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Proposal for implementation of field education into school curricula

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INTRODUCTION - PROPOSAL FOR THE INTRODUCTION OF FIELD EDUCATION IN THE SCHOOL CURRICULUM

As stated by many researches (e.g. Lipovšek 2016, Svobodová et al. 2020, Boardman 1974, etc.), the lower representation of field learning in secondary and primary schools is influenced by a number of factors (obstacles). As the research carried out by LIFEdu in 2019 and 2020 showed, one of the fundamental obstacles to the wider implementation of field learning in current curricula can be its often only brief and formal anchoring in prescribed school curricula (see IO 2). Therefore, a draft of the school curriculum was created, which can be understood in the context of teacher preparation as part of the annual preparation and which provides guidelines for the implementation of field learning. The proposal includes three independent levels: 1. conservative, 2. moderate and 3. progressive. Each level contains a statement of topics, linking them to expected outcomes and then how these are achieved through field-based learning. For better illustration and practicality, suggestions are given for special activities in the field (for more detailed activities, see Compendium - IO6), ***which can and should be adapted each time to the needs of the target population or can be understood as a inspiration for the individual target design of the learning process.***

1. The **conservative level** is based on existing prescribed curricula. It is based on the traditional division of teaching into educational subjects and their academic thematic structuring. The goal of preparing the inclusion of field work in the curricula at the conservative level was to achieve the implementation of two field exercises in each year of studying geography according to the starting structure of the curriculum and the starting goals in the curriculum. The aim is therefore to increase the amount of experiential learning in a real landscape and to connect this with the objectives as laid out in the curriculum.

2. The **moderate level** maintains the structuring of the curriculum into individual subjects, but departs from the traditional academic structuring of the curriculum and works with 'big topics' through which the expected results are gradually achieved. These big themes better reflect the real world. This approach encourages the vertical interconnection of educational content, the cross-sectoral nature of the curriculum or work in context and cross-curricular connections. It is about connecting and combining different topics and goals, which can be achieved with a greater amount of field work in the curriculum.

3. The **progressive level** is extracurricular and based on the concept of integrated thematic instruction (see Kovalik 1993). In this case, the key word is, for example, a problem, a phenomenon or a so-called big central theme. It is treated comprehensively, regardless of the subject or its traditionally understood placement in the year. This concept reflects the truly multifaceted nature of a world full of interactions and connections. It supports both vertical and horizontal interconnection of the curriculum.

PROPOSAL FOR THE IMPLEMENTATION OF FIELD LEARNING IN THE SCHOOL CURRICULUM - PRIMARY EDUCATION (Slovenia)

Table 1: Level 1 (conservative level: implementation of two field exercises in each year of studying geography according to the initial structure of the curriculum and the initial goals in the curriculum)

Subject: geography

Education level: ISCED 2, primary school, 6.-9. grade (11-14 years)

Learning topic (according to the Cirruculum)	**Expected results/goals** (summarized according to the Curriculum)	**Realization of field work (proposals of activities in the field)**
Introduction to geography (6th grade)	- Gets to know what the subject of studying geography is and what geography is, - creates their own relief map and panoramic sketch of their home landscape, - understands the importance of geographical knowledge for life.	**Photograph and/or drawing the landscape at a view point near the school (making a panoramic drawing):** - identification and naming of the geographical elements of this landscape, - the search for basic connections between them (e.g. the influence of the relief/altitude, inclination, exposure/on population density; interdependence of plant cover and settlements; interdependence of transport connections and population density; interdependence of visual arrangement of the environment and population density...). *Related activities (IO6): no. 6 Mindfulness to enhance geographic curiosity; no. 4 Visual degradation; no. 15 Light pollution research*

Orientation and rendering of the Earth's surface; Orientation on the Earth's sphere, degree grid and geographic location, orientation in nature and on the map; Representation of the Earth's surface, ways of displaying the Earth's surface, map (6th grade)	- Orients and moves in nature with a compass and map, - makes their own relief map and panoramic sketch of their home landscape.	*by night* **Orientation in the schoolyard:** - determining the position on the map; orientation only with a map and determining the sides of the sky; - orientation only with a compass (students can also use a hand-made ones); - orientation simultaneously with map and compass; - movement in a certain direction with a map / with a compass / GPS / Google maps, - they choose three ways of orientation by natural signs, look for these natural signs in the surroundings of the school and check whether it is possible to orient themselves correctly with them or determine the sides of the sky. **Hidden Treasure Map:** - students in groups prepare a simple sketch of the school yard, draw standing points and prepare instructions for carrying out simple fun activities at each standing point - e.g. point 1: five squats; at the last standing point they hide a simple treasure (e.g. a beautiful stone from the

		surroundings), - groups exchange sketches and instructions, complete the route according to the assigned instructions prepared by the other group. *Related activities (IO6): no. 5 Intergenerational cooperation or "together we are strong"; no. 11: What is happening in the city centre?; no. Orientation as a fun occupation; no. Scan, get out, meet; no. Uďa is a student; no. Orient yourself in the country of your home*
Regional geography of Europe and Asia: - Natural geographic features with the example of climate and flora of Europe and Asia (7th grade)	- Names and describes the individual thermal and plant belts of Europe and Asia, compares them with each other and draws conclusions about the possibilities for people to live in individual thermal zones, - names large natural geographical areas of Europe and Asia.	**Measurements of air temperature and amount of precipitation near the school (approximate calculation of the monthly average) and identification of vegetation:** - comparison of the results with the climogram of the region (getting to know the methodology of data collection for the creation of climograms), - comparison of the domestic climogram with selected climograms of other European or Asian areas (similarities and differences), - identifying plants in the home environment, determining their spatial origin - which originate from other regions of

		Europe or Asia; comparison of growth conditions (climate, soil) of the original locations with the home location. *Related activities (IO6): no. 9 Urban plants - a research walk, no. Urban climate, no. Biogeographer*
- Socio-geographic characteristics with the example of the population of Europe and Asia (7th grade)	- Describes the causes and consequences of different population density, - describes the linguistic and religious diversity of Europe and Asia with a thematic map and draws conclusions about the consequences, - uses selected examples and describes the way of life of people in Europe and Asia with them.	**Surveying of the inhabitants of the hometown regarding language and religious affiliation; the reasons why they chose their place of residence and about people's way of life** (how they spend an average day - their activities from morning to evening): - according to the obtained results for the hometown, a comparison of the linguistic and religious composition with Europe and/or Asia; learning about the causes and consequences of different population densities and comparing the way of life of people in their home environment with selected European and/or Asian areas. *Related activities (IO6): no. 1 Light pollution research during the bright part of the day, no. 2 Light pollution research by night, no. 4: Intergenerational cooperation or "together we are strong"; no. 10 Sustainable Development Live*
Regional Geography of the	- Makes conclusions on the advantages	**The groups collect data on the similarities and differences of the**

World: - Socio-geographic characteristics with the example of the population of North America (8th grade) - Natural geographic features with the example of Latin America - (8th grade)	and disadvantages of the multinational community, - learns about the assimilation, integration and segregation of different cultures, - analyses the causes and consequences of the different population densities of North America. - Analyses the causes and consequences of reckless human intervention in the landscape using the example of the Amazon	**students of any chosen class at school** (students are invited to make posters on selected topics; they prepare boxes with voting questions, in which students of other classes put the answer sheets; students are polled...) - **they find out their favourite holidays, customs, popular food, sports and other interesting activities....:** - based on the obtained results, they evaluate the good and bad sides of the identified differences (whether the differences between students hinder or enrich their daily school life in the same class), - they compare their findings with the advantages and disadvantages that appear in other environments where there are pronounced differences (nationality, language, culture...). *Related activities (IO6): no. 5 Intergenerational cooperation or "together we are strong"* **Individual research from which countries the products or components of the products that they have in their home store come from** (or identifying plants in their home environment and determining their locations of origin):

	rainforest.	- determining which of these countries of origin originate from the area of tropical forests (or according to a different criterion of the selected area, e.g. Latin America), - determine whether the consumption habits of the domestic household contribute to the deforestation of tropical forests (or compare the growth conditions (climate, soil) of the original locations with the home location). *Related activities (IO6): no. 9 Urban plants – research walk, Biogeographer*
Regional geography of Slovenia: - Slovene visibility in Europe and the world (9th grade)	- Makes their own list of ten Slovenian features.	**On the basis of the list of ten recognizable Slovenian features, they research the offer of selected shops in their hometown:** - they photograph examples of sales items that express Slovenian recognition, - take photos of other elements of Slovenian recognition that they see in their hometown (flags, coats of arms, typical indigenous tree species planted, cultural, natural and other tourist attractions...), - with the help of the collected photos, they create a video, poster, presentation and determine to what extent typical Slovenian products and other elements of Slovenian

		recognition are marketed and exhibited in their home town, - produce (preferably outdoors) an artistic, technical or other product that represents the recognizable characteristics of Slovenia, - organize a Slovenian stand (or picnic) in the school yard (they prepare food typical of different regions of Slovenia). *Related activities (IO6): no. 4 Visual degradation of the environment, no. 7 But where in the ˝toti˝ Maribor? (Urban tourist visit planner), no. 8 Is this story true?, no. 9: Urban plants – research walk, no. Culture through the lens, no. My city through VR, no. Back to the past, no. Trails of culture, no. Museum through AR, no. My city through tourist locations, no. Take a picture with …, no. Various faces of …, no. What used to be life in …; no. My city through tourist locations*
- Natural-geographical and socio-geographical characteristics (9th grade)	- Describes the problems of agriculture, emigration and groundwater pollution and provides solutions to the resulting problems, - understands the comprehensiveness of spatial issues and knows some possibilities of our own active	**They analyse the water quality in a river or stream near the school at a selected point. They examine the land use map and/or map the purpose or functions of facilities in the selected river/stream area:** - determine whether there are connections between the quality of drinking water, land use and/or the purpose of

	participation, - with the chosen example, explains the interdependence of people's lives on relief, climate, soil and water supply.	buildings in the surrounding area, - draw conclusions about the causes of the quality of the analysed water. *Related activities (IO6): no. 11: What is happening in the city centre?; no. 12 We protect the waters, no. 13 Urban river bank – conflicts and acitvitiess, no. 15 Burdening agro-ecosystems, no. Hydroclimatologist; no. Measuring water pollution in the city area*

In the Slovenian geography curriculum, in addition to shorter fieldwork, an annual interdisciplinary excursion to one of the Slovenian regions is recommended. It is highly recommended to connect such an excursion with the geographical content discussed in each year (see examples in Table 1).

Table 2: **Level 1 (conservative level: conducting an excursion in each year of learning geography according to the initial structure of the curriculum and the initial goals in the curriculum)**

Learning topic (according to Curriculum)	**Expected results/goals (summarized according to the Curriculum)**	**Realization of field work (proposals of activities in the field)**
Excursion (6th, 7th, 8th, 9th grade)	- visits at least one natural geographical unit of Slovenia (interdisciplinary excursion), - gets to know the beauty and geographical diversity of Slovenia within the framework of excursions and field work, - acquires spatial perceptions about the hometown, the region and the country, - learns about the values and uniqueness of the Slovenian landscape, develops love and respect for the Slovenian natural	**Excursion as our joint project:** In groups, students review the literature on the selected region. They actively participate in the creation of the goals of the excursion. They plan the itinerary of the excursion (visiting points, time course, financial requirements...) - adapted to the age of the students. In groups, they prepare a presentation and a plan of the students' activities at each point. They lead and/or they carry out planned activities in a real location. *Related activities (IO6): no. 7 Just where in the "toti" Maribor? no. Culture through the lens, no. My city through VR, no. Back to the past, no. Trails of culture, no. Museum through AR, no. My city through tourist locations, no. Take a picture with …, no. Various faces of …, no. What used to be life in …; no. My city through tourist locations…*

	and cultural heritage and belonging to the Slovenian country, - develops the ability to use simple methods of geographical research, such as observation, measurement, simple analysis, interview, mapping, use of statistical and other sources and literature in the field.	

Table 3: Level 2 (moderate level: departure from the traditional structuring of the curriculum, inclusion of 'big topics' through which the expected results are gradually achieved; combining and connecting the goals of different topics (several field exercises in each year of education))

Subject: geography

Education level: ISCED 2, primary school, grades 6-9. class (11-14 years)

Learning topic	**Expected results/goals** (according to the curriculum-general and operational goals more broadly)	**Realization of field work (proposals of activities in the field)**	**Interdisciplinary connections**
We move with the Earth in space	- Understands the importance of geographical knowledge for life, - learns about the basic laws and consequences of the shape, position and movement of the Earth in space, - develops an understanding of the	- Observing and sketching the apparent movement of the Sun during the day (comparison for different seasons). - Research on the description of the apparent movement of the Sun in poetry and prose (comparison with professional starting points of the movement). - Observing the night sky with the naked eye and with a telescope (celestial bodies, distances in space and other basic concepts in astronomy, the position and	**Fine arts, Technology, Mathematics, Phisics** - drawing, sketching, photography, latitude measurements, light pollution measurements and other measurements. **Mother tongue, foreign language (literature)** - apparent movement of the Sun in poetry and prose.

	delicate connection between man and nature.	movement of the Earth in space and the consequences of this for life on Earth: the alternation of day and night, heat zones, seasons; man in space, overpopulation of the Earth and terraforming or the possibility of life in space). - Creative latitude determination. - Creation of a map of the night sky (comparison of night sky maps of different time periods, e.g. between seasons or with longer past time periods). - Researching light pollution and its impact on astronomical observations in densely populated areas. - Researching the relationship between astronomy and astrology and critically evaluating only this on concrete examples. - Visit to the astronomical observatory. *Related activities (IO6): no. 1 Light pollution*	**Physics and astronomy** - celestial bodies, movements of celestial bodies, terraforming. **(Geo)informatics** – creation of light pollution maps, light pollution thematic maps. **Spatial planning** - the impact of population on light pollution **Astrology** - comparison of selected concepts/points of departure with astronomical ones (horoscope, lunar me, retrograde Mercury...).

		research in the bright part of the day, no. 2 Light pollution research by night, no. 11 What is happening in the city centre?, no. 14 Creative measuring of latitude	
We move and orient ourselves in the schoolyard	- Understands the importance of geographical knowledge for life, - orients themself and uses various ordinary and digital maps when moving in familiar surroundings, - is trained to make different types of simple maps, - moves healthily and usefully in the landscape and internalizes the importance of	- Determining the standing position and geographical location of position on a regular map; - orientation only with an ordinary map and determining the sides of the sky. - Orientation only with a compass (you can also use a hand-made one). - Orientation simultaneously with a regular map and compass. - Movement in a certain direction with a regular map / a compass in the selected azimuth direction / GPS / Google maps according to the given coordinates or other defined points. - They choose three ways of orientation by natural signs, look for these natural signs	**Technology, Housekeeping** - making a compass with kitchen utensils **Biology** - growing conditions and possibilities of orientation by natural signs (moss on trunks, anthills, inclination of trees, annuals on stumps...), strengthening of personal health. **Physical education** - walking, running and other forms of movement in nature **Sociology**, **Ethics** -

	movement for a quality life.	in the surroundings of the school and check whether it is possible to orient themselves correctly with them. determine the directions of the sky. - Hidden treasure map: in groups, students prepare a simple sketch of the school yard, draw standing points and prepare instructions for performing simple fun activities at each standing point - e.g. point 1: five squats; at the last standing point they hide a simple treasure (e.g. a beautiful stone from the surroundings); the groups exchange sketches and instructions, complete the route according to the assigned instructions prepared by the other group. *Related activities (IO6): no. 4 Visual degradation of the environment, no. 8 Is this story true?, no. 9 Urban plants – research walk, no. Orientation as a fun occupation; no. Scan, get out, meet; no. Uďa*	strengthening cooperation, creating and respecting rules... **History** - cultural heritage.

		is a student; no. Orient yourself in the country of your home	
We move in the landscape and explore it (home region, other region, abroad)	- Understands the importance of geographical knowledge for life, - develops spatial perceptions about the native landscape, Slovenia, Europe and the world, - is trained to use communication, thinking, practical and social skills to investigate geographical issues at the local, regional and planetary level; - develops the ability for	- Finding selected points related to authentic life situations with the help of various ordinary and digital maps and aids (e.g. areas of visual and sound harmony, areas of visual and sound degradation, areas of light pollution, points with obstacles for the physically challenged, points of interesting cultural and natural heritage sites, points of untapped tourist potential, points of the best meeting places for young people, points of functionally degraded areas, areas of mismatch of spatial functions...). - Making own thematic ordinary and digital maps by entering points and other forms of mapping in connection with authentic life themes (with physical fieldwork in the home region or on excursions and/or with	**Physical education** - walking, running and other forms of movement in nature **Biology** - strengthening personal health **Sociology**, **Ethics** - strengthening cooperation, creating and respecting rules... **Fine arts**, **Technology**, **Mathematics** - drawing, sketching, photography, measurements of various elements **History** - cultural heritage **(Geo)informatics** – the use of digital tools for

	basic study and research of the landscape (local, regional) and the ability to participate in decision-making about its development, - realizes the need to preserve natural and cultural heritage.	virtual fieldwork using Google Earth and Google Street View for regions, which cannot be visited). - Comparison of thematic maps based on authentic life themes of different regions (home, other regions in the country, selected foreign regions, World). *Related activities: all in IO6*	movement in space, space exploration, displaying the characteristics of space on thematic maps (manual and digital mapping). **Physics** - sound in space **Spatial planning** - finding solutions in spatial planning to improve problematic authentic living situations.

Table 4: Level 3 (Progressive level - concept of integrated thematic teaching based on case, problem, central "big topic")

Subject: geography

Education level: ISCED 2, primary school, grades 6-9. class (11-14 years)

Main topic	Expected cross-curricular outcomes	Realization of field work (proposals of activities in the field)
A dynamic living space	Pupils recognize the basic elements and factors of the living space using the example of their home landscape. They understand their interconnections (complexity of geographical space) on concrete examples. The findings are compared with other selected regions of the World. With this, they get to know and recognize: - the main natural systems on Earth (relief, soil, water bodies, climate, flora, fauna) in their landscape-forming connections, - the main social systems on Earth (economy and energy,	**Drawing a landscape at a vantage point near the school:** - identifying and naming the geographical elements of this landscape, - search for basic connections between them (e.g. the influence of the relief/altitude, inclination, exposure/on population density; interdependence of plant cover and population density; interdependence of transport connections and population density; interdependence of visual arrangement of the environment and population density...). **Research of the selected interdependence on the example of natural elements (and comparisons between the native landscape and other landscapes):** - *E.g.: measurements of air temperature and amount of precipitation in the vicinity of the school* (approximate

	population...) in a landscape-forming connection with each other, - the interdependence of the main natural and social systems in landscape-forming processes and phenomena in the landscape (local, regional, national, planetary level), - temporal dynamics of landscape-forming changes in the space, - the diversity of people and societies on Earth, in order to appreciate the cultural richness of humanity; - problems, challenges, solutions and opportunities for coexistence within the framework of planetary interdependence.	calculation of the monthly average) and identification of vegetation in the home environment: comparison of the results with the climogram of the home landscape (learning about the data collection methodology for the creation of climograms), identification of plants in the home environment, their main growth conditions (climate, soil) and determining their spatial origin - which originate from other regions of the world?; comparison of the growth conditions of the original locations with the home location. **Research of the selected interdependence on the example of social elements (and comparison of the selected interdependencies between the home region and other regions):** - *E.g.: the groups collect data on the similarities and differences of the students of an arbitrarily chosen class at school* (students are invited to make posters on selected topics; they prepare boxes with voting questions, in which students from other classes put answer sheets; students are surveyed...) - identify their favourite holidays, customs, favourite food, sports and other interesting activities..., based on the obtained results, evaluate the good and bad

		sides of the identified differences (whether the differences between students hinder or enrich their daily school life in the same class), compare the findings with advantages and disadvantages , which appear in other environments where there are more or less pronounced social or social differences (ethnic, linguistic, cultural...). **Research of the selected interdependence on the example of connecting natural and social elements (and comparison between the native landscape and other landscapes):** - *E.g.: individual research from which countries come products or components of products that are kept in the home pantry or used in the school kitchen* (or identifying plants in the home environment and determining their original locations): - determining which of these countries of origin originate from the area of tropical forests (or according to a different criterion of the selected area), - determine whether the consumption habits of the domestic household contribute to the deforestation of tropical forests (or compare the growth conditions (climate, soil) of

		the original locations with the home location). **Research on the changing interdependence of selected elements over time (and comparisons between the native landscape and other landscapes):** - *For example, mapping the age and purpose of buildings in the core of the settlement and comparing the condition with the selected past period;* **Identification and field research of important/fundamental issues of balanced and safe coexistence in the space** *(Environmental degradation: functional, populational, visual, sound...; responses of natural systems to human-caused environmental degradation: droughts, floods, other weather hazards, landslides, erosion, ...; land use changes and economic security; healthy eating and food security; energy sustainability and security; intergenerational cooperation; relaxation spaces...)* *Related activities: all in IO6* *Virtual fieldwork (Google Earth, Google Street View) and work with databases is possible in some cases for selected remote landscapes.*

PROPOSAL FOR THE IMPLEMENTATION OF FIELD LEARNING IN THE SCHOOL CURRICULUM - SECONDARY EDUCATION (Slovenia)

Table 1: Level 1 (conservative level: implementation of two field exercises in each year of learning geography according to the initial structure of the curriculum and the initial goals in the curriculum)

Subject: geography

Education level: ISCED 3, secondary school, 1.-3. year (15-18 years)

Learning topic (according to the Curriculum)	**Expected results/goals (**summarized according to the Curriculum**)**	**Realization of field work (proposals of activities in the field)**
Earth's surface General Geography (Physical Geography)	- Lists and describes external forces and transformation processes in different areas of the world, - acquires skills to recognize typical transformation processes in the landscape, - they recognize relief forms on pictorial material and in nature.	**Drawing a panoramic drawing, or sketch of the landscape at a view point near the school:** - recognition and naming of geographical elements of the surface design of the landscape with an emphasis on relief forms, - recognition and naming of geographical factors of the surface design of the landscape (external and internal forces), - identification and explanation of key transformation processes in the landscape. *Related activities (IO6): no. 4 Visual degradation of the environment, no. 6 Mindfulness to enhance (geographic) curiosity*

Tourism General Geography (Social Geography)	- Explains and evaluates the conditions for the development of different types of tourist areas, - looks for the causes of differences in income from tourism on selected examples of the world, Europe and Slovenia; - evaluates the importance of tourism for the economy and its impact on human activities and the natural environment, they collect information about tourism in an area (or place) and make a poster, paper or seminar assignment and present it in front of the class or motivate their classmates to visit the chosen region through role playing.	**Collaborative analysis of the tourist offers of the selected place and planning of the tourist itinerary:** - in groups, make a selection of the tourist potential of the chosen place (sacral attractions, cultural attractions, natural attractions, food and drink providers, accommodation providers), make and after implementation evaluate the tour schedule for each group of tourist potentials, - when visiting selected tourist potentials, they briefly describe them in terms of content with the help of selected applications or sources, - carry out a random semi-structured interview about a specific group of tourist potentials (the importance of these tourist potentials for the development of the place), - members of the original groups in mixed secondary groups present to each other the work done, on the basis of this they formulate a plan of the tourist visit - they prepare the itinerary of the tourist route, - highlight the factors and evaluate the issue of tourism planning, - evaluate the applicability of geographical knowledge in tourism planning.

		Related activities (IO6): no. 7 Just where in "toti" Maribor?, no. Culture through the lens, no. My city through VR, no. Back to the past, no. Trails of culture, no. Museum through AR, no. My city through tourist locations, no. Take a picture with …, no. Various faces of …, no. What used to be life in …; no. My city through tourist locations…
Regional Geography of the World: - Natural geographic characteristics on the example of the climate and flora of Asia (possible application for any continent or region)	- They list the main factors that affect the climate in Asia, and are able to recognize climate types and draw conclusions about climate conditions based on climograms, - they know the main plant belts in Asia and can explain their connection with climate types.	**Measurements of air temperature and amount of precipitation at selected locations in the home region (calculation of the monthly average) and identification of vegetation:** - comparison of measurement results with the climogram of the native landscape (learning and evaluating the data collection methodology for the creation of climograms), - comparison of the domestic climogram with selected climograms of Asian areas (similarities and differences), - identifying plants in the home environment, determining their spatial origin - which ones originate from other regions of Asia?; comparison of growth conditions (climate, soil) of the original locations with the home location. *Related activities (IO6): no. 9 Urban plants – research walk, no. Urban climate, no. Biogeographer*

- Socio-geographic characteristics on the example of the Population and settlement of Africa (possible application to other suitable world regions)	- They learn about cultural and linguistic diversity, - evaluate the causes and consequences of modern demographic trends.	**Surveying and/or interviewing the inhabitants of the hometown/province regarding their customs and habits (way of life - how they spend an average day), their forms of migration and their causes:** - according to the obtained results for the home town/province, a comparison of the customs and habits of that country with the selected place/area in Africa; - comparison of the causes and consequences of migration in both areas, - comparison of the way of life of people in their native environment with the selected area of Africa. *Related activities (IO6): no. 10 Sustainable development live*
Regional geography of Europe: - *Sociogeographic characteristics of Western Europe (possible application in other*	- They describe the main characteristics of the economic development of Western Europe, explain the factors that promoted it, and compare the level of development achieved with development in other parts of	**Individual research from which countries come products or product components that are in the domestic household:** - determining which of these countries of origin originate from the area of W Europe, - determine whether the consumption habits of domestic households contribute to the economic cooperation of Slovenia with Western European countries,

European regions) - Natural geographic characteristics of Central Europe (Possible application in other suitable European regions)	Europe and the world, - outline the problems brought about by the high level of economic development in Western Europe. - Based on the map and data, they analyse the possibilities for agriculture and its development in Hungary and compare it with Slovenian agriculture.	- collect data from various sources on Slovenian companies that also have a market abroad and on companies from Western Europe, compare the types of economic offer, - compare the economic development of the two areas. *Related activities (IO6): no. 11: What is happening in the city centre?, no. 15:* **Surveying agricultural holdings in the home region and evaluating their impact on environmental degradation:** - determine whether there are connections between the structure and operation of agricultural holdings and environmental degradation in the selected area; - to the extent possible, compare the findings of the research with the characteristics of Hungarian agriculture - derive similarities and differences with an emphasis on the potential degradation of the environment due to agricultural activity, - propose solutions in the direction of reducing agricultural degradation of the environment and at the same time ensuring food security. *Relate) activities (IO6): no. 15: Burdening agro-ecosystems*

In the Slovenian geography curriculum, geography is provided in the fourth year of high school only for students who have chosen geography as an optional externalmatura subject. These students deal with the regional geography of Slovenia. As part of the preparation for the matura exam, field work and an excursion are also mandatory, which are duly implemented in the matura exam catalogue (field work and excursion represent 20% of the grade at the matura exam). Consequently, in Table 1, we did not include additional proposals for fieldwork and excursions for the fourth year of secondary schools. Annual interdisciplinary excursions to one of the Slovenian regions are recommended. It is highly recommended to connect such an excursion with the geographical content discussed in each year (see examples in Table 1).

Table 2: **Level 1 (conservative level: carrying out an excursion in each year of learning geography according to the starting structure of the curriculum and the starting goals in the curriculum)**

Learning topic (according to the Curriculum)	**Expected results/goals (summarized according to the Curriculum)**	**Realization of field work (proposals of activities in the field)**
Excursion (1st, 2nd, 3rd year)	- They develop positive feelings towards their homeland, a sense of belonging to their nation and country, and respect for its natural and cultural heritage; - they are brought up with an interest in social needs, solving common spatial (sustainability) problems at the national, wider regional and global level; - develop the ability to experience the	**Excursion as our joint project:** In groups, students review the literature on the selected region. They actively participate in the creation of the goals of the excursion. They plan the itinerary of the excursion (visiting points, time course, financial requirements...) – adapted to the age of the students. In groups, they prepare a presentation and a plan of the students' activities at each point. They lead and/or they carry out planned activities in a real location.

	diversity and beauty of the natural environment on the one hand, and to value different life circumstances and social needs on the other; - take care of the balanced use of space and the preservation of the quality of the natural and social environment for future generations (sustainable development). - are aware of the possibilities and responsibilities for using geographical knowledge and skills in personal, professional and public life.	*Related activities (IO6): no. 7 Just where in the "toti" Maribor? no. Culture through the lens, no. My city through VR, no. Back to the past, no. Trails of culture, no. Museum through AR, no. My city through tourist locations, no. Take a picture with …, no. Various faces of …, no. What used to be life in …; no. My city through tourist locations…*

Table 3: Level 2 (moderate level: departure from the traditional structuring of the curriculum, inclusion of 'big topics' through which the expected results are gradually achieved; combining and connecting the goals of different topics (several field exercises in each year of education))

Subject: geography

Education level: ISCED 3, secondary school, 1.-3. year (15-18 years)

Learning topic	**Expected results/goals** (according to the Curriculum- general and operational goals more broadly)	**Realization of field work (proposals of activities in the field)**	**Interdisciplinary connections**
Spatial interdependencies on the example of waters	- They show the most important rivers, lakes, seas and other hydrological phenomena on the map of the world, individual continents and Slovenia; - get to know the river basin and its elements, evaluate them from an environmental point of	**Investigating interdependence on the example of a selected watercourse through collaborative work:** - **on the example of natural elements and factors in connection with the selected watercourse** *(including comparisons with other watercourses):* photography of the watercourse in the upper, middle and lower reaches and identification of microrelief forms in the surroundings of the riverbed, drawing and explaining the transverse profile	**Technology -** photography, drawing **Physics** - physical properties of water flow, energy **Mathematics** - measurements and calculations **Chemistry** - the chemical properties of the water stream

	view and their importance for humans; - collect data on environmental problems of stagnant and flowing water, identify and evaluate data and establish relationships between phenomena; - based on the criteria they choose, they evaluate the importance of water (rivers, seas, lakes...) for humans.	of the riverbed, measurements and interpretation of physical and chemical characteristics of the watercourse, evaluation of the influence of the rock structure, relief and climate on the watercourse, research of flora and fauna in and along the watercourse and its influence on the state of the water; - **on the example of social elements and factors in connection with the selected watercourse** *(we include comparisons with other watercourses)*: determining the economic utilization of the watercourse and its economic potential, surveying the population about their relationship to the watercourse and the way they coexist with it, determining geographical names associated with the watercourse...; - **complex life with a watercourse** *(we include comparisons with other watercourses):* flood	**Biology** - plant and animal life in and along the watercourse **Sociology** - community life with a watercourse **Mother tongue** - geographical names along the watercourse, writing the biography of the watercourse, forming a survey, interview **Spatial planning** – facilities along the watercourse and flood safety **History** - the watercourse in the past and today **Philosophy** - a futuristic

		safety - placing markers of the highest level of the watercourse, SWOT analysis of spatial planning along the watercourse, surveys/interviews about the various potentials and obstacles of living with the watercourse...; - **changing the interdependence of selected elements and factors over time** *(we include comparisons with other watercourses*): the appearance of the watercourse then/today, the utilization of the watercourse then/today – photo comparisons, population surveys, analysis of databases; - **a watercourse in the future**: writing a futuristic biography of a watercourse. *Related activities (IO6): no. 10 - Sustainable Development Live, no. 12 – Protecting waters, no. 13 – Urban River banks – conflicts and activities.*	biography of a watercourse **Law** - legislative aspects of regulating the watercourse and its banks **(Geo)informatics** – the use of digital tools for movement in the space, exploration of the space, displaying the characteristics of the space on thematic maps (manual and digital mapping) **Physical education** - various forms of movement in nature
Land use	- Describe and evaluate land use in selected cases,	**Researching land use (landscape) as a result of complex interactions in the space:**	**Biology -** flora, healthy lifestyle

	- they observe the landscape and discern from it elements that are functionally related to land use, - field research of these elements and their interrelationships, - evaluate various activities that are reflected in the use of land from the point of view of sustainable development and are aware of the complexity and limitation of space.	- land use mapping in the selected area (comparison past/present), - defining elements that are functionally related to land use, - field methods of studying selected elements that affect land use and the consequences of specific land use, - evaluation of land use based on findings and proposals for further sustainable spatial planning.	**Sociology** - community and land use **Mother tongue** - writing and communications **Spatial planning** - sustainable land use **History** - past and present land use changes **(Geo)informatics** – the use of digital tools for movement in the space, exploration of the space, displaying the characteristics of the space on thematic maps (manual and digital mapping) **Physical education** - various forms of movement in nature

Quality life in and with geographical space	- knowledge about the spatial and temporal dimension of the development of landscape-forming factors and processes and the connections between them, - knowledge of the space in the sense of knowledge, understanding and evaluation of phenomena and processes with the ability to place them spatially and chronologically, - awareness of the diversity of natural, socio-economic and cultural systems, - transferring and applying general knowledge to a	**Identification and field research of important/fundamental living issues in a concrete geographical space** (environmental degradation: functional, populational, visual, sound...; responses of natural systems to human-caused environmental degradation: droughts, floods, other weather hazards, landslides, erosion,...; land use changes and economic security; healthy nutrition and food security; energy sustainability and security; intergenerational cooperation; relaxation spaces...) *Relate) activities: all in IO6* *Virtual fieldwork (Google Earth, Google Street View) and work with databases is possible in some cases for selected remote landscapes.*	**Technology** - photography, drawing **Physics**, **Mathematics –** measurements and calculations **Chemistry** - chemical properties of geographical elements **Biology** - plant and animal world **Sociology** - community life **Mother tongue** - geographical names, writing reports, forming surveys, interviews **Spatial planning and Law** - legislative aspects, spatial planning, flood

	specific case, - geographic skills and the ability to explore the landscape and the ability to connect geographic theory with practice with critical geographic thinking and the use of general and specific research methods.		safety **History** - past and present comparisons **Philosophy** - futuristic expectations and predictions **(Geo)informatics** – the use of digital tools for movement in the space, exploration of the space, displaying the characteristics of the space on thematic maps (manual and digital mapping) **Physical education** - various forms of movement in nature

Table 3: Level 3 (Progressive level - concept of integrated thematic teaching based on case, problem, central "big topic")

Subject: geography

Education level: ISCED 3, secondary school, 1.-3. year (15-18 years)

Main topic	Expected cross-curricular outcomes	Realization of field work (proposals of activities in the field)
Sustainable Development	- They get to know the concept and essence of sustainable development and its components (environment, space, values of space, economy, development of human society), - they recognize the necessity of co-natural development and responsibility for maintaining physical and biological living conditions for future generations, i.e. the necessity of maintaining a balance between human will and nature, - evaluate various activities from the	**Project research of sustainable development in the selected geographical area:** - In groups, they study the content of Egan's wheel - each group for its own area (economic-production, services; social work, culture, management, justice; environmental field of sustainable development-natural environment, residential environment, transport connectivity). They focus on evidence of sustainability or to evidence of lack of sustainability in the assigned field. - They prepare a plan for research work in the local environment (definition of goals, selection of field, textual and statistical work methods, creation of a time plan, division of work). - They prepare a final presentation and propose one activity or an improvement that would contribute to the positive development of the chosen field of sustainable development in the local environment. - Evaluation of project work.

	point of view of sustainable development and are aware of the complexity and limitations of the space; - understand the importance and content of spatial planning and public participation in decision-making procedures, - they know the possibilities of their own active participation.	*Related activities (IO6): no. 1 Light pollution research in the bright part of the day, no. 12 Light pollution research at night..., no. 3 Sound degradation of the environment, no. 4 Visual degradation of the environment, no. 5 Intergenerational cooperation or together we are strong, no. 6 Mindfulness to enhance (geographical) curiosity, no. 7 Just where to in "toti" Maribor, no. 8 Is this story true?, no. 9 Urban plants -research walk,* ***no. 10 Sustainable Development live****, no. 111 What is happening in the city center?, no. 12 We protect the waters, no. 13: Urban river banks – conflicts and activities, no. 15 Burdening agro-ecosystems, no. Novi Sad Fair: significance and sustainability, no. Measuring water pollution in the city area, no. Urban climate, no. How much we charge for rent?, no. Noise city map, no. Life in our village, or now we are the boss here…*

Proposal for implementation of field education into school curricula (Serbia)

PRIMARY EDUCATION

Level 1 (Basic level):

Subject: Geography

Educational level: Primary school, 5-8 grade (11-14 years) (ISCED2)

Teaching topic	Expected outcomes	Realization of field education
Man and Geography	The student knows how to connect the existing knowledge about nature and society with geography as a science and shows the importance of learning geography for the everyday life of a person with concrete examples. It connects the contents of geography with the contents that the students encountered in lower grades and with the contents of other natural sciences (biology).	- **Getting to know the natural and social features of the area** (in the local environment and then in the wider area). They explain how humans can influence the changes that occur in the natural environment, as well as how social factors can transform the natural environment. (Example: Activity 1- Scan, get out, meet; Activity 5- Biogeographer)
The Universe	The student knows how to distinguish the concepts of the universe, galaxies, the Milky Way, the solar system, the Earth, to distinguish celestial bodies and to list their characteristics. He explains and shows the structure of the solar system and the position of the Earth in it, the Earth's movements (rotation and revolution). He determines the position of the Moon in relation to the	- **Observing the night sky.** The geography teacher explains the basic concepts in astronomy, after which the local astronomical society gives a lecture to the students (life in space, the landing of man on the Moon, or some other interesting topics), after which the students observe the night sky with a telescope. **Visit to the astronomical observatory.** In the presence of experts from the

	Earth and names the lunar phases.	astronomical observatory, students gain clear ideas about the Universe.
Planet Earth (Physical Geography)	The student knows how to use a map to describe the arrangement of land and water on the Earth, to distinguish and explain the Earth's movements and their consequences; He knows how to differentiate and explain the action of the Earth's internal and external forces, to distinguish erosive and accumulative processes; He describes the structure of the atmosphere and states the weather changes that occur in the troposphere (winds, precipitation, clouds, air heating).	- **Study of land relief in 2 selected geographical areas** (mountains, plains, basins, valleys, hills...). Research on how the relief changed during the geological past and which forces influenced its present appearance. Comparing two localities. - **Determination of altitude and relative altitude** - **- Man's action on the natural features of space.** Tour of the dam on the river; visit to open pit, landslides. - **- Measuring of water pollution in the city area.** Determining which pollutants are in nature, how much man affects space pollution and water pollution. Students become familiar with how certain pollutants (wastewater, detergents...) affect the change in the physical and chemical composition of water; they get to know the operation of the calorimeter and work in the laboratory (Example: Activity 12- Geophysicists - If geography was easy, they'd call it physics).
Geographic Map and Orientation in Space	The student determines the mathematical-geographic position on the Earth, learns how to orient himself in space (using a compass, map, satellite navigation systems, plants, animals...)	- ***Orientation in Space***. Students in the lower grades of elementary school realize the Orientation task as a fun animation through teamwork and learn about the possibilities of orientation in nature using a compass, map, using the Sun, clock and shadow, trees and other

		plants, animals as well. They also learn how to use GPS, which makes it easier for them to navigate in space. The task is carried out in the park, near the school. Students first determine the sides of the world and mark them on the worksheet that has been prepared in advance. They find the objects given to them by the teacher and enter the coordinates. They check that the results match those obtained with the compass. They find plants and animals with which they can also orient themselves in space (Example: Activity 1- Scan, get out, meet; Activity 2- Orientation as a fun occupation).
Social Geography	The student explains the conditioning of the distribution of the world's population with the natural characteristics of space; The student analyzes the geographical location of the settlement and makes a connection between the distribution of economic facilities and the quality of the environment.	- ***Local population surveying***. Based on the questionnaire, the students in the field survey the local population on a specific topic, based on which they will later finish statistics and present the results at school. Some of the topics for field research: 1. Were you born in the place where you live now or not? If not, how far is your birthplace from the place where you live now? 2. Would you like to live in the countryside instead of the city and vice versa? What are your reasons? 3. If you could choose, in which part of your country or the world would you like to live and why? ***- Getting to know the history of the local place***. A visit to

		a local place that depicts the history of the region where the students live. It can be a museum exhibition, a local fortress or a monument, on the basis of which they will investigate how historical circumstances have influenced the development of the settlement in which they live. (Example: Activity 10- Back to the past; Activity 11 – Trails of culture; Activity 15- Museum through AR). - ***Defining a type of a settlement.*** Based on the video of the settlement they live in, as well as on the basis of field research, the students illustrate their settlement and determine which type it belongs to. Based on that, they determine the main functions of the settlement, which are determined by the geographical location. - ***Natural and Geographical Environment***. In the field, students have the task of studying and explaining the similarities and differences between the natural and geographical environment; how interconnected they are and what are the areas where the natural environment are still unchanged. Also, they are thinking about what consequences can occur by changing those areas (Activity 14- Measuring water pollution in the city area). - ***People's occupation***. A visit to a company that operates in the neighborhood of the school. Activation of the students to participate in production activities in the

		company during the visit (help in production, help in administrative tasks, help in logistics tasks) - ***Students' results.*** After completing the research within the Social Geography topic, the students have the task of presenting the obtained results to the other students in class.
Regional Geography	The student names and recognizes the basic natural and social features of the continents	- ***Organising the excursion to the country in the nerby region.*** Students design an itinerary for the excursion, planning a visit to all the important tourist locations that should be visited. Based on the suggested route, they are given tasks, in groups, to write a term paper about the place/location they will visit (presentation at the location itself).
Geography of Serbia	The student explains the influence of natural and social factors on the creation, development and transformation of the settlements in which they live, as well as on the development and distribution of economic activities. The student analyzes the quality of the environment in the local area.	- ***Tourism in the local environment***. Students visit locations that are extremely important for their neighborhood and surroundings, map them and sketch certain landmarks. They make a tourist map of the region and a short film about tourist attractions. Each location is accompanied by a story that is interesting for the given area (Example: Activity 3- Culture through the lens; Activity 7-My city through VR VR; Aktivnost 11-Trails of culture; Aktivnost 15-Museum through AR).

Level 2 (Intermediate level):

Subject: Geography

Educational level: Primary school, 5-8 grade (11-14 years) (ISCED2)

Teaching topic (field, phenomena)	**Expected outcomes**	**Realization of field education**	**Integrative character (cross curricular coorelation)**
Geographic Map and Orientation in Space	The student determines the mathematical-geographic position on Earth, orients himself in space (using a compass, map, satellite navigation systems,...)	The students carry out a task related to orientation and finding their way in space, getting to know the local environment and the historical development of the settlement. Through the team work, students on the field get to know the peculiarities of the local environment in which they live and where the school is located. In addition, they train to use applications that will make it easier for them to navigate in space. During this activity, students learn about the historical development of the part of the observed settlement and study the current state of the	**History** - through independent research, students get to know the historical circumstances of the observed area **Biogeography** - They study the flora and fauna of the area and observe how it is conditioned by the nature of the area **Environmental protection** - Students investigate if the environment is degraded in the observed area and state the reasons for such a situation; How much the given locations influenced and how much they influence the environment today **Spatial planning** - Students notice how the space is organized, arranged and

		environment. The teacher gives the task to find 3 locations where they will study: - What did this location look like in the past?, - How did the urbanization proceed?, - Were the development trends degrading or improving? - Is the environment endangered? (Example: Activity 1-Scan, go out, meet; Activity 2-Orientation as a fun occupation)	equipped, in order to increase the quality of life in it (Example: Activity 10 - Back to the past; Activity 5-Biogeographer; Activity 14 - Measuring water pollution in the city area; Activity 8- Learning geography and flying)
Urban Climate	The student is qualified for the procedure of measuring air temperature; He knows how to explain how buildings of different heights, proximity to the river and green areas affect air temperatures in cities; He is trained to use the instrument used to measure air temperature; He is better acquainted with the parts of the city where he lives; He recognizes the problems that	Students investigate how the construction of buildings, vegetation (city parks), water (rivers, lakes) affect the climate in cities. They find 4 different locations in the city where they will measure the air temperature: a location with compact construction with medium height buildings; location with compact construction with low-rise buildings near the river; location with open construction with low-rise buildings; a	**Biology** – Understanding the mutual influence of biotic and abiotic factors **History** – Getting to know the history of the area **Physics** – field measurements; use of physical terms (Example: Activity 4–Urban Climate; Activity 5-Biogeographer; Activity 10 – Back to the past; Activity 12-Geophysicists - If geography was easy,

	excessive urbanization in cities can cause.	location that is less built up (a part of the city with parks or larger areas without buildings). They measure the air temperature at 4 selected locations at 9:00, 13:00 and 20:00. They write the values in the table. After the measurements, students compare the data and discuss how buildings affect air temperatures in the city. They answer the questions whether the proximity of the river affects the air temperature in the city and they suggest how the air temperature in the city can be made more pleasant	they'd call it physics)
Geography of the Settlement	The student is familiar with the peculiarities of the local environment in which he lives and where the school is located (using modern technical achievements). He is trained to use the VR glasses that facilitate getting to know familiar and unfamiliar spaces in a different way.	On the basis of geographic coordinates or QR code, with the help of a smartphone, they search for given locations where they will carry out field work. They recognize the new object. They repeat the action of watching the video through VR glasses, find old photos of	**History** – Histotical development of the local environment **Technique and technology** - training for the use of new digital technologies (Example: Activity 3-Culture through the lens; Activity 10 – Back to the past; Activity 8-Learnign geography and flying)

	He is familiar with the historical development of part of the observed settlement and the polarization of the settlement as a direct consequence of development. He concludes how much the given locations have influenced and how much they influence the environment today.	this location and create their own video. Using VR glasses, students view photos from an earlier period, look for old photos and create their own shots. They conclude what differences occurred on the field, and record everything in a notebook. They research and give suggestions on how to improve the living environment in the given locations, which have been changed due to the polarization of the settlements. The students present prepared presentations from the field, presenting the results of the research they came up with while working in the field.	

Level 3 (Advanced/Progressive level):

Subject: Geography

Educational level: Primary education, 5-8 grade (11-14 years) (ISCED2)

Teaching topic (field, phenomena)	**Expected outcomes**	**Realization of field education**

Development of the settlement	Students get to know the local environment better, the historical development of settlements, the structure and expansion of urban spaces. They are trained to use drones and applications that make it easier for them to see space from a different angle. Students know how to explain the causes and consequences of changing the environment of the studied area.	**Training students to use unmanned aerial vehicles.** Going to an open training ground where the tasks will be carried out smoothly. With the help of an expert (in the Republic of Serbia, the Directorate of Civil Aviation of the Republic of Serbia is responsible) and a teacher, students are shown the basics of operating an unmanned aircraft. Students are trained to start, move and land an unmanned aircraft. Based on pre-prepared photographs of objects located in the immediate vicinity, students take photographs of these objects with a drone at a certain height. After explaining the basic recording functions, the students also make a video recording at a certain height and distance, including all given objects. They draw conclusions as to how much the given objects influenced the development of the settlement (economic, cultural) and how much their construction influenced the physiognomy of the settlement. Also, they conclude how much they have affected the environment. In the absence of drones, students can learn about the development of settlements, changes in structure and changes throughout history by scanning objects in the local environment, using the Lens application. By scanning the objects, the students recognize them, and then investigate how the objects looked in the past and record the changes

		that have occurred, thus becoming familiar with the structure and expansion of the settlement. (Example: Activity 3-Culture through the lens; Activity 8-Learning geography and flying)

Proposal for implementation of field education into school curricula (Serbia)

SECONDARY EDUCATION

Level 1 (Basic level):

Subject: Geography

Educational level: Gymnasium, High school, 1-4 (1-3) grade (15-17/18 years) (ISCED3)

Teaching topic	Expected outcomes	Realization of field education
Nature of the Local Environment (Hydrology and Climatology)	Students get to know the basic hydrological properties of a river or other hydrological object in the immediate environment, as well as the peculiarities of the local environment in which they live. They know how to observe the interrelationships between climatic elements and the water regime; They are trained to use applications that will make it easier for them to navigate in space and their digital competencies have been increased; They are trained to work with instruments for measuring temperature and air humidity; They draw conclusions from the obtained research results.	Based on geographic coordinates or a QR code, with the help of a smartphone, students find the required location. Together with the teacher, based on the acquired knowledge, the teacher's questions and direct observation, the students try to conclude what are the basic hydrological characteristics of the hydrological object (river) where the requested location is located. Based on the data they found, the students conclude more about the river regime of the river where the requested location is located and write their observations in the worksheet. Students measure the temperature and humidity of the air using appropriate instruments and record the obtained values in a worksheet. They research, analyze measured values, draw conclusions

		and record everything in a worksheet. Students repeat the measurements at the same location (or several of them by choice) during each season and based on the obtained results draw conclusions about the water regime of the selected hydrological object. Students present prepared presentations from the field in class, presenting the results of the research they came to while working in the field. (Example: Activity 4-Urban climate; Activity 6-Hydroclimatologist; Activity 8-Learning geography and flying; Activity 9-Wine routes).

Level 2 (Intermediate level):

Subject: Geography

Educational level: Gymnasium, High school, 1-4 (1-3) grade (15-17/18 years) (ISCED3)

Teaching topic (field, phenomena)	**Expected outcomes**	**Realization of field education**	**Integrative character (cross curricular coorelation)**
The Economy of Serbia	The student explains the influence of natural and social factors on the development and distribution of economic activities	**Through a visit to a fair event**, students become familiar with the need to organize such manifestations, with their international importance and characteristics (Example: Agricultural Fair, Tourism Fair, Book Fair...)	**Mathematics** - Calculation of income, earnings, monitoring attendance statistics **Informatics -** The use of modern digital devices for the purpose of improving economic activities

			Serbian language - Cherishing the mother tongue and respecting other cultures
Transportation	The student knows how to understand and analyze the traffic characteristics of the local environment, and is able to make suggestions for mitigating potential problems	Students observe and analyze the Urban Plan of Novi Sad together with the teacher. After that, each student opens a google map on their phone and familiarize themselves with the area around the Novi Sad fair. They solve the tasks in the worksheet using the application: - Bus stops that they see in the application try to find live. - They are trying to find live. - They fill in the table. - They open the website on their phones and enter the bus numbers they have previously recorded. - They analyze the map of Novi Sad with the driving lines of the given buses. - They make a conclusion about the convenience of the assembly network. - They write down the answers in the worksheet.	**Informatics** - The use of modern digital devices for the purpose of improving economic activities **Art** - Sketching part of the settlement using different techniques (Example: Activity 13 - Novi Sad fair: importance and sustainability; Activity 16 - My city through tourist locations)

		- They scan the QR code and download the pdf map. They analyze it with the help of the teacher. - They find the place where they are now. - They also observe the situation with parking lots live on the field. - They write down their opinion in the worksheet. - They conclude the importance and impact of the Novi Sad Fair on the local environment.	
Geophysics	The student is familiar with the local environment in which he lives, understanding the permeation of physical-geographical factors and rules. He is trained to use applications that make it easier for him to navigate in space: through active problem solving with practical skills, the material learned becomes more permanent. The student is familiar with cause-and-effect relationships in geography, and	The field work is carried out on the city beach (example: Novi Sad Beach Strand). Through mathematical (calculation) operations, students get to know geography and connect and repeat the previous material, forming an idea of the European continent and the territories through which the Danube flows and how it connects them. Through a direct example, they get to	**Physics** - Getting to know the rules of physics **Mathematics** - performing calculation operations **Physical education** - stay on the beach has a beneficial effect on strengthening immunity (Example: Activity 12 - Geophysicists - If geography was easy, they'd call it physics)

	how changes in one factor (element) affect the change in another factor (element). He sees the importance of spening time outdoors.	know the rules of physics in geographical disciplines. By solving easier and more difficult tasks, they develop logical and abstract thinking. Having previously been familiarized with the problem of the task, the students perform the measurement of the task. In this way, they get to know the skills of navigating nature without instruments. Students observe the coast. By emphasizing the characteristics of other rivers that have a different character, they arrive at results. With the help of a map, students follow the course of the Danube through Serbia and find similarities in its course.	

Level 3 (Advanced/Progressive level):

Subject: Geography

Educational level: Gymnasium, High school, 1-4 (1-3) grade (15-17/18 years) (ISCED3)

Teaching topic (field, phenomena)	**Expected outcomes**	**Realization of field education**
Water Pollution in the City Area	Students recognize and explain the human influence on the change in the physical and chemical composition of water; They recognize the human impact on water pollution and its environment; They get able to use measuring instruments.	The students, divided into groups, follow the teacher to the measuring area where the field work will be carried out. During sampling, students record the basic physical properties of water on paper - color, turbidity, temperature (that is, whether the water is warm or cold), the color of certain substances in the water. Students record on paper the guidelines for working with the colorimeter, during which each of them puts their two samples into the device and records on paper the data obtained from the device. When the students record the data on paper, each of them has the opportunity to present their observations and data obtained in the field and in the laboratory where they then compare with the results of the other group. (Example: Activity 14- Measuring water pollution in the city area)

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