road.

Main activities (practice)

"Rocket launch"

Prepare the students for a quick start from a standing position. Show them how to prepare. One pedal (start pedal) is pointing upwards parallel to the frame of the bike, the other foot is on the ground. Both brakes are applied. Before they set off, they should look over their left shoulder as if they were about to set off from a traffic light.

The sequence that the students should follow is: look over their shoulder, look forwards, release the brakes, step on the top pedal and set off quickly.

Make sure that all students have assumed this starting position. Then let them start one after the other and observe their progress. Some students may need help to raise the pedals. Make the students aware that it is called a "rocket launch" because it is about starting quickly. So they should be very ready for the following sequence.

From now on, you can include this exercise every time the students start the exersice course (especially after the braking exercise).

Closing activities

Finish the exercise by having the students return to the starting position (4 students in a row). You can have the children repeat what they have learnt in this practical unit and also repeat how they should prepare themselves for a proper starting. An online questionnaire can also be offered (google sheet).

06

Level 5: Safe braking

Type of activity
- Activities outside of the classroom

Topic
Safe braking techniques are the focus of this level, teaching cyclists how to stop effectively under various conditions. Understanding how to use front and rear brakes correctly, especially in emergency situations, is essential for preventing collisions and ensuring safe stops.

Learning Objectives
- developing safe braking behavior in preparation for the dangers of road traffic
- build up control over own riding and braking behavior
- increase students judgement/confidence in their own riding style

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students
- traffic cones to set up the exercise course, chalk or a wooden slat to mark a line

Duration of activities: 10-15 min.

Activities Level 5

Introductory activities (theory)

Explain why braking correctly is important in road traffic.

Main activities (practice)

Target braking:

In this exercise, students are asked to brake in front of a target. This means that they should slow down slowly and safely and come to a standstill in front of a specific target. Before the exercise, give clear instructions on how to safely perform such a target braking maneuver. Involve the students by asking them once again about the difference between front and rear braking and how they imagine safe, targeted braking. With which hand? With both hands! Remind the children of the "rocket launch" when starting off again.

You can mark this target on the floor with some chalk or the wooden slat.
Have the students start off in turn and brake before the finish line. Make sure they brake with both hands and come to a safe and slow stop and then put one leg on the ground. Then encourage them to start again in a racing start (including shoulder view). Only allow the next student to start when the previous student has finished the braking exercise to ensure that everyone can perform a good braking exercise.

Finish the exercise by having the students return to the starting position (4 students in a row).

Emergency braking:

In this exercise, the students will train to suddenly pull the brakes in an unpredictable situation. Before the exercise, give clear instructions on how to perform such an emergency stop safely. Repeat again how important it is to brake with both hands and show them the correct posture for
emergency braking (straight arms, arched back, feet remain on the pedals). Before starting the exercise, simulate once again what happens if only the front brake is applied (rear wheel lifts/risk of overturning) and remind the students to brake with both hands.

Instruct the students to stop immediately when they hear the "Stop!" command. Remind the students of the "rocket start" when they set off again and encourage them to ride fast if they want to in order to experience braking at high speed.

Let the students start again in turn. Only allow the next student to start when the previous student has finished the braking exercise to ensure that everyone can perform a good braking exercise. Place yourself or a helping teacher next to the course, you or this person shout Stop!!!! At this sound, the students should brake suddenly as if they were in danger. Check the students' braking position (arms, back and legs) and make suggestions for improvement if necessary. Remind them of the "rocket launch" when they start riding again.

Closing activities

Finish the exercise by having the students return to the starting position (4 students in a row). You can have the children repeat what they have learnt in this practical unit and also repeat what they should keep in mind when braking smoothly or suddenly. An online questionnaire can also be offered (google sheet).

MODULE 7:
BEHAVIOR ON THE ROAD

Activity / Level 1: Correct right turn

Activity / Level 2: Correct left turn

Activity / Level 3: Principle of trust, blind spot

Activity / Level 4: Emergency vehicles, telephone numbers, behavior

Activity / Level 5: Behavior towards old people, people with disabilities, use of smartphones

07

Description o the topic:

In this module, we suggest to teachers, school leaders and other educators the key road behaviour rules or skills that should be taught to students to ensure that they become responsible road users. This module is divided into five key activities, each focusing on a specific aspect of behaviour on the road, such as own behaviour, navigation, communication, behaviour towards others and emergency behaviour.

1. Activity / Level 1: Correct right turn

This activity focuses on teaching students the correct procedure for making a right turn. Students will learn how to signal their intentions, check for traffic, and execute the turn safely. This includes understanding the importance of positioning and timing to avoid collisions with other road users.

2. Activity / Level 2: Correct left turn

This activity covers the correct technique for making a left turn, which can be more complex due to crossing traffic lanes. Students will practice signaling, checking for oncoming traffic, and executing the turn in a way that ensures their safety and that of others. Proper lane positioning and timing are emphasized to reduce the risk of accidents.

3. Activity / Level 3: Principle of trust, blind spot

This level introduces the principle of trust in traffic, highlighting the importance of predictable behavior. Students will learn about the blind spot, other areas around vehicles where the driver's view is obstructed, and how to avoid these danger zones. Understanding the blind spot helps cyclists position themselves safely relative to other vehicles.

4. Activity / Level 4: Emergency vehicles, telephone numbers, behavior

Students will gain practical experience and confidence in responding to emergency vehicles, knowing emergency contact numbers, and behaving appropriately in emergency situations, significantly enhancing their overall road safety awareness.

5. Activity / Level 5: Behavior towards elderly people, people with disabilities, use of smartphones

Respectful behavior towards elderly individuals and people with disabilities is critical for fostering a considerate road environment. This activity teaches students to recognize and accommodate these road users. Additionally, the safe use of smartphones while cycling is addressed, emphasizing the dangers of distractions and the importance of staying focused on the road.

07

Cyclists share the road with various other users, making it crucial for them to exhibit safe and respectful behavior. This module focuses on teaching students how to navigate traffic and interact with other road users in a responsible and aware manner. The goal is to ensure that cyclists not only protect themselves but also contribute to the safety and comfort of others on the road.

Understanding and practicing proper behavior on the street is vital for all cyclists. This module aims to provide teachers with the knowledge and tools necessary to teach students to navigate complex traffic environments safely and courteously. This module gives detailed instructions of how to teach correct turning techniques, awareness of the blind spot, responding appropriately to emergency vehicles, and respectful interaction with vulnerable road users so that the students will be well-equipped to handle various situations they may encounter while cycling.

The units can be included in the curriculum or offered as an extracurricular activity. To successfully achieve the learning objectives for this module, teachers need to be equipped with appropriate knowledge, and this needs to be communicated in an easily understandable way. Simple practical instruction and individualized and repeated experimentation by students, including sensitive monitoring by teachers, is particularly important. In this way, students can directly apply what they have formally learned and directly implement it in their participation in road traffic.

Structure of Activities / Training Module 7: Behavior on the road

How to implement this module and activities proposed in it:

Introductory activities (theory)

- **Introduction to the theory of the proposed content through explanations / communication / discussion as well as demonstration of correct navigation behavior in road traffic and discussion of possible emergency situations and interactions with other road users (e.g. Simulation in a traffic-calmed protected space or PowerPoint presentation).**
- **Subdivide the students into groups of 4 students, and if you can and if the appropriate conditions exist, make the groups heterogeneous comprising boys and girls. You can carry out this module indoors or outdoors.**
- **Explain to your students the correct navigation, communication and behavior in various traffic situations towards themselves and others and discuss these in detail (how do I behave in this and that situation).**

Main activities (practical part)

- Practical part in which students can practise correct navigation and communication in different traffic situations by simulating different traffic situations by the trainers and the group. Either rental bikes/scooters/helmets or own bikes/scooters/helmets are used. Make sure that every student wears a helmet.
- Provide safety bikes/helmets and clothing in the correct size for each student. If you cannot organize this for every child, divide the class into two groups and let one group train while the other observes carefully.
- Set up a simple exercise course in which the children who can already ride a bike can ride continuously in an extended circle (U-shape). Make sure that the area is not too uneven and is well marked with traffic cones. Give the students clear instructions on how to behave during the exercise in the course, e.g. no overtaking, steady speed, no riding next to each other.
- Depending on the experience level of the children, give them clear instructions. If a child is not yet able to ride a bike, make sure that they can practice with one teacher at a time.
- This module is recommended to be carried out in a traffic-calmed area. If this is not possible, the exercises can also be simulated in the classroom!

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the “teacher” and the “students”. It is also possible to offer an online questionnaire (Google sheet).

Reflection, review of the objectives of this module

After the realization of all the levels and exercises proposed in this module, there can be a final discussion to recap the most important things. Proposed questions:

1. What have the children learned in this module?
2. How will it change their behavior in road traffic?

After completing all the stages and exercises suggested in this module, you can reflect on and review the goals you have set by asking about the following outcomes.

- The participant knows the right procedure for making right and left turns
- The participant recognizes dangerous traffic situations (blind spot)
- The participant can appropriately respond to emergency vehicles and knows the important emergency contact numbers
- The participant carries out respectful behavior towards elderly individuals and people with disabilities
- The participant is aware of the possible distraction by the use of smartphones

Draw a conclusion about this module

Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module

- The teacher/educator should have previous knowledge of communication rules in traffic and the right behavior and expectations when participating in road traffic as a cyclist.
- The area where the activities of this module take place should be safe (isolated from other traffic) and large enough to set up a practice course where groups of up to 20 participants can cycle at the same time.
- Depending on the level of cycling ability, make sure that there are enough instructors to help those students who have no or very little cycling experience.
- The area where the activities of this module take place should be safe (isolated from other traffic) and large enough to set up an exercise course where groups of up to 20 participants can cycle at the same time.
- Suitable bicycles and helmets for all students.
- Free registration on “GoToWebinar”
- Download the application “NewWheelsOfChange”.
- Download the social game “NewWheelsOfChange”.
- additionally see required material for each level

07

Level 1: Correct right turn

Type of activity
- Activities outside of the classroom

Topic
This activity is about teaching cyclists how to turn correctly in traffic. It is important that pupils know how to communicate clearly and turn safely.

Learning Objectives
- impart knowledge about the correct way to turn right.
- to give students a safe feeling when turning and communicating in road traffic.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students.
- traffic cones to set up the exercise course and chalk (you can reuse traffic signs from module 1)

Duration of activities: 10-15 min.

Activities Level 1

Note: The exercises may have already been carried out under Module 6 Level 3, but can certainly be repeated again (practice makes perfect)

Introductory activities (theory)

Explain to the students why safe turning is important in road traffic (many accidents happen when turning) and what they should look out for when entering a junction and wanting to turn right. Actively involve the children by asking them why they think these parts are important.

Main activities (practice)

Have the students start again one after the other from the starting position. Give them the task of turning right at a simulated junction or bend (chalk or traffic signs). Draw markings on the floor so that the students know when to look over their shoulder, when to extend their arm to signal, when to look forwards again and finally when to turn. Instruct them to put both hands on the handlebars again before turning.

You can repeat the exercise a few times.

Closing activities

Finish the exercise by having the students return to the starting position (4 students in a row). You can have the children repeat what they have learnt in this practical unit and also repeat what they should always bear in mind before turning at a crossing. An online questionnaire can also be offered (google sheet).

07

Level 2: Correct left turn

Type of activity
- Activities outside of the classroom

Topic
This activity is about teaching cyclists how to turn correctly in traffic. It is important that pupils know how to communicate clearly and turn safely, especially when making a left turn maneuver.

Learning Objectives
- impart knowledge about the correct way to turn left.
- to give students a safe feeling when turning and communicating in road traffic.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students.
- traffic cones to set up the exercise course and chalk (you can reuse traffic signs from module 1)

Duration of activities: 20 min.

Activities Level 2

Introductory activities (theory)

Explain to the pupils why safe turning is important in road traffic (many accidents happen when turning, especially when turning left) and what they should look out for when entering a junction and wanting to turn right. Repeat the rules for right-hand traffic. Actively involve the children by asking them why they think these parts are important.

Main activities (practice)

Have the pupils start again one after the other from the starting position. Give them the task of turning left at a simulated junction or bend (chalk or traffic signs). Draw markings on the floor so that the students know when to look over their shoulder, when to extend their arm to give a signal, when to look forwards again, when to get into the left-hand lane and when to turn left. Instruct them to put both hands on the handlebars again before turning.

You can repeat the exercise a few times. If you wish, you can include oncoming traffic so that the children learn to wait for oncoming traffic. To do this, you can divide the class into two groups.

Closing activities

Finish the exercise by having the students return to the starting position (4 students in a row). You can have the children repeat what they have learnt in this practical unit and also repeat what they should always bear in mind before turning left at a crossing. An online questionnaire can also be offered (google sheet).

07

Level 3: Principle of trust, blind spot

Type of activity
- Activity outside of the classroom (preferably)
- Classroom activity
- Online (webinar)

Topic
This activity is about understanding the principle of trust in traffic and the importance of awareness of blind spots to ensure safe cycling.

Learning Objectives
- teach the principle of trust in traffic and the importance of predictable behavior
- educate about the blind spot and how to avoid these danger zones.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students.
- traffic cones to set up the exercise course and chalk
- if you cannot do this activity outdoors, make sure you have a video projector or other means of showing images to the students
- pictures of the relevant traffic situations

Duration of activities: 20 min.

Activities Level 3

Introductory activities (theory)

Principle of trust:

Explain the principle of trust and the importance of predictable behavior in traffic. Try to draw parallels to other principles (depending on the age group), for example, lessons in a classroom only work if all pupils are aware of certain rules, such as sitting on the chairs and not standing on the tables and looking to the front at the blackboard and the teacher and not to the back etc. If you are teaching this level in a classroom, you can also use pictures that show chaotic traffic situations where everyone is just doing everything, and accidents happen. Actively involve the children by asking them what other situations they know in which it is important to know the rules and to be able to trust that others also know the rules in order to create a safe environment.

Blind spot:

Discuss blind spots on vehicles and why they are dangerous. Ask students why it is important to understand blind spots and why they are called that (e.g. blind in English because the person sitting in the vehicle cannot see you).

Main activities (practice)

Principle of trust:

You can add a practical task (also in the classroom). Set up a crossing (outside with chalk or traffic cones). Ask the children beforehand, what is one of the most important rules in traffic? Right before left! Simulate meeting at the junction with a few students. Make it clear that it is important for the person coming from the right to trust that the other person will stop.

Also make the students aware that, despite the principle of trust, it is always important to observe what the other road users are doing.

You can repeat the exercise a few times. If you wish, you can make the situation at the junction more complex and possibly also include traffic signs (good repetition). You can divide the class into two groups for this. Finish the exercise by having the students return to the starting position (4 students in a row).

Blind spot:

Carry out an exercise where students position themselves in relation to a dummy vehicle (painted or depicted with two people) to understand blind spots. Instruct them to remain visible and avoid danger zones around vehicles.

Repeat the exercise several times and make sure that all students can stand in the blind spot behind the vehicle once to feel this position.

You can lead another exercise in which one vehicle (two students) always competes against a bicycle (one student). The vehicle (i.e. the two students) and cyclist move along the road, the cyclist with the task of avoiding the blind spot as far as possible. He/she can do this either by driving exactly behind the vehicle or by riding sideways to the front so that the driver can see the cyclist out of the window (which can be tested by waving).

Repeat the exercise several times and make sure that all students can be in the cyclist position.

Closing activities

End the exercise by having the participants meet in a quiet place. Recap with the students what was learned in this session, how they should behave in road traffic and which situation they should avoid and why. An online questionnaire can also be offered (google sheet).

07

Level 4: Emergency vehicles, telephone numbers, behavior

Type of activity
- Activity outside of the classroom (preferably)
- Classroom activity
- Online (webinar)

Topic
This topic is about teaching cyclists how to respond to emergency vehicles, know emergency contact numbers, and behave appropriately in emergency situations.

Learning Objectives
- teach appropriate responses to emergency vehicles.
- ensure students know important emergency contact numbers.
- educate on proper behavior in emergency situations.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students.
- traffic cones to set up the exercise course and chalk
- prepared role play cards
- if you cannot do this activity outdoors, make sure you have a video projector or other means of showing images to the students
- pictures of the relevant traffic situations

Duration of activities: 20 min.

Activities Level 4

Introductory activities (theory)

Emergency response exercise:

Start by explaining to the students the importance of proper behavior during emergency situations Discuss why it's crucial to respond quickly and safely to emergency vehicles on the road, ensuring not to panic.
Explain the steps to be taken when an emergency vehicle is approaching:

1. Stay Calm: Remain calm and focused.
2. Assess the Situation: Look around to determine the source and direction of the emergency vehicle.
3. Move to the Side: If on a road, move to the side or pull over safely to let the emergency vehicle pass.
4. Do Not Block: Never block intersections or create hazards for other road users.

If you are not sure exactly where the emergency vehicle wants to drive through, move to the side anyway as other larger vehicles may need more space to get round.

Main activities (practice)

Simulate an emergency scenario: Set up a practice course with cones marking a typical road layout, including intersections. Assign a few students to play the roles of emergency vehicle drivers (using a bicycle with a bell) and others as regular cyclists. The "emergency vehicle" students will ride through the course periodically ringing their bells to simulate sirens. The rest of the students must practice responding by moving to the side of the road and stopping safely. Rotate roles so every student gets a chance to practice proper behaving to an emergency vehicle.

Emergency contact numbers
Explain the significance of knowing emergency contact numbers and the correct way to make an emergency call. Provide students with a list of important emergency contact numbers (local emergency services).
e.g. in Austria, these are:

- Ambulance: 144
- Fire brigade 122
- Police 133
- Euro emergency call - standardized European emergency number: 112

Try to make it easier for the children to memorize the numbers by using simple phrases and word plays in your national language. (e.g. the European emergency number 1+1=2 as a maths problem).
Collect together what should be mentioned in an emergency call: where did it happen, what exactly happened, how many injured, what kind of injuries, wait for questions. when did it happen, who, and answer basic question (listen correctly). Emphasize staying calm, speaking clearly, and providing accurate information.

Role play exercise:

Divide the students into small groups and assign each group a different emergency scenario with different roles (some are involved in the accident, others are witnesses). Set up a mock telephone call. Have students practice making an emergency call, stating their location, the nature of the emergency and the injury situation, and answering basic questions (it is best if you or another teacher/trainer is on the other end of the emergency call line). Together evaluate the emergency call. What was good, what was bad? Encourage students to ask questions and provide feedback on what they found challenging or easy during the exercises.

Closing activities

End the exercise by having the participants meet in a quiet place. Recap what was learned and what should never be forgotten in an emergency. Offer an online questionnaire for feedback (e.g., Google Sheet).

07

Level 5: Behavior towards old people, people with disabilities, use of smartphones

Type of activity
- Activity outside of the classroom (preferably)
- Classroom activity
- Online (webinar)

Topic
Teaching cyclists respectful behavior towards elderly individuals and people with disabilities, and raising awareness of the dangers of smartphone use while riding.

Learning Objectives
- teach appropriate behavior towards elderly individuals and people with disabilities.
- raise awareness about the dangers of using smartphones while cycling.
- promote respectful and attentive riding behavior.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the children in groups of 4 students)

Required material
- suitable bicycles and helmets for all students.
- traffic cones to set up the exercise course and chalk
- prepared role play cards
- (eventually dummy smartphones for practice)
- if you cannot do this activity outdoors, make sure you have a video projector or other means of showing images to the students
- pictures of the relevant traffic situations

Duration of activities: 20 min.

Activities Level 5

Introductory activities (theory)

Start by explaining the importance of considerate behaviour towards older people and people with disabilities in road traffic. Discuss the vulnerabilities of these groups and the need for cyclists to be particularly attentive and considerate. Have students repeat the principle of trust and emphasise that this group is exempt from this and therefore needs special attention. Point out the dangers of smartphone use when cycling, such as distraction and reduced awareness of surroundings, which can easily lead to accidents in which you injure yourself or the other person. e through, move to the side anyway as other larger vehicles may need more space to get round.

Main activities (practice)

Set up a practice course with cones marking a typical pedestrian area and intersections. Give some students the task of playing the roles of older people and people with disabilities (make sure this is done in an ethical way, no mockery). The other students ride their bikes through the course, practicing slowing down, stopping and passing the people playing the roles. Rotate roles so every student gets a chance to experience both perspectives.
If you like, you can provide some students (who have their riding well under control) with dummy phones and let them feel how distracted they are from their surroundings when looking at their mobile phones or talking on the phone.

Closing activities

Return to the starting position and recap what was learned. Encourage students to ask questions and provide feedback on what they found challenging or easy during the exercises. Offer an online questionnaire for feedback (e.g., Google Sheet).

MODULE 8:
SUSTAINABILITY

Activity / Level 1: What is sustainability?

Activity / Level 2: What is actice mobility?

Activity / Level 3: Advantages and disadvantages of electric vehicles

Activity / Level 4: Cargo bikes

Activity / Level 5: Reduce, recycle, reuse

08

Description o the topic:

The challenge for sustainable and shared mobility must be faced with energy saving and sustainable development actions, we can do it by acting locally. One of the methods we have is to move in a sustainable way, trying to reverse the current trend of using polluting vehicles. The mobility model developed by contemporary societies is based on the use of private motor vehicles. This trend must necessarily be reversed through travel systems that are ecological and zero impact. Sustainable mobility obviously improves the environment, reducing air and noise pollution, greenhouse gas emissions, degradation of urban areas, land and energy consumption. But not only that: it also has positive effects on the health of the inhabitants (reduction of the negative effects of pollutants on health, risk of road accidents) and on the quality of life in cities, places of greater pollution due the traffic. Sustainable mobility, from the point of view of economic and ecological development, produces positive changes even for those who are not active participants.

The module provides information and instructions on various topics related to sustainability and sustainable mobility that improve lifestyles inside and outside of school.

Below are some specific topics that are addressed:

1: Sustainability as a set of actions aimed at improving lifestyle and the environment. Respect and environmental protection as a solution for conscious development that is attentive to energy saving and recycling.

2: Active mobility as the best solution to adopt in urban spaces and for short distances. It is important to know the various factors determining active mobility and how these can be systematized in everyday life, for example by using bicycles, electric hybrid vehicles and cargo bikes for various mobility needs.

3: Recycling as an activity aimed at containing waste production to mitigate the waste of resources and pollutants in the environment.

Education and training on the different types of mobility and their integration into the school curriculum is of great importance. It is one of the many important segments that contribute to achieving a comprehensive teaching and learning process, promoting the acquisition of new skills and knowledge and thus developing improving attitudes towards different types of mobility.
Means of transport such as bicycles, scooters, roller skates, inline skates and skateboards are widely used throughout Europe. Micro Mobility devices such as electric skateboards, electric bicycles and electric scooters have recently evolved significantly from toys to means of transportation. They can be driven at a maximum speed of 25 km/h, making them ideal for leisure activities, daily commutes and short trips.

08

It is important that children and young people receive mobility and transport training so that they are empowered to make decisions about their own mobility habits and learn the benefits of using sustainable transport and active mobility. Through training, children and young people can reduce the likelihood of accidents and reduce the risk of injury by knowing, understanding and respecting road traffic rules. It is also important that children are competent in handling and caring for their transportation means.

Sustainable mobility (including micro mobility and active mobility) can be easily integrated into different school subjects. This topic is useful in the context of physical education, social sciences, political education, technical education and also in foreign language teaching. Furthermore, mobility and traffic education can also be offered after school and/or during extracurricular activities. To successfully achieve the learning objectives set in this training module, it is necessary to implement high-quality and creative activities so that students can acquire the necessary skills based on theoretical knowledge and practical training and implement them in real traffic situations.
This module is aimed at teachers, bicycle instructors, all other educators and parents interested in the proposed topics. Recommended age range for implementation: 6-14 years
This module was developed to support and inspire teachers, cycling instructors, all other educators and parents to offer these lessons in the field of mobility and transport and subsequently implement them successfully with children.

Need for this curriculum/form for end users:

Sustainability is a concept that is difficult to interpret if studied in theoretical and generic terms and not applied to specific topics on which students can develop their own point of view and their own truly effective actions. The awareness achieved is a goal that will bring tangible benefits to the lives of students, since the actions and concepts learned will be transformed into a process in favor of a more sustainable lifestyle. Technological development connected to mobility also represents a starting point to better conceive the tools useful for an increasingly complex alternative mobility, which makes use of a multitude of means of transport that are included into an already existing network of types of transport.

The main objective of the module is to make students understand all aspects of sustainable mobility: the types of existing travel, the triggers that cause pollution and how to combat them through gentle and intelligent mobility, recycling solutions to avoid producing further pollution, and intermodality as a highly efficient sustainable mobility.

The contents of the module will be useful to clarify the perplexities that arise in dealing with such an elaborate and current topic. The exercises will test the manual and conceptual skills of the students, giving vent to the imagination and identification with a sustainable lifestyle that is attentive to everyone's needs.

Structure of Activities / Training Module 8: Sustainability

This module is based on 3 focal points:

A) Applicability:
Since mobility and transport education is a combination of theoretical knowledge and practical training, all proposed activities/training must be designed in such a way that they can also be implemented in practice.

B) Availability:
Any proposed activity should use tools and materials that are inexpensive, easy to obtain and widely known to the general public.

C) Sustainability:
The content and information of this module can be easily transferred into the education system, school learning plans and different generations of students (subsequent classes).

This module presents a pedagogical tool that aims to help teachers, cycling teachers and other educators in organizing school teaching activities on the topic of active mobility, road safety education and their terminology/vocabulary. The module itself contains the necessary instructions for planning, developing and implementing the activities/training. However, it is not the only pedagogical tool needed during lessons to carry out the teaching process correctly, safely and successfully. The following guidelines are recommended:

1. Customization
The content and activities of this module can and should be adapted to classroom and school contexts, as well as available resources and the general environment. All activities/training should be planned so that they can be easily adapted.
Please note the following: always respect traffic rules/road signs according to the traffic law

2. Creativity
This module is prepared in such a way as to promote not only the creativity of students, but also that of teachers, cycling instructors and other educators. There is great potential for creativity when carrying out these activities/training, as well as when selecting training materials.

3. Monitoring trends in the mobility sector
Children's toys similar to vehicles, (e)bicycles, scooters, etc. In order to keep activities up to date, teachers, cyclists instructors and other educators are advised to follow current trends in the rapidly evolving mobility sector

Role of schools in cycling/micro mobility education
Schools, their teachers and principals should be generally open to integrating issues such as mobility and transport. Adults should act as role models and be aware of the type of transport they use when accompanying children to and from school or going to school. If all teachers in the school set an example of active mobility, they are more credible in the school context and can transmit knowledge in a professional and authentic way.

The use of these vehicles can reduce morning traffic congestion in front of the school and increase everyone's safety. The school management should also be responsible for ensuring that there is sufficient safe parking. These measures to promote active mobility (walking, cycling, scootering, etc.) can also increase the number of students who behave accordingly and therefore reduce the traffic problem of "taxi driver parents".

How to implement this module and activities proposed in it:

Introductory activities (theory)

Introduction to the theory of the proposed contents through: explanation/communication/discussion using various audiovisual tools and exercises (PowerPoint presentation, quizzes, etc.)

Main activities (practical part)

Transfer theory into practice through educational workshops

Closing activities

The analysis of the activities/training carried out can be carried out in a discussion between "teacher" and "students". It is also possible to develop an online questionnaire (Google Form) to submit to students.

Reflection, review of the objectives of this module
1. The child can…
2. The child recognizes...
3. The child is aware, etc

Draw a conclusion about this module
Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module
If modules are carried out by external instructors it is important to agree with the school direction. The duty of supervision always falls to the class teacher.
· If the modules are carried out by internal teachers, they must complete specific training offered by the organisation/institution (e.g. Easy Drivers cycling school) that developed the modules and their content.
· Provision of suitable and delimited spaces.
· Equip classrooms with adequate audiovisual equipment if necessary.
· Support of the teachers in coordinating appointments and dividing groups/classes.
- additionally see required material for each level

08

Level 1: What is sustainability?

Type of activity
- Online (webinar)
- Classroom activities/training

Topic
Sustainability aspects relevant to the Erasmus+ project "New Wheels Of Change" are taken into consideration

Learning Objectives
The learning objectives are related to environmental sustainability, with particular reference to climate protection, separate waste collection, sustainable mobility and intermodality.
Terms to use/learn:
· The 3 pillars of sustainability
· The 5 Ps of Sustainable Development Goals
· The 17 goals of sustainable development

Target group/students
- Primary school students
- Lower secondary students

Required material
- Box
- Notes to write down the terms to be learned
- Markers, pencils, chalk
- Blackboard or projector

Duration of activities: 40 min.

Activities Level 1

Introductory activities (theory)

The teacher explains the key concepts of sustainability: the concept of the 5 Ps, the 17 sustainable development goals and the 3 pillars of sustainability.
The 3 pillars of sustainability

From a historical point of view, the concept of sustainability was formulated at the first United Nations Conference on the Environment in 1972, but it only took shape starting from 1987, when the publication of the so-called Brundtland Report ("Our Common Future") clarified the objectives of sustainable development.

1. What is environmental sustainability?
Environmental sustainability is the ability to preserve and protect the natural environment over time through appropriate practices and policies, satisfying present needs without compromising the availability of resources for the future.

2. What is social sustainability?
Social sustainability involves caring for the well-being of people and communities. It is about promoting equity, human rights, access to education and health and decent employment. Social sustainability aims to create inclusive societies, reduce inequalities and ensure long-term well-being for all people, preserving social cohesion and justice.

3. What is economic sustainability?
It defines the approach by which economic activities are conducted in such a way as to preserve and promote long-term economic well-being. In practice, it aims to create a balance between economic growth, resource efficiency, social equity and financial stability.

Then there is another pillar of sustainability, which we could imagine as the central point of a triangle that connects the other three. The ethical pillar is that set of fundamental directives that direct the practical actions envisaged in the other three: among these, integrity, transparency, equity, respect for diversity and the promotion of collective well-being.

The pillars of sustainability are closely interconnected, as each action taken within each of the areas has repercussions on the others. There is a strong interconnection between the environmental and economic spheres, where good environmental practices, such as the management of soft and ecological mobility, are essential to maintain a certain environmental quality and efficiency in economic processes arising from the need for commuting.

The 5 Ps of Sustainable Development Goals

The 2030 Agenda, signed in 2015 by 193 United Nations countries is based on five key concepts, represented by five "Ps": 1) People 2) Prosperity 3) Peace 4) Partnership 5) Planet.

The Agenda defines 17 sustainable development goals (SDGs) to be achieved by 2030, divided into 169 targets:

1) No Poverty
2) Zero hunger (No hunger)
3) Good health and well-being
4)Quality education
5) Gender equality
6) Clean water and sanitation
7) Affordable and clean energy
8) Decent work and economic growth
9) Industry, Innovation and Infrastructure
10) Reduced inequality
11) Sustainable cities and communities
12) Responsible consumption and production
13) Climate action
14) Life below water
15) Life on land
16) Peace, justice and strong institutions
17) Strengthen the means of implementation and revitalize the global partnership for sustainable development goals

Sustainability is not just about the environment: it is necessary to adopt an integrated approach and concrete measures to address a major socio-economic paradigm shift.

Main activities (practice)

Then all the new terms to be learned related to the topics are inserted into a box. The students extract one at a time the terms that, through group reasoning, must be explained, also through concrete examples.

Closing activities

Let the students repeat the key terms of sustainability through. Be open to questions.

08

Level 2: What is active mobility?

Type of activity
- Online (webinar)
- Classroom activities/training

Topic
What is active mobility, what advantages does it bing and how active mobility can be implemented into everyday life.

Learning Objectives
To impart knowledge about what active mobility means, what benefits active mobility offers and how active mobility can be applied and implemented.
Terms to use/learn:
·Sustainability
· Active mobility
· Reserve and resource
· Fossil fuels
· Transport transition
· Urban pollution
· Free body exercises
· Stretching
· Cooling down

Target group/students
- Primary school students
- Lower secondary students

Required material
- Chairs
- Comfortable clothing
- Gym equipment
- Exercise explanatory photos

Duration of activities: 30 min.

Activities Level 2

Introductory activities (theory)

The teacher proposes a classroom discussion on active mobility, the importance of physical activity and the importance of controlling one's body for the use of active mobility means. Later, preparatory exercises for riding a bicycle are shown and reproduced.

What is active mobility?
Active mobility on foot or by bicycle for daily travels is not only an environmentally friendly way of moving, it is also an optimal solution for reaching the recommended levels of physical activity and therefore improving one's state of health. There is often a tendency to use the private car, even in urban areas where distances are not prohibitive, but the condition of the city itself sometimes makes it difficult to choose alternative means of transport to the private car.
Urban cycling mobility - why people don't use bikes in cities:
To understand why people don't move around with active means in urban areas, it is necessary to ask those, for example, who don't use bikes. The most common answers given by non-users are:
-feeling of danger, fear of traffic
-absence of adequate/continuous infrastructure
-perception of distances/time/speed
-weather conditions
- thefts

To these very evident and easily understandable problems in the urban context, the policies and responses that can be implemented can be:
-a network of cycle paths (paths and lanes)
-traffic moderation (pricing policies for parking, reduction of speed limits, reduction of parking spaces
-intermodality (using more means to optimize travel and reduce congestion on the road)
-services for the user of active means (e.g.: changing rooms in the workplace, economic and operational incentives, insurance)
-racks adequate for the needs of the means, parking spaces created with safety, coverage and maintenance systems, sharing of means.

Movement control
It consists of knowing your movement: from where it starts to where it ends, its relative trajectory, as well as the posture to maintain during the movement.

The pedaling movement
Pedaling is a closed kinetic chain movement (a kinetic cage anchored to the saddle, pedals and handlebars), a kind of three-dimensional scaffolding that leaves no escape route for the body. It is possible that the following may occur:

-Compensations in movement: the body, in order to guarantee movement, adapts by modifying the structure of the kinetic scaffolding (skeleton-muscles-fascial) or the movement itself. This results in movements that are unrelated to pedaling, such as swaying, strange ankle movements, and, most damaging of all, dysfunctional micro-movements of the knees

-Postural compensations: for the same reason, the spine (the back), when subjected to traction-push forces induced by the pedaling action, may no longer be able to withstand these forces, starting to manifest pain during or after cycling.

Main activities (practice)

Hamstring Flexibility Exercises for Active Mobility

Keep both quadriceps tight and feet hammered, taking care to apply abdominal pressure towards the floor so as to avoid creating an empty space between the lumbar area and the support surface. One leg remains stretched out on the floor and must push downwards; the other is raised at a right angle, passing an elastic band over the forefoot and pulling the ends with the hands (the tip of the foot, therefore, must tend towards our face). Taking care not to lift the pelvis off the ground, hold the position for 2 minutes per leg, helping yourself with diaphragmatic breathing. Repeat a second time.

Back and Shoulder Stretch

Bend at a right angle against the backrest (or rest your hands on a chair). These are the precautions to take: maintain the physiological curvature of the spine, contract the quadriceps, press the heels together, try to tilt the pelvis. Hold the position for one minute and repeat two more times. Always help yourself with diaphragmatic breathing. (To increase the difficulty we can lower the position of the hands).

Legs up at right angles

Raise your legs at right angles with an 'active' work: the posterior kinetic chain will be in length, the anterior one in contraction. While exhaling, apply pressure of the abdominal wall towards the support surface, contracting the quadriceps, and being careful not to lift the sacrum from the ground, nor to hyper-extend the head or close the shoulders. Hold until fatigue and repeat at least one more time.

-Postural compensations: for the same reason, the spine (the back), when subjected to traction-push forces induced by the pedaling action, may no longer be able to withstand these forces, starting to manifest pain during or after cycling.

Main activities (practice)

Hamstring Flexibility Exercises for Active Mobility

Keep both quadriceps tight and feet hammered, taking care to apply abdominal pressure towards the floor so as to avoid creating an empty space between the lumbar area and the support surface. One leg remains stretched out on the floor and must push downwards; the other is raised at a right angle, passing an elastic band over the forefoot and pulling the ends with the hands (the tip of the foot, therefore, must tend towards our face). Taking care not to lift the pelvis off the ground, hold the position for 2 minutes per leg, helping yourself with diaphragmatic breathing. Repeat a second time.

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Raise your legs at right angles with an 'active' work: the posterior kinetic chain will be in length, the anterior one in contraction. While exhaling, apply pressure of the abdominal wall towards the support surface, contracting the quadriceps, and being careful not to lift the sacrum from the ground, nor to hyper-extend the head or close the shoulders. Hold until fatigue and repeat at least one more time.

Downward facing dog

Bend to the ground in a sort of inverted V: the arms are active and push on the floor; the quadriceps are contracted, the pelvis is in anteversion, the heels push on the ground. The priority must be given to the alignment of the back (imagine having to hold a ball between the shoulder blades). Hold the position for 30 seconds to 1 minute and repeat at least 4/5 times.

Windshield Wiper Legs

Sitting on the floor, hands behind your back, feet parallel and resting on the floor at a distance a little wider than your shoulders. Alternate your knees, first on one side and then the other, taking care not to move your shoulders and to keep your buttocks supported on the floor. The difficulty of the exercise can be increased by bringing your hands closer to your pelvis or by widening the position of your feet. Continue these oscillations for about a minute and repeat for another two cycles.

Closing activities

Let the students repeat the points of active mobility and ask them to share what they experienced during the exercise. Be open to questions.

08

Level 3: Advantages and disadvantages of electric vehicles

Type of activity
- Online (webinar)
- Classroom activities/training

Topic
The advantages and disadvantages of electric vehicles are explained and it is explained which electric vehicles (without a driving licence) are currently on the market and how they work.

Learning Objectives
To impart knowledge about what active mobility means, what benefits active mobility offers and how active mobility can be applied and implemented
Terms to use/learn:
Electric bike
· Electric scooter, Segway
· Cargo bikes
· Electric moped
· Watts
· Batteries
· Electric circuit
· Power generator

Target group/students
- Primary school students
- Lower secondary students

Required material
- Computer
- Electric means of transportation (escooter, ebike, etc)
- Explanatory photos

Duration of activities: 40 min.

Activities Level 3

Introductory activities (theory) + main activities (practical part)

1. The teacher asks the students to make a list of all the electric vehicles that can be found in the city. In turn, the students will have to indicate one and in groups they define the characteristics, advantages, disadvantages and methods of use.
2. The teacher describes, with the help of the class, the main characteristics of the electric bicycle compared to the normal one.

Types of urban electric mobility vehicles:
- Electric scooters & electric bicycles with pedal assistance
- Hoverboards & Segways
- E-cars & microcars
- E-Skateboards

The advantages of e-bikes:
An eBike is nothing more than a traditional bicycle with the addition of some electrical components. An electric bicycle is not a motorbike, but simply a bicycle equipped with an electric motor that helps the pedaling: a pedal-assisted bicycle.
In addition to the motor, the e-bike is equipped with a lithium battery and devices capable of detecting the power that the cyclist exerts on the pedals. The motor provides additional power, thus avoiding the cyclist having to pedal at full load.
Compared to normal bicycles, eBikes can therefore reach a higher pedaling speed. The amount of force supplied by the motor is regulated based on the intensity of the pedaling and the level of support selected by the cyclist. There are different models of eBikes, capable of adapting to the needs of those who pedal.

Electric bikes differ from normal bicycles in some fundamental aspects:
- They have a battery, motor and control unit:
- They are faster and can cover much longer distances;
- They are more expensive than normal bicycles;
- They are heavier than normal bicycles;
- They need to be recharged;
- They require more maintenance.

The benefits of an e-bike can be summed up in three words: eco-sustainability, affordability, and exercise.
- Eco-sustainability. The eBike is an eco-friendly means of transportation
- Affordability. The eBike, if used in place of a traditional motor vehicle such as a car or motorcycle, allows you to save on gasoline, insurance, and maintenance.
- Exercise. Even though assisted pedaling is less tiring than that of a traditional bicycle, using an e-bike still offers the opportunity to exercise. Pedaling can help strengthen the cardiovascular system, improving your overall health.

Closing activities:
- Let the students repeat and share what they have learned

08

Level 4: Cargo bike

Type of activity
- Online (webinar)
- Classroom activities/training

Topic
What a cargo bike can be used for, what are the legal requirements? What is the guideline on cargo bikes in relation to the traffic laws. Understanding the characteristics of the vehicle.

Learning Objectives
Knowledge about what a cargo bike is, what it can be used for

Terms to use/learn:
Cargo bike
· Transport
· Securing the load on the bicycle
· Urban traffic
· Cargo transport of objects, materials, people, animals
· Weight balancing

Target group/students
- Primary school students
- Lower secondary students

Required material
- · Computer
- Projector
- · Electric bike/micromobility
- · Explanatory photos

Duration of activities: 40 min.

Activities Level 4

Introductory activities (theory) + main activities (practical part)

1. The teacher provides an overview of the history of the cargo bike and then suggests watching an explanatory documentary of its history and evolution through this link https://www.youtube.com/watch?v=uWMd6yyYs8E or with a research done together with the kids.
2. Draw a real or imaginary cargo bike with a cargo compartment full of…? (leave it to the kids' imagination)

History of cargo bikes
THE ORIGINS
July 12, 1817. Karl Drais covers the distance between the German towns of Mannheim and Schwetzingen (about 28 kilometers) on a strange mean of transportation called Laufmaschine (running machine) made of wood and iron. It was the Draisine, the forerunner of the French velocipede and the Italian bicicletta.
In increasingly industrialized cities, space for stables is decreasing and consequently also the number of horses. And while the youngest and most daring professionals are experimenting with balancing on two wheels, women and the elderly rely on the more stable tricycles.

POSTAL SERVICE
In some cases, three wheels are better than two, especially for carrying a heavy load. Thus, in 1881, the British Postal Service commissioned Bayliss-Thomas to make solid tricycles for transporting goods, which were quickly perfected with front steering and a chain. Here is the first cargo bike, a bicycle that has never stopped serving intelligent mobility and zero-impact transport.
Already at the beginning of the last century, Denmark was ahead of the rest in its propensity to move with this type of vehicle. The Short John (a bike with a basket in front resting on the frame and a wheel to accommodate a larger load on the front) paraded on the streets, and in the early 1920s the Long John: a cargo bike that until the advent of the engine became the main means of transporting goods throughout Denmark, especially for home deliveries.

CARGO BIKE, GREEN AND SUSTAINABLE FUTURE

Many ideas come from the project https://ecf.com/ promoted by the European Union and focused precisely on bicycle transport. A clear example of the possibility and usefulness of using this means of transport comes from Copenhagen. In this city, in the last ten years, approximately 35 thousand cargo bikes have been sold and a quarter of residents use them daily.

Even in the major centers of Mediterranean Europe, more and more private individuals and companies are rethinking the way of experiencing urban mobility by investing in means of transport like these. Many bicycle manufacturers are updating their production lines and their catalogs. Prices are still in a range between fifteen hundred and three thousand euros and more (those with pedal assistance), but the investment is the best possible to lower pollution levels, ease traffic in historic centers and improve the quality of life, perhaps by no longer paying road tax and gasoline.

Closing activities:

- Let the students repeat and share what they have learned.

08

Level 5: Reduce, reuse, recycle

Type of activity
- Online (webinar)
- Classroom activities/training

Topic
The theme of the three Rs is explained and developed: Reduce, reuse and recycle. What does circular economy mean and understanding the importance of reusing reusable waste materials.

Learning Objectives
Provide knowledge on recycling, on the circular economy and concrete actions to take.
The ultimate goal is awareness of one's ability to prevent ecological damage. Prevention to be implemented by promoting the reduction of waste production, recycling and other recovery operations, giving the idea that at the bottom of the hierarchy is landfill disposal, conceived as a residual option for our waste. How to make a pencil case from an old inner tube.
Terms to use/learn:
· Recycling and recovery
· Circular economy
· Separate waste collection
. Unsorted waste
· Environmental protection & impact
. The three Rs

Target group/students
- Primary school students
- Lower secondary students

Required material
- Computer
- Explanatory photos
- For the creation of the pencil case: Used inner tubes (40 cm per piece), elastic strings (2x25 cm per piece), glue, hole puncher, felt for decorations.

Duration of activities: 40 min.

Activities Level 5

Introductory activities (theory) + main activities (practical part)

The teacher gives an overview of the concept of the three Rs and waste in general. Then, through online photographic research, the teacher and students explore the types of recyclable waste and discuss together. Use the list below to search for one or more types of waste.

Inner Tube Reuse Hands-On Activity: The teacher demonstrates how to make a pencil case using pieces of old inner tubes, elastic, and a hole puncher. During the demonstration, the teacher notes the steps on the "action list".

Action list for making a recycled pencil case
1. Cut 40 cm of inner tube
2. Fold the inner tube in half and leave 5 cm protruding from one side (leaving the end of the foldable cover at the top)
3. Mark five equally spaced holes on each long side of the inner tube with a pen
4. Make the holes
5. Cut two 25 cm pieces of elastic string
6. Tie a knot at the end of each of the two strings
7. Thread the strings (one on each side) through the holes (sew) along the long edges
8. Make two holes at the corners of the "foldable cover" to close it
9. Decorate!

The three "Rs" that are good for the environment: Reduce, Reuse, Recycle!
Reduce: reduce the amount of waste.
Reuse: find new ways to reuse objects instead of throwing them away.
Recycle: give new life to objects by making them reusable.
Often, recycling materials is considered a sufficient action to do to respect the environment; however, it is good to remember that good environmental sustainability practices begin long before the recycling phase and directly concern the purchasing and consumption habits of all of us.

It should be considered that the first action to protect natural resources is to reduce the amount of waste, orienting purchases towards consumption that has a reduced environmental impact. How can you do this? For example, you can avoid purchasing disposable products or prefer those with packaging and wrappings reduced to the bare minimum.

Once the first "R" has been respected, we move on to the second imperative: reuse! We often get rid of materials and products that, instead, could be reused by following a few small tricks.

When we have exhausted the ideas for reusing available or we just can't recover some objects or materials, we move on to the last step of the sustainability path: recycling

List of waste types:

- WASTE FROM PROSPECTING, EXTRACTION, MINING OR QUARRYING, AS WELL AS FROM THE PHYSICAL OR CHEMICAL TREATMENT OF MINERALS
- WASTE FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD TREATMENT AND PREPARATION
- WASTE FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS, FURNITURE, PULP, PAPER AND CARDBOARD
- WASTE FROM THE PROCESSING OF LEATHER AND FUR, AS WELL AS FROM THE TEXTILE INDUSTRY
- WASTE FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL
- WASTE FROM INORGANIC CHEMICAL PROCESSES
- WASTE FROM ORGANIC CHEMICAL PROCESSES
- WASTE FROM THE PRODUCTION, FORMULATION, SUPPLY AND USE OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
- WASTES FROM THE PHOTOGRAPHIC INDUSTRY
- WASTES FROM THERMAL PROCESSES
- WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDROMETALURGY
- WASTES FROM THE PROCESSING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS
- USED OILS AND RESIDUES OF LIQUID FUELS (EXCEPT EDIBLE AND OTHER NATURAL OILS)
- ORGANIC SOLVENTS, REFRIGERANTS AND WASTE PROPELLANTS
- PACKAGING WASTES, ABSORBENTS, CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING (NOT OTHERWISE SPECIFIED)
- WASTES FROM CONSTRUCTION AND DEMOLITION OPERATIONS (INCLUDING SOIL FROM CONTAMINATED SITES)
- WASTES FROM THE HEALTH AND VETERINARY SECTORS
- WASTE FROM WASTE TREATMENT, WASTEWATER TREATMENT PLANTS AND FROM WATER POTABILITY
- URBAN WASTE (HOUSEHOLD WASTE AND SIMILAR WASTE FROM COMMERCIAL AND INDUSTRIAL ACTIVITIES AS WELL AS FROM INSTITUTIONS) INCLUDING WASTE FROM SEPARATE COLLECTION

Closing activities:

- Let the students repeat and share what they have learned in this level

MODULE 9:
HEALTH AND SPORT

Activity / Level 1: Cycling and health

Activity / Level 2: Cycling and postural muscles

Activity / Level 3: Cycling and endurance training

Activity / Level 4: Cycling and losing weight

Activity / Level 5: E-bike, the “healthier” cycling

09

Description o the topic:

This module focuses on the significant health benefits of cycling and its role in promoting physical fitness and overall well-being. The aim is to educate teachers and students on how cycling can positively impact various aspects of health, from improving postural muscles to enhancing cardiovascular endurance and aiding in weight loss. Additionally, it explores the advantages of e-bikes as a form of "healthier" cycling.

1. Activity / Level 1: Cycling and health

This activity introduces the fundamental health benefits of cycling. Students will learn how regular cycling can improve cardiovascular health, enhance lung capacity, and contribute to overall physical fitness. The session includes discussions on the physiological benefits of cycling, such as increased heart rate, improved circulation, and the positive impact on mental health.

2. Activity / Level 2: Cycling and postural muscles

This level focuses on the role of cycling in strengthening postural muscles. Students will learn how cycling engages the core muscles, lower back, and leg muscles, promoting better posture and reducing the risk of musculoskeletal issues. The session includes exercises and practical demonstrations on how to maintain proper posture while cycling.

3. Activity / Level 3: Cycling and endurance training

This activity delves into how cycling can be used as an effective form of endurance training. Students will explore how regular cycling can improve stamina, enhance aerobic capacity, and build muscular endurance. The session includes practical endurance exercises and tips on gradually increasing cycling duration and intensity.

4. Activity / Level 4: Cycling and healthy weight

This stage describes how cycling can be an effective means of achieving a healthy weight. Participants will learn about the calorie-burning potential of cycling in everyday life, the importance of a balanced diet and how to incorporate cycling into a healthy lifestyle plan.

5. Activity / Level 5: E-bike, the "healthier" cycling

This activity explores the health benefits of using e-bikes. Students will learn how e-bikes provide an accessible form of exercise for different fitness levels and age groups, promoting cardiovascular health and encouraging more frequent cycling. The session includes demonstrations on how to use e-bikes and discussions on their health benefits compared to traditional cycling.

09

Cycling is more than just a mode of transportation; it is a powerful tool for enhancing physical health, fitness, and overall well-being. This module, "Health and Sport," aims to educate students on the multifaceted benefits of cycling, from improving cardiovascular health to building muscular endurance and promoting mental wellness. By understanding the health advantages of cycling, students can be encouraged to incorporate this activity into their daily lives, leading to long-term positive health outcomes.

Regular cycling offers numerous health benefits, making it an ideal activity for people of all ages and fitness levels. It strengthens the heart, lungs, and muscles, enhances stamina, and helps in maintaining a healthy weight. Beyond the physical benefits, cycling also positively impacts mental health by reducing stress, anxiety, and depression, and fostering a sense of well-being through the release of endorphins.

The Health and Sport module is organized into five levels, each focusing on a specific aspect of health that cycling can improve. This module is primarily about theoretical knowledge and motivating people to adopt a healthier lifestyle. Practical exercises are more in the background, with the impulse to integrate the benefits of cycling into one's own everyday life taking center stage. It is important that students gain a comprehensive understanding of how cycling can be integrated into their lifestyle to maximize health benefits. The sessions can be incorporated into the curriculum or offered as an extra-curricular activity. To successfully achieve the learning objectives of this module, teachers must have the appropriate knowledge, motivation and role modelling skills.

Structure of Activities / Training Module 9: Health and sport

How to implement this module and activities proposed in it:

Introductory activities (theory):

Introduction to the theory of the proposed content through explanations / communication / discussion of the health aspects of cycling as a means of sport and transport through PowerPoint presentation or other forms of pictorial representation.
Main activities (practical part):
Demonstration of correct healthy physical exercise when cycling (e.g. through demonstrated exercise or PowerPoint presentations). Motivation by helping students to integrate cycling into their everyday lives.
Gather the students together in a quiet place and, if you have the opportunity and the appropriate conditions, give everyone a view of a PowerPoint or another image projection.
Explain the health aspects of cycling to your students (in detail depending on the age group) using pictures and explanatory sketches.

Main activities (practical part)

Although the majority of this module consists of theoretical sessions and can take place in the classroom, practical endurance exercises and tips on gradually increasing riding time and intensity (level 3) can be practiced in a designated traffic-calmed area. Provide safety bikes/helmets of the correct size for each participant.
For level 5, you can provide an e-bike for everyone to try out (if not possible, you can use pictures again for explanation).

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the "teacher" and the "students". It is also possible to offer an online questionnaire (Google sheet).

Reflection, review of the objectives:
After the realization of all the levels and exercises proposed in this module, there can be a final discussion to recap the most important things. Proposed questions:

1. To what extent has this module changed their attitude and motivation towards cycling?
2. How will this affect their everyday life?

After completing all the stages and exercises suggested in this module, you can reflect on and review the goals you have set by asking about the following outcomes.

1. Participants are aware of the health benefits of cycling.
2. Participants recognize their own benefits when cycling is used as an everyday means of transport.
3. Participants are motivated to lead a healthier lifestyle by cycling regularly.

Draw a conclusion about this module

Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module

- · Knowledge about the health benefits of cycling
· some basic knowledge about body and health
- The room in which the activities of this module take place should be quiet and shielded from noise, and there should be the possibility to show photos (projector).
-- The area where the outside activities of this module take place should be safe (isolated from other traffic) and large enough to set up an exercise course where groups of up to 20 participants can cycle at the same time.
Depending on the level of cycling ability, make sure that there are enough instructors to help those students who have no or very little cycling experience.
- - Suitable bicycles and helmets for all students.
- Free registration on "GoToWebinar"
· Download the application "NewWheelsOfChange".
· Download the social game "NewWheelsOfChange".
- additionally see required material for each level

09

Level 1: Cycling and health

Type of activity
- Classroom activity/ lecture
- Online (webinar)

Topic
This activity introduces and discusses the fundamental health benefits of cycling.

Learning Objectives
- Understand the basic health benefits of cycling.
- Recognize the improvements in cardiovascular and respiratory health.
- Learn about the positive effects on mental well-being.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas

Required material
- video or photo projector including material illustrating the health benefits of cycling
- handouts with information on cardiovascular health, lung capacity, and mental health benefits

Duration of activities: 20 min.

Activities Level 1

Introductory activities (theory) + main activities (practical part)

- Start with a brief discussion on the importance of physical activity for maintaining health. Ask students to share what they know about the benefits of cycling. Use charts or posters to present key points about how cycling improves cardiovascular health, enhances lung capacity, and positively impacts mental health. Emphasize that cycling can be a fun and effective way to stay fit. Encourage students to ask questions and discuss how they think cycling can fit into their daily lives.

Closing activities:

End the session by having the students recap the key points discussed in the introduction and theory part. Emphasize the importance of regular physical activity and encourage students to incorporate cycling into their routines

09

Level 2: Cycling and postural muscles

Type of activity
- Classroom activity/ lecture
- Online (webinar)
- Activity outside of the classroom

Topic
This level focuses on the role of cycling in strengthening postural muscles and provides explanations and exercises on this topic.

Learning Objectives
- Identify the postural muscles engaged during cycling.
- Learn techniques to maintain proper posture while riding.
- Understand the long-term benefits of strengthened postural muscles.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- video or photo projector including material illustrating the human anatomy focusing on postural muscles
- suitable bicycles and helmets for all students.
- traffic cones to set up the exercise course and chalk

Duration of activities: 20 min.

Activities Level 2

Introductory activities (theory)

Start with a brief discussion on the role of postural muscles in maintaining proper posture and balance while cycling. Ask students to share their experiences and any discomforts they've felt while cycling. Use diagrams or other pictures to illustrate key postural muscles engaged during cycling, such as the core (abdominals and lower back), gluteal muscles and hip flexors. Explain how strengthening these muscles can enhance cycling performance and prevent injuries. Encourage students to ask questions and discuss how they think cycling both requires and improves postural muscles.

Main activities (practical part)

Begin with a short warm-up session, including light stretching activating the postural muscles.
Use traffic cones or chock to set up a simple cycling track in an open, traffic-calmed area. Have students ride around the track, focusing on maintaining good posture. Encourage them to engage their core, keep their back straight, and shoulders relaxed. Periodically stop the students to check their posture. Provide immediate feedback and tips to help them maintain proper alignment while cycling. End with a short cool-down session, encouraging students to ride slowly and stretch their muscles.

Closing activities:

Gather students together and ask them to reflect on how they felt during the cycling activity and the floor exercises. Discuss any physical changes they noticed, such as improved balance or core engagement. Recap the key points discussed in the introduction and theory part. Emphasize the importance of regular exercise to strengthen postural muscles and improve cycling performance. Encourage students to continue practicing the postural exercises at home and to be aware of their posture while riding.

09

Level 3: Cycling and endurance training

Type of activity
- Classroom activity/ lecture
- Online (webinar)
- Activity outside of the classroom

Topic
This level focuses on the role of cycling as a form of endurance training and will provide explanations and exercises on this topic.

Learning Objectives
- Understand the principles of endurance training through cycling.
- Learn how to build stamina and aerobic capacity.
- Develop a personal endurance training plan using cycling.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- video or photo projector including material illustrating the human anatomy focusing on building up endurance
- suitable bicycles and helmets for all students.
- traffic cones to set up the exercise course and chalk

Duration of activities: 20 min.

Activities Level 3

Introductory activities (theory)

Start with a brief discussion on the concept of endurance and its importance in cycling. Ask students to share what they know about endurance and how they think it affects their cycling performance. Explain the benefits of endurance training, such as improved cardiovascular health, increased stamina, and enhanced overall fitness using pictures. Make sure to point out that cycling can be a great effective way to build endurance in our everyday life.

Main activities (practical part)

Use traffic cones or chock to set up a simple cycling track in an open, traffic-calmed area. Explain the concept of interval training, where students alternate between cycling at higher and lower intensities. Instruct students to cycle at a faster pace for 2 minutes, followed by 2 minutes of slower cycling to recover. Repeat this cycle for 2 more times. Encourage students to push themselves at a high intensity during the intervals while maintaining control and safety. Make sure to stop with slow cycling. Make sure that students drink enough fluids by taking a short water break in the end.

Closing activities:

Gather students together and ask them to reflect on how they felt during the endurance training. Discuss any physical changes they noticed, such as increased heart rate or fatigue. Open the floor for any questions or comments about endurance training and its benefits.
Recap the key points discussed in the introduction and practical session. Emphasize the importance of regular endurance training for improving cycling performance and overall fitness. If you want and see the students regularly, you can encourage them to keep a cycling journal for the next week, noting how often they cycle and any improvements in their endurance. Of course, only on a voluntary basis.

09

Level 4: Cycling and losing weight

Type of activity
- Classroom activity/ lecture
- Online (webinar)

Topic
In this stage, participants learn how cycling can be an effective form of exercise to achieve a healthy weight and maintain a healthy lifestyle.

Learning Objectives
- Learn more about the calorie-burning benefits of cycling
- Understand the benefits of cycling in everyday life
- Develop strategies on how to integrate cycling into your everyday life to develop better fitness and health.
-

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas

Required material
- video or photo projector including material illustrating the health benefits of cycling
- Handouts with information about the body's energy burning system and how this is reduced when we hardly move in everyday life (due to cars or buses taking us to school).

Duration of activities: 20 min.

Activities Level 4

Introductory activities (theory) & main activities (practical part)

Start with a short discussion about the benefits of cycling for weight loss. Ask students if they know how physical activity helps to burn calories and lose weight. Explain the concept of calories and how cycling can help burn them using a visual diagram. Discuss the importance of combining regular physical activity with a balanced diet to achieve and maintain a healthy weight. Encourage students to ask questions or make comments about their thoughts on cycling for weight loss and its other health benefits.

Closing activities:

Emphasize the importance of regular physical activity and a balanced diet for achieving and maintaining a healthy weight. Encourage students to reflect on this in their cycling journal, which you asked for in the last level (level 3) and motivate them to report back to the class on their experiences and the changes they have observed in the future.

09

Level 5: E-bike, the "healthier" cycling

Type of activity
- Classroom activity/ lecture
- Online (webinar)
- Activity outside of the classroom

Topic
This level focuses on the (health) benefits of e-bikes and will explanations and exercises demonstrating how e-bikes can provide effective cardiovascular exercise and support a healthy lifestyle.

Learning Objectives
- Understand the health advantages of using e-bikes.
- Learn how e-bikes can provide a low-impact, accessible form of exercise.
- Explore the benefits of e-bikes for promoting regular physical activity.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- E-bikes and helmets for all students (or at least two as trial ones)
- If e-bikes are not available, video or photo projector with material to illustrate the function of the e-bike with an emphasis on correct use. T raffic cones to set up the exercise course and chalk

Duration of activities: 20 min.

Activities Level 5

Introductory activities (theory)

Start with a brief discussion about e-bikes. Ask students if they have used or seen e-bikes and what they know about them. Explain the benefits of e-bikes, including how they can assist in maintaining a steady exercise routine, provide cardiovascular benefits, and be a good option for people of different fitness levels. Highlight how e-bikes make cycling more accessible and can help those who might find traditional cycling too strenuous. However, also point out that this is also a danger, as the e-bike often goes faster than the user would be able to under their own power and can therefore easily get out of control.

Main activities (practical part)

Use either an e-bike or the photo projector to explain and show the most important things you need to know before getting on an e-bike.

- Point out that, as with a bicycle, it is essential to ensure that the e-bike is equipped for road safety (see Modul 5 Level 2 in this curriculum).
- Explain the importance of using the correct gear for different terrains and speeds. Proper gear switching can make pedaling easier and more efficient, reducing strain on the rider. For example, shifting gears under full load (when heavy pedaling is required) should be avoided at all costs (shift before going uphill, or with sufficient momentum).
- Most e-bikes have different support levels (e.g., Eco, Normal, High). Explain what each level does: Eco provides the least assistance, conserving battery life, while High offers the most power, useful for steep hills or when the rider needs extra help. Show students how to select and change the support level on their e-bikes' display unit.

If you have some e-bikes, you can set up a simple cycling track. Have students ride continuously around the track at a steady, moderate pace. Encourage them to use the pedal-assist feature of the e-bikes to maintain a consistent pace without overexerting themselves. Have students practice switching gears while riding in a flat, safe area. Encourage them to notice the difference in pedaling effort with different gears. Also have students experiment with different support levels

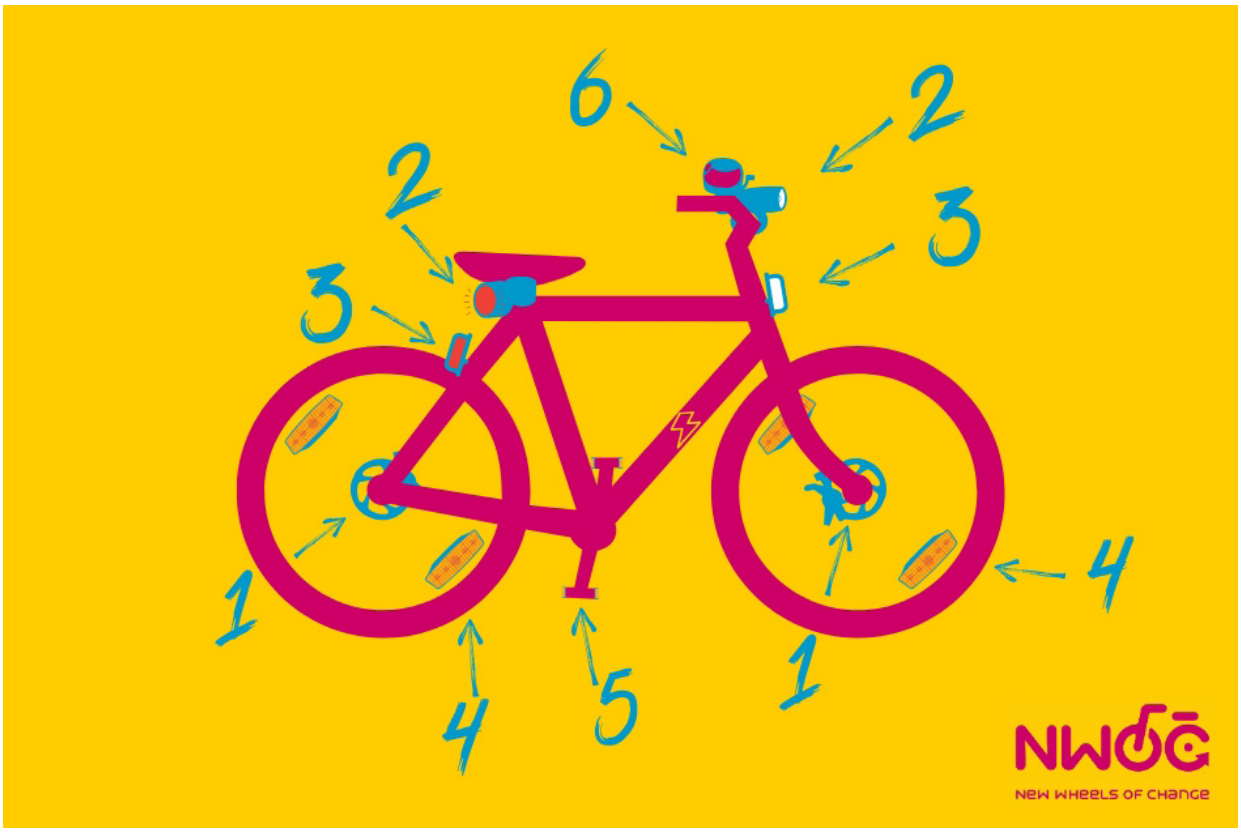
Closing activities:

Gather students together and ask them to reflect on how they felt during the e-bike ride. Discuss any physical changes they noticed, such as increased heart rate or fatigue. Ask them to tell how the bike's behavior changes with each level and repeat when each might be appropriate to use. Open the floor for any questions or comments about using e-bikes for health benefits and their overall experience.

Recap the key points discussed in the introduction and practical session. Emphasize the importance of regular physical activity, including e-bike rides, for maintaining cardiovascular health and overall fitness.

Activities Level 5

Additional Material:



1 - two independently functioning brakes
2 - white or yellow light in the front + red light at the rear (if visibility is not good)
3 - white reflector to the front + red reflector to the rear
4 - two reflectors per wheel or a continuous reflective strip on the tire
5 - two reflectors per pedal
6 - Bell or horn

MODULE 10:
GOOD TO KNOW

Activity / Level 1: Transporting items

Activity / Level 2: Special features for trams and school buses

Activity / Level 3: How to properly avoid obstacles on the road

Activity / Level 4: Vehicle-like children´s toys

Activity / Level 5: Scooters & E-Scooters

10

Description o the topic:

This last module provides various essential knowledge and practical tips for cyclists, from transportation on wheels, the correct behavior towards trams and school buses, techniques for avoiding obstacles and dangerous situations as well as knowledge about children's bikes and scooters. This module covers a range of topics that are crucial to improving the overall experience and ensuring safety on the road.

1. Activity / Level 1: Transporting items

In this level, students will learn safe and efficient methods for transporting items on a bicycle. Topics include the use of bike racks, panniers, backpacks, and proper load balancing to ensure stability and safety while cycling with cargo.

2. Activity / Level 2: : Special features for trams and school buses

This level focuses on understanding and safely interacting with trams and school buses. Students will learn about the specific rules and signals associated with these vehicles, how to navigate around them, and the importance of maintaining a safe distance.

3. Activity / Level 3: How to properly avoid obstacles on the road

Participants develop skills to safely avoid obstacles on the bike. This includes techniques for quick stops, evasive maneuvers and avoiding potholes, debris and other unexpected obstacles, as well as the correct behavior to reduce the risk of dooring, with an emphasis on control and quick decision-making.

4. Activity / Level 4: Vehicle-like children´s toys

This level explores the use of vehicle-like children's toys, such as balance bikes, tricycles, and mini scooters. It highlights how these toys can help younger children develop basic cycling skills, covering appropriate use, safety gear, and necessary supervision.

5. Activity / Level 5: Scooters & E-Scooters

In this level, students will learn about the use of scooters and e-scooters as alternative transportation modes. This includes understanding the regulations, safety precautions, and proper riding techniques for both manual and electric scooters, ensuring safe use in various environments. (see module 5: this level is only necessary if you have not previously used an e-scooter in your course)

10

The "Good to Know" module is designed to equip students with essential knowledge and practical skills to navigate a variety of scenarios in road traffic safely and efficiently. As urban environments become increasingly complex, it is crucial for cyclists to be well-versed in handling different situations they may encounter on the road. This module aims to provide comprehensive guidance on critical aspects of cycling, ensuring that students can confidently and safely incorporate cycling into their daily lives.

The module covers a wide range of topics, from transporting items on a bike to safely avoiding trams and school buses, avoiding obstacles on the road and understanding the use of vehicle-like children's toys and scooters, including e-scooters. Each level focuses on a specific area and provides theoretical knowledge and partly practical exercises to reinforce what has been learned.

By participating in this module, students will not only improve their cycling skills, but also develop a deeper understanding of the rules and best practices for safe cycling in different environments. The activities are structured to provide hands-on experiences that allow students to apply what they have learned in real-life scenarios. This module is an important resource to promote safe, efficient and enjoyable cycling and contributes to the development of responsible and knowledgeable road users.

Structure of Activities / Training Module 9: Health and sport

How to implement this module and activities proposed in it:

Introductory activities (theory):

IIntroduction to the theory of the proposed content through explanations / communication / discussion of the different aspects of cycling as a means of transport and travel through PowerPoint presentation or other forms of pictorial representation.

Main activities (practical part)

Demonstration of correct avoidance maneuvers of hazards when cycling (e.g. through demonstrated exercises or PowerPoint presentations) and possibly trying out e-scooters.
Gather the students together in a quiet place and, if you have the opportunity and the appropriate conditions, give everyone a view of a PowerPoint or another image projection.
Explain the various topics in this module to your students (in more or less detail depending on the age group) using pictures and explanatory sketches.

Complementary activities (practical part)
Although the majority of this module consists of theoretical units and can take place in the classroom, practical exercises on the tips and tricks learnt can be practiced in a designated traffic-calmed area. Provide safety bikes/helmets or of the right size for each participant.
For level 5, if the course has not yet dealt with these, you can provide an (e-)scooter so that the students can try out how to ride them safely.

Closing activities

The analysis of the conducted activities/trainings can be done in a discussion between the "teacher" and the "students". It is also possible to offer an online questionnaire (Google sheet).

Reflection, review of the objectives:
After completing all the steps and exercises suggested in this module, there can be a final discussion to recap the most important things. Suggested questions:
1. to what extent has this module changed their knowledge around bikes and bike-related items?
2. how will this affect their riding behavior?

After completing all the stages and exercises suggested in this module, you can reflect on and review the goals you have set by asking about the following outcomes.
1. participants are aware of the various transport options when cycling and what needs to be taken into account
2. participants recognize dangers in road traffic and know how to avoid them or prevent them by riding safely

3. participants are aware of the special features of vehicle-like children's toys and e-scooters.

Draw a conclusion about this module
Based on the previous steps, teachers, cycling teachers or other educators create a conclusion and send it to the organization that developed the module. Based on the data from the online questionnaire, an evaluation can be made, and a conclusion can be drawn.

Requirements for implementing this module
- The teacher/educator should have previous knowledge of cycling and transport and be able to explain the context clearly.
- The room in which the activities of this module take place should be quiet and shielded from noise, and there should be the possibility to show photos (projector).
-- The area where the outside activities of this module take place should be safe (isolated from other traffic) and large enough to set up an exercise course where groups of up to 20 participants can cycle at the same time.
- Knowledge about (E-)Scooters as means of transportation and safe riding skills
Optional: (e-)scooter for every student and helmets (you can also split up the group if you don't have enough available

Depending on the level of cycling ability, make sure that there are enough instructors to help those students who have no or very little cycling experience.
- Free registration on "GoToWebinar"
· Download the application "NewWheelsOfChange".
· Download the social game "NewWheelsOfChange".
- additionally see required material for each level

10

Level 1: Transporting items

Type of activity
- Classroom activity/ lecture
- Online (webinar)
- Activity outside of the classroom

Topic
This activity introduces and discusses safe and efficient methods for transporting items on a bicycle.

Learning Objectives
- To understand the importance of safely transporting items on a bicycle.
- To learn about various methods and equipment used for this purpose.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- Video or photo projector with material illustrating transport options on a bike
- Suitable bicycles and helmets for all students.
- Traffic cones to set up the exercise course and chalk
- if possible, display materials such as saddlebags, baskets, trailers etc. to look at and try out
-

Duration of activities: 20 min.

Activities Level 1

Introductory activities (theory)

Begin with a discussion on why it is essential to transport items safely on a bicycle. Highlight the risks of improper load balancing and the potential impact on bike stability and control. Use images or samples of different bike accessories like panniers, bike racks, baskets, backpacks and trailers. Explain the different types of bike accessories used for transporting items. Discuss how to properly balance loads to avoid accidents. Illustrate with diagrams or pictures the correct way to attach and secure items on a bike.

Main activities (practical part)

If you have some material: Divide the students into small groups and give each group a bike and a transport accessory. Demonstrate how to attach the individual parts to the bike. Have the students practice attaching and securing the items to the bike. Use traffic cones or chock to set up a simple cycling track in an open, traffic-calmed area. Let the students test the stability and balance of the bike with the loaded items. Give feedback and tips for improvement.

Closing activities:

Gather students together and ask them to share their experiences from the practical exercise. Discuss any challenges they faced and how they overcame them. Encourage the participants to communicate questions and uncertainties. Review the key points covered in the session, such as the importance of load distribution, different types of cycling accessories and safety tips.

10

Level 2 : Special features for trams and school buses

Type of activity
- Classroom activity/ lecture
- Online (webinar)
- Activity outside of the classroom

Topic
This level is about safe interacting with trams and school buses.

Learning Objectives
- To understand the special rules and precautions when cycling near trams and school buses.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- Video or photo projector with material illustrating transport options on a bike
- Suitable bicycles and helmets for all students.
- Traffic cones to set up the exercise course and chalk
- Wooden slats to simulate tram tracks

Duration of activities: 15 min.

Activities Level 2

Introductory activities (theory)

Explain the specific signals and rules for trams and school buses. Discuss the potential dangers and how to safely navigate around these vehicles. Use videos or images to illustrate key points.

Main activities (practical part)

Use traffic cones or chock to set up a simple cycling track in a traffic-calmed area. Set up cones or markers to create a simulation of a tram or school bus on the road. Demonstrate the correct way to navigate around these simulated vehicles. Allow students to practice cycling through the simulation, focusing on maintaining a safe distance and following the correct procedures. Provide feedback and tips for improvement.
If possible, you can also place two wooden slats to simulate tram tracks to practice the correct crossing of tram tracks (always at a 90-degree angle).

Closing activities:

Gather the students together and ask them to discuss what they learned about navigating around trams and school buses. Highlight the importance of these skills for their safety when participating in road traffic.

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Level 3 : How to properly avoid obstacles on the road

Type of activity
- Classroom activity/ lecture
- Online (webinar)
- Activity outside of the classroom

Topic
This stage deals with possible dangers in road traffic and how to avoid them effectively and proactively.

Learning Objectives
- To know about possible hazards when participating in road traffic
- To understand the techniques for safely avoiding obstacles on the road.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- Video or photo projector with material illustrating transport options on a bike
- Suitable bicycles and helmets for all students.
- Traffic cones to set up the exercise course and chalk

Duration of activities: 15 min.

Activities Level 3

Introductory activities (theory)

Discuss the common obstacles cyclists may encounter on the road. Repeat and include:
- Blind spot (Module 7 / Level 3)
- Trams and (School) Busses (Module 10 / Level 2)
- Dooring

Explain the importance of being able to quickly and safely respond to these dangers. Explain the different techniques for avoiding obstacles (e.g., quick stop, swerve, riding around). Use diagrams or videos to illustrate these techniques or demonstrate them with a bicycle. Discuss the importance of staying alert and being prepared for unexpected obstacles. Also remind the students about:
- Stable straight-ahead driving (Module 6/ Level 2)
- Safe braking (Module 6 / Level 5)
- Keeping sufficient distance to parked cars
- if an obstacle is avoided, this must be visible to other road users (by hand signal)

Main activities (practical part)

Use traffic cones or chock to set up a simple cycling track in a traffic-calmed area. You can set up various obstacles, such as a stationary bus, tram tracks, a narrow cycle lane or even a parked car with suddenly opening doors. In addition, you can also simulate an ambulance and have the students drive to the side of the road correctly and safely.

Closing activities:

Gather students together and ask them to share their experiences from the practical exercise. Did it feel like a real road traffic situation? Encourage the participants to communicate questions and uncertainties. Encourage them that soon they are ready to take part in road traffic because they have learned so much!

Activities Level 3

Additional Material

10

Level 4: Vehicle-like children´s toys

Type of activity
- Classroom activity/ lecture
- Online (webinar)

Topic
This topic is about vehicle-like children's toys and how they can be a good starting point for learning to ride a bike at a later age.

Learning Objectives
- To understand what a vehicle-like children's toy is
- To understand why it differs officially from a bicycle
- To understand why it can be an important starting point for learning to ride a bike at a later age

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- Video or photo projector with material illustrating vehicle-like children's toys

Duration of activities: 15 min.

Activities Level 4

Introductory activities (theory) & Main activities (practical part)

Discuss the types of vehicle-like toys that can help children develop cycling skills showing some pictures of them. Explain the safety precautions and supervision needed when using these toys. Explain how each type of toy can help develop different cycling skills. Discuss the safety gear needed (like a helmet) and the importance of supervision (especially when parents are present)

Closing activities:

Most importantly children and parents should know those toys are no real bicycles and should never be used in road traffic. You can finish by emphasizing that on the other hand a bicycle is a means of transportation and not a toy

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Level 5: Scooters and E-Scooters

Type of activity
- Classroom activity/ lecture
- Online (webinar)
- Activity outside of the classroom

Topic
This topic is about the safe use (E-)Scooters as an alternative means of transport including correct equipment and proper riding techniques.

Learning Objectives
- To ensure students understand the safe use of scooters and e-scooters and can apply this knowledge effectively.

Target group/students
- 1st to 9th grade students
- Teachers
- Bicycle instructors
- Local authorities / agencies / directorates that work in these areas
- Recommended size of the group: 8 to 16 students (if your class is larger, feel free to group the students in groups of 4 students)

Required material
- Video or photo projector with material illustrating (E-) Scooters
- Or fully roadworthy equipped (E-) Scooters
- Helmets for all students
- Traffic cones to set up the exercise course and chalk

Duration of activities: 20 min.

Activities Level 5

Introductory activities (theory)

Discuss the increasing popularity of scooters and e-scooters. Explain the benefits and potential risks of using these modes of transportation. Discuss the right equipment (Module 5 / Level 3) proper riding techniques and the importance of wearing safety gear. Use videos or images to illustrate key points or show the students the right driving techniques yourself while driving through a traffic-calmed area. Demonstrate the correct way to ride scooters and e-scooters, including starting, stopping, and maneuvering.

Main activities (practical part)

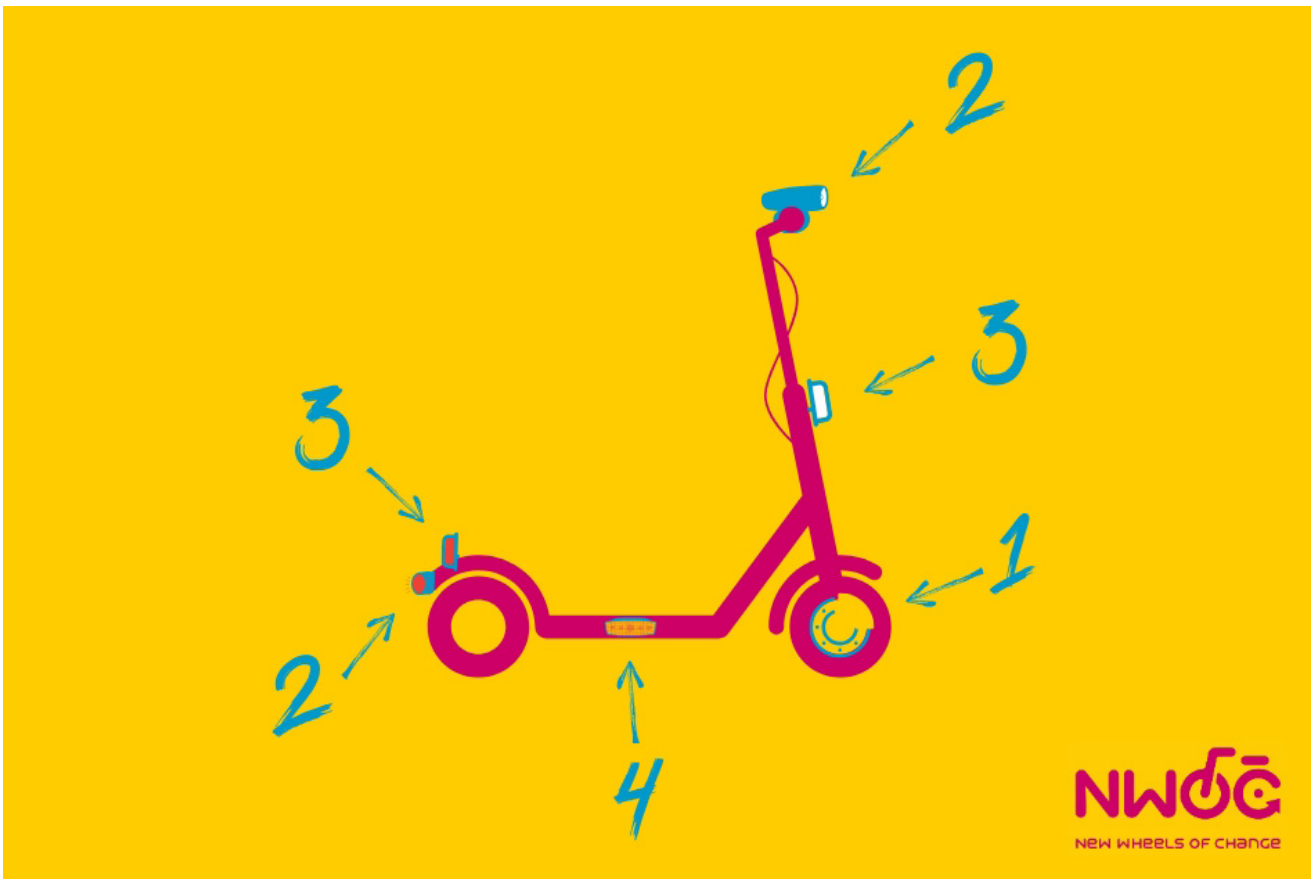
Set up a simple course with cones or markers for students to navigate. Let the students ride with the (E-) Scooters carefully. Make sure that they remember the traffic rules. If you want you can focus on safe braking, correct right and left turns as well as teaching the correct rules for parking.

Closing activities:

Gather students together and ask them to share their experiences from the practical exercise. How did it feel to be on the (E-) Scotter in comparison to the bicycle? Encourage the participants to communicate questions and uncertainties. Encourage them to spread the knowledge they have learnt with other people in their surroundings.

Activities Level 5

Additional Material:



1 - with an effective braking device
2 - white light to the front and red rear light (in darkness and poor visibility)
3 - reflectors or reflective foils that are white to the frontand red to the rear
4 - reflectors or reflective foils that are yellow to the side