



eSchool Garden

S C H O O L G A R D E N S
F O R F U T U R E
C I T I Z E N S

2018-1-ES01-
KA201-050599

#ESGARDEN

eSchool Garden 

G R O W , R E C Y C L E & E A T L O C A L L Y



A school garden, through various ways and methods of work, encourages students to think creatively and at the same time offers countless opportunities for interdisciplinary teaching, socializing and collaborative and intergenerational learning.

Experiential learning with tangible materials empowers students. It gives them more lasting knowledge and facilitates the transition to abstract ideas.

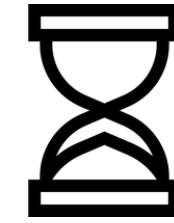
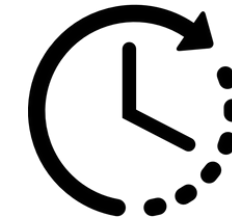
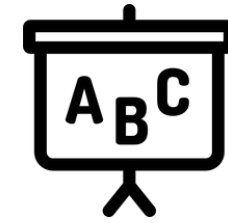
Another important advantage of this way of learning is allowing the students to learn in the open air, surrounded by greenery, which ultimately reduces the students' stress, leading to less stressful school environment.



**OŠ ŠMARTNO POD
ŠMARTNO GORO**



G R O W , R E C Y C L E & E A T L O C A L L Y



#GARDENSARELIFE

AGE OF THE STUDENT

This activity is thought for 9-12-year- old students.

However, it could also be adapted for other students, although contents would need to be adapted.

SUBJECTS INVOLVED

- Science
- Natural Science and Technics
- Geography
- Maths
- Slovene
- English
- Art
- Music

DURATION

The activity is supposed to be carried out during a term.

TIMING

Each subject will develop at least one activity related to the school garden or importance of locally produced food & sustainability.

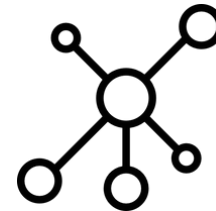
The order in which activities are carried out is not so important, but they should be done in the same period of the year, so the students are able to immerse in the school garden environment.

G R O W , R E C Y C L E & E A T L O C A L L Y



CONTENTS

- Learning about gardening tools and tasks.
 - Learning about plants, their growing conditions and methods of reproduction.
 - Using the garden for interdisciplinary and inter-generational learning.
 - Empowering students about the importance of sustainable development and recycling.
-
-



METHODOLOGY

The main methodology is Collaborative Learning. Students will be able to carry out the activities within different school subjects.

Each member of the group will be able to contribute their way of understanding the task, their creativity, their sensitivity and their ideas to carry out the activity as best as possible and also be able to learn from their classmates.



COMPETENCES

- Mutual respect and collaboration
 - Empathy and appreciation of others
 - Active listening
 - Acceptance of difference and diversity
 - Tolerance, solidarity and support
 - Active and democratic participation
 - Creativity and critical thinking
 - Team working and problem solving
-
-

G R O W ,
 R E C Y C L E
 & E A T
 L O C A L L Y



PROGRESS AND FUTURE GOALS

We intend to use the school garden as an outdoor classroom in the future, adding special areas among the greenery for calming down, reading, counting, creating ...

RELATION WITH SOCIETY

We collaborated with local producers, suppliers and farmers in the construction of the school garden. The garden beds were made from Slovenian timber by a local carpenter. Seeds, tubers, seedlings and soil were provided by a small local company. We shared our activities within the local community by publications in the local newspaper, on the school's & project's website, the project blog. We also shared examples of good teaching practice in the Slovenian pedagogical magazine Naravoslovna solnica.

GROW,
RECYCLE &
EAT
LOCALLY



RELATION WITH THE GARDEN

Healthy eating habits, which are based (among other things) on regular and sufficient consumption of vegetables and fruits, are extremely important for health, quality of life and well-being. From this point of view, it is recommended to eat local, seasonal vegetables and fruits. Also local sustainable food supply has, in addition to better quality food, a wider social significance. Locally grown food often contains less preservatives than food that travels a long way to our plate, as its "shelf" life can be shorter.

INCLUSION

The school garden is one of the invaluable school spaces for learning where the students make contact with nature and develop important values and attitudes, while also acquiring many skills and abilities.

IMPACT

With the introduction of the school garden, we have observed that students are motivated to work in the school garden. Certain learning objectives from the curriculum were addressed with the help of the school garden and so the school garden became a place to acquire new knowledge, skills and habits.

GROW, RECYCLE & EAT LOCALLY



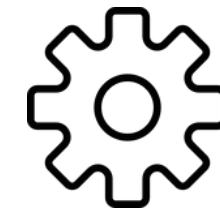
PREVIOUS KNOWLEDGE

What do teachers need?

- Knowing the specific contents of their subject.
- Gardening tools.
- Creative thinking.
- Understanding of interdisciplinary approach.
- Medium-low digital competence.
- Good level of English.

What do students need?

- Basic knowledge in each subject.
- Internet connection.
- An online video tool.



MATERIALS

- Electronic devices: phones, computer and ICT.
- School material: Art material, paper, card stock, paints, brushes, graphics roller, scissors, glue, decorative elements and other stationery material to create posters, stories, etc.
- Gardening tools.
- Student's kitchen.
- Apps: Zoom.

TASK NAME:
SUBJECT:

GROWING SEASON AND SELF-SUFFICIENCY
SCIENCE & TECHNICS



BRIEF DESCRIPTION

With the students we discussed the importance of self-sufficiency and the duration of the growing season in Slovenia. We found that due to the geographical location we only have 6 months of natural conditions to grow our own food.

The solution for extending the growing season can be found in the protection of plants from adverse weather conditions (cold, snow). They can be protected with a garden blanket, with coverings on high flower beds or we can set up greenhouses and do the gardening in them.

SUBTASKS (NUMBER OF SESSIONS)

- Interpretation of learning material. (1)
- Observation of covered raised garden bed & covering crops with a veil. (1)
- *A follow-up dissemination to the 5th grade students (age 10-11) of Vrhovci Primary School.

TASK NAME: GARDENING TASKS & TOOLS
SUBJECT: SCIENCE & TECHNICS, SOCIAL STUDIES

BRIEF DESCRIPTION

The students get acquainted with different garden tasks students, acquire work habits and practiced fine motor skills. During this activity the students & the teacher have the opportunity to chat and socialize.

SUBTASKS (NUMBER OF SESSIONS)

- Presentation of garden tasks and tools. (1)
- Presentation of activities. (1)
- Gardening practice. (1)
- *A follow-up dissemination to the 5th grade students (age 10-11) of Vrhovci Primary School.
- *A follow-up dissemination at the Slovenian Network of Health Promoting Schools Central Slovenia regional meeting.



TASK NAME:

SEEDING OR PLANTING?

SUBJECT:

SCIENCE & TECHNICS, MATHS

BRIEF DESCRIPTION

The 9th grade students (aged 14-15) prepared garden beds for us (weeded, raked and aired the soil). We then divided the available space between 2 parts and by doing so also learnt parts constituting the whole at Maths. We learnt the difference between planting (seedlings) and sowing (seeds).

SUBTASKS (NUMBER OF SESSIONS)

- Preparation of garden beds. (1)
- Learning about "parts constituting the whole" at Maths. (1)
- Interpretation of the learning material. (1)
- *A follow up dissemination to the 5th grade students (aged 10-11) of Vrhovci Primary School



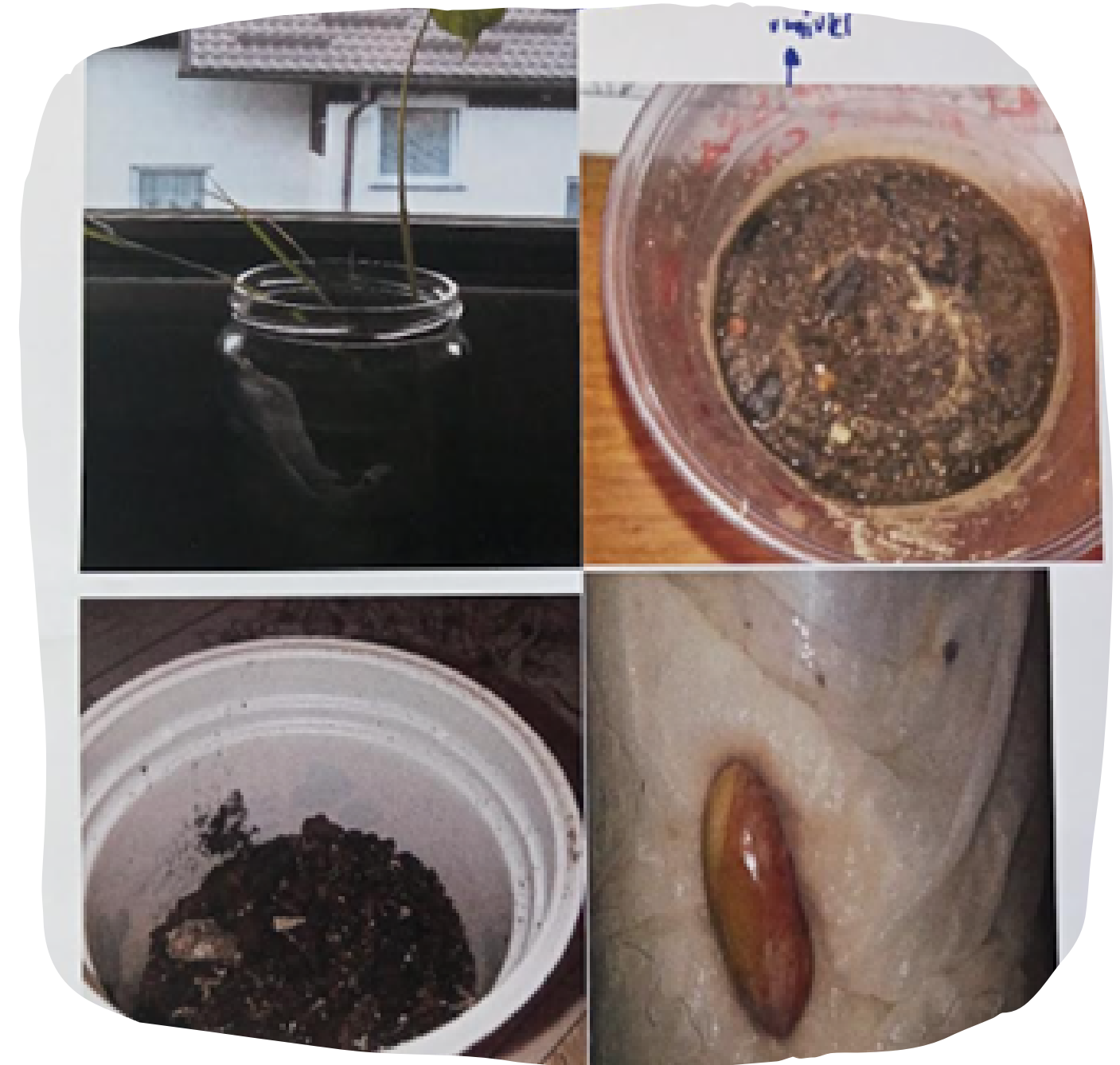
TASK NAME: GERMINATION
SUBJECT: SCIENCE

BRIEF DESCRIPTION

At Science lessons we discussed the structure and types of seeds. We learnt the differences between the seed structure of monocotyledons (corn) and dicotyledons (beans). At school, we conducted germination experiments under different conditions. The students also experimented with germination themselves in order to stimulate their abilities to observe. They took notes about their findings on a daily basis.

SUBTASKS (NUMBER OF SESSIONS)

- Interpretation of the learning material. (1)
- Observation. (1)
- Writing the report. (1)
- Discussion on the findings & results. (1)
- *A follow-up dissemination to their peers - other 4th grade students (aged 9-10).



TASK NAME:

A SPRING-MAN

SUBJECT:

SCIENCE & TECHNICS, ENGLISH, ART &
SLOVENE

BRIEF DESCRIPTION

The 6th grade students (aged 11-12) presented us the seed types. At Science and Technology lessons we discussed the growing conditions necessary for plant development (soil and its porousness, water, light, temperature). We performed an experiment to germinate grass seeds. We made spring hats where we used old nylon socks instead of pots, and we found out that porousness is very important for germination (too often woven fabrics are not sufficiently porous and prevent plants from developing). Through the activities, we also became aware of the concept of recycling. The spring haircuts were cut by the students, they added the desired look and by doing so developed their sense of aesthetics ([Video 1](#)/ [Video 2](#)).

SUBTASKS (NUMBER OF SESSIONS)

- interpretation of the learning material. (1)
- Observation. (1)
- Making notes on creative process & recording a bilingual video. (2)
- Discussion on results. (1)
- *A follow-up dissemination to the 3rd grade students (aged 8-9) and to the 5th grade students (aged 10-11) of Vrhovci Primary School.



TASK NAME: POLLINATORS
SUBJECT: ART, SCIENCE & TECHNICS

BRIEF DESCRIPTION

The 6th grade students (aged 11-12) introduced us the topic of pollinators and their importance in crop development. Afterwards, we observed the bees at work and toured the insect hotel. At Arts we made pollinator drawings.

SUBTASKS (NUMBER OF SESSIONS)

- Writing & illustrating the poems. (3)
- Reading the poems. (1)
- *A follow-up dissemination to the 4th grade students (aged 9-10) and to the 5th grade students (aged 10-11) of Vrhovci Primary School.



TASK NAME:
SUBJECT:

DANDELION DEVELOPMENT CYCLE

SCIENCE



BRIEF DESCRIPTION

While visiting the school garden, the 6th grade students (aged 11-12), also observed nearby meadow plants. They found that dandelion flower is very often present. We decided to follow its development cycle. Each time we went to the garden, we took photos of different developmental stages and at the end we edited the images in Word/ Powerpoint, or the students simply drew a developmental circle. While observing the dandelion, we talked about its developmental stages.

SUBTASKS (NUMBER OF SESSIONS)

- Taking photos. (1)
- Producing Word or Power point photo depiction of developmental stages. (2)
- Drawing. (3)
- *A follow-up dissemination to other 4th grade students (aged 9-10).

TASK NAME:
SUBJECT:

PAINTING, DRAWING & PRINTING
ART

BRIEF DESCRIPTION

First, the 6th grade students (aged 11-12) presented us the development circle of dandelion, then we went to the school garden to observe it ourselves. We observed parts of the plant and learnt their names. We observed it on several occasions and thus followed the transformation of the flower, eagerly looking for dandelion seed heads, which provided the students with fun, games and joy while blowing the seeds all around. At Arts the students also painted, drew & printed the flower.

SUBTASKS (NUMBER OF SESSIONS)

- Observation in the garden. (2)
- Painting, drawing and printing. (6)
- *A follow-up dissemination to the 5th grade students (age 10-11) of Vrhovci Primary School.
- *A follow-up dissemination at the Slovenian Network of Health Promoting Schools Central Slovenia regional meeting.



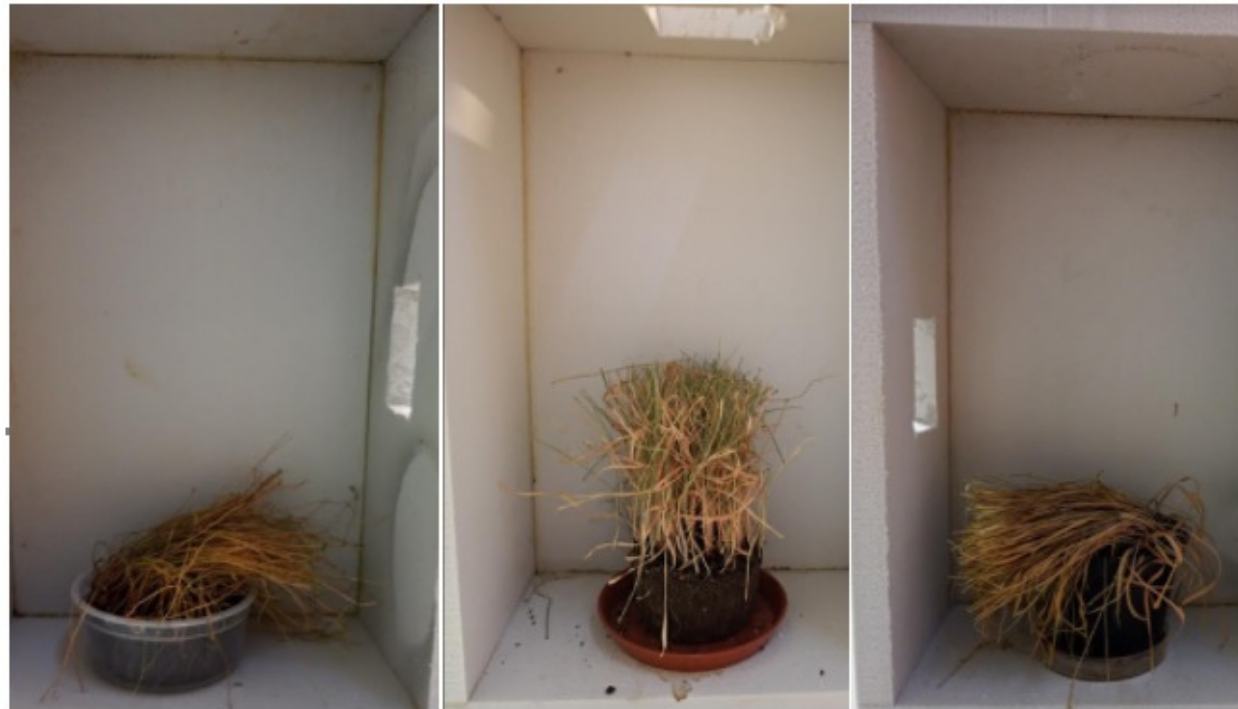
TASK NAME: **IMPACT OF LIGHT ON THE PLANT'S GROWTH**
SUBJECT: **SCIENCE**

BRIEF DESCRIPTION

At Science class we did an experiment where we sowed wheat grains in three pots. We put each pot in its own crate. The crates had the same size openings that were located on different parts (left, top and right). We watered the pots regularly.

SUBTASKS (NUMBER OF SESSIONS)

- Setting up the experiment with the students & regular watering. (1)
- Discussion on the results. (1)
- *A follow-up dissemination to other 4th grade students (aged 9-10).



TASK NAME: PLANT REPRODUCTION
SUBJECT: SOCIAL STUDIES

BRIEF DESCRIPTION

We did different experiments with the students and observed different ways of asexual plant reproduction.

SUBTASKS (NUMBER OF SESSIONS)

- Learning about the content & setting up an experiment. (1)
- Observation. (3)
- Discussion on results. (1)
- *A follow-up dissemination to other 4th grade students (aged 9-10).



TASK NAME: MUSIC THEORY
SUBJECT: MUSIC

BRIEF DESCRIPTION

We learnt a lot about music theory in the school garden. We studied accented and unaccented tones, note lines, notes and solmization syllables. We also learnt to sing and play tones. Once we mastered the material, we accompanied the singing of our songs with instruments and recorded videos ([Video 1](#)/ [Video 2](#)).

SUBTASKS (NUMBER OF SESSIONS)

- Learning about the content. (1)
- Seeding of corn salad following the pattern of of note stave. (1)
- Creating music notes. (1)
- Learning songs & playing the music tones. (4)
- Recording a video. (1)
- *A follow-up dissemination to the 5th grade students (age 10-11) of Vrhovci Primary School.
- *A follow-up dissemination at the Slovenian Network of Health Promoting Schools Central Slovenia regional meeting.



TASK NAME:
SUBJECT:

ARITHMETICS, GEOMETRY, MEASURING
MATHS

BRIEF DESCRIPTION

At Maths, we covered different learning units from the curriculum in the school garden. In the school garden we added, subtracted, divided, multiplied, measured, learnt mathematical concepts and learnt about the properties of geometric forms and figures. The school garden served as our starting point - work at a tangible level, which made it easier for many students to move to abstract concepts.

SUBTASKS (NUMBER OF SESSIONS)

- Arithmetics. (5)
- Geometry. (5)
- Measuring. (5)
- *A follow-up dissemination to the 5th grade students (age 10-11) of Vrhovci Primary School.
- *A follow-up dissemination at the Slovenian Network of Health Promoting Schools Central Slovenia regional meeting.



TASK NAME: SPELLING
 SUBJECT: SLOVENIAN

BRIEF DESCRIPTION

Through various activities we expanded vocabulary, learnt some spelling rules, final and infinitive punctuation, wrote an application letter, learnt verbal and nonverbal communication, trained in reading, mastered a higher level of reading technique and improved reading literacy. We wrote various records and texts about the activities carried out in the school garden.

SUBTASKS (NUMBER OF SESSIONS)

- Learning about the content. (5)
- Consolidating learning content in the school garden. (3)
- *A follow-up dissemination to the 5th grade students (aged 10-11) of Vrhovci Primary School.



TASK NAME:
SUBJECT:

GARDEN POEMS
SLOVENIAN

BRIEF DESCRIPTION

The students wrote poems about the school garden. While doing so, they paid attention to the poem form, rhyme, and spelling. The poems were finally illustrated and read to classmates.

SUBTASKS (NUMBER OF SESSIONS)

- Writing poems. (1)
- Creating illustrations for the poems. (1)
- Reading poems. (1)
- *A follow-up dissemination to the 5th grade students (aged 10-11) of Vrhovci Primary School.



TASK NAME:
SUBJECT:

FLOOR PLAN & SCALE

SOCIAL STUDIES & MATHS



BRIEF DESCRIPTION

At Maths we learned about the unit of measurement for length. In the school garden we performed measurements with various measuring props, wrote them down and solved a worksheet at Social Studies lesson, where we transferred theoretical knowledge about the floor plan, sketch and scale to useful knowledge.

SUBTASKS (NUMBER OF SESSIONS)

- Interpretation of the learning material. (3)
- Observation, measuring & taking notes. (1)
- Solving a worksheet. (1)

*Samples of interdisciplinary knowledge assessment: [Sample 1/](#) [Sample 2.](#)

TASK NAME:
SUBJECT:

TREASURE HUNT

MATHS, SCIENCE AND TECHNICS

BRIEF DESCRIPTION

The 9th grade students planted potatoes and read us a "potato" story. We helped them water the potatoes and dig them up. We had a real hunt for hidden treasure, we carefully dug up the tubers and took them out of the ground so as not to damage them. We also weighed our treasure; we produced 3 kg of potatoes per square meter. We talked about not needing a large garden to support your family. The obtained weight was dilligently converted into larger and smaller units of measurement and the basic mass conversions were repeated. We divided the potatoes fairly among all the students, thus repeating the counting to 1000 and dividing.

The students took the potatoes home, passed on to the parents the acquired knowledge about self-sufficiency and sustainable orientation about the shortest possible distance from the garden to the plate, and then prepared delicious meals together with their families.

SUBTASKS (NUMBER OF SESSIONS)

- Listening to the story. (1)
- Treasure hunt. (1)
- Counting & dividing. (1)



TASK NAME:

CROPS

SUBJECT:

SCIENCE & TECHNICS



BRIEF DESCRIPTION

We grew a variety of vegetables and herbs in the school garden. Herbs were used in the school kitchen to prepare school meals. Vegetables enriched our school snacks and lunches.

SUBTASKS (NUMBER OF SESSIONS)

- Tending the plants & crops in the school garden. (20)

TASK NAME: HEALTHY SNACK FROM THE SCHOOL GARDEN
SUBJECT: SCIENCE & TECHNICS

BRIEF DESCRIPTION

We enriched our school lunch with products from the school garden
([Video 1](#)/[Video 2](#)/[Video 3](#)/[Video 4](#)).

SUBTASKS (NUMBER OF SESSIONS)

- Harvesting the crops. (5)
- Preparing school lunches. (5)
- *A follow-up dissemination at the Slovenian Network of Health Promoting Schools Central Slovenia regional meeting.



TASK NAME: RAINWATER COLLECTORS
SUBJECT: SCIENCE & ART

BRIEF DESCRIPTION

Each class (all cohorts of students) participating in the Erasmus+ project made its own rainwater collector from the recycled materials & old umbrellas. The students learnt about rainwater collecting system. Collected water was used for watering our crops.



TASK NAME: CROPS AS AN ART MOTIF
SUBJECT: ARTS

BRIEF DISCRIPTION

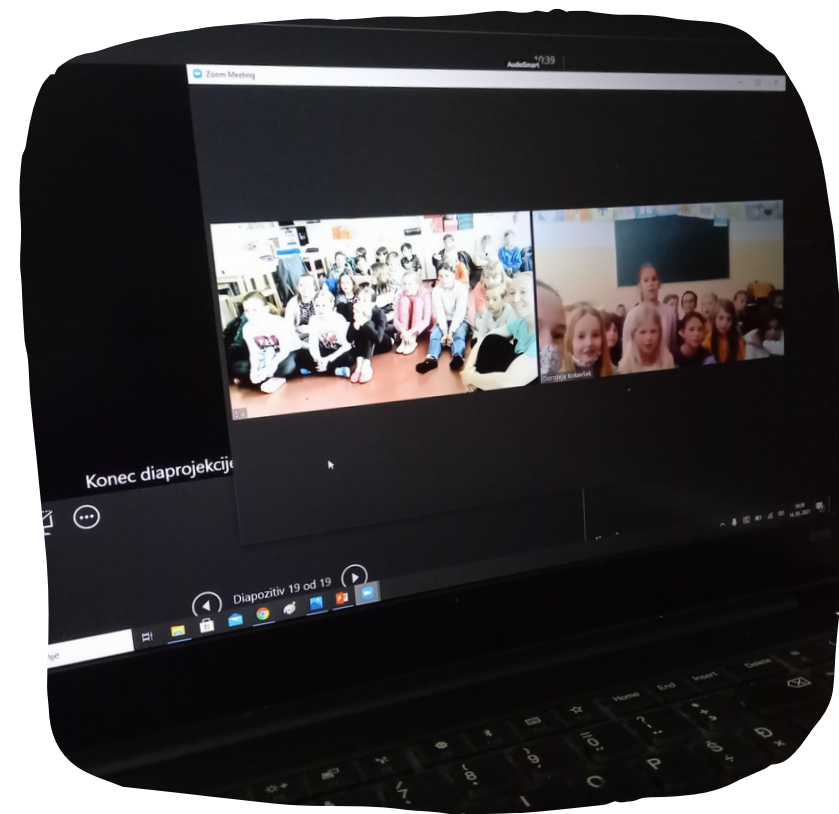
During the school year we created various Art tasks in various Art techniques with the motives inspired by the school garden ([Video](#)).



TASK NAME: DISSEMINATION OF THE PROJECT
SUBJECT: CROSS-SUBJECT TRANSFER OF KNOWLEDGE

BRIEF DESCRIPTION

We presented our work within the Erasmus + project on a broader scale. We connected with the 5th grade students (age 10-11) of the Vrhovci Primary School via videoconference. We also presented our good practice in an article in the Slovenian pedagogical journal Naravoslovna solnica & in the local newspaper "Šmarnogorski razgledi". We also disseminated our work within the Slovenian Network of Health Promoting Schools at Central Slovenia regional meeting for team leaders and with a publication in the Schools for Health in Europe Network Foundation newspaper SHE Newsletter.





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

This project "esGarden: School Gardens for Guture Citizens ERASMUS+ / 2018-1-ES01-KA201-050599" has been funded with support from the European Commission.

This eBook reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.