TEACHERS' HANDBOOK

HOW TO INTEGRATE ENVIRONMENT AND CLIMATE CHANGE INTO CURRICULA USING DIGITAL GAME-BASED LEARNING ACTIVITIES WITH THE POWER OF LATENT LEARNING

Project Partners;

1 [redacted]

Handbook

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Education of this time of information has a big role in forming the future. Innovation of individuals and groups can be invested in terms of intelligence, creativity and capacity. Examined in the field of pedagogy and psychology, education seems to be more fruitful by playing during a learning phase.

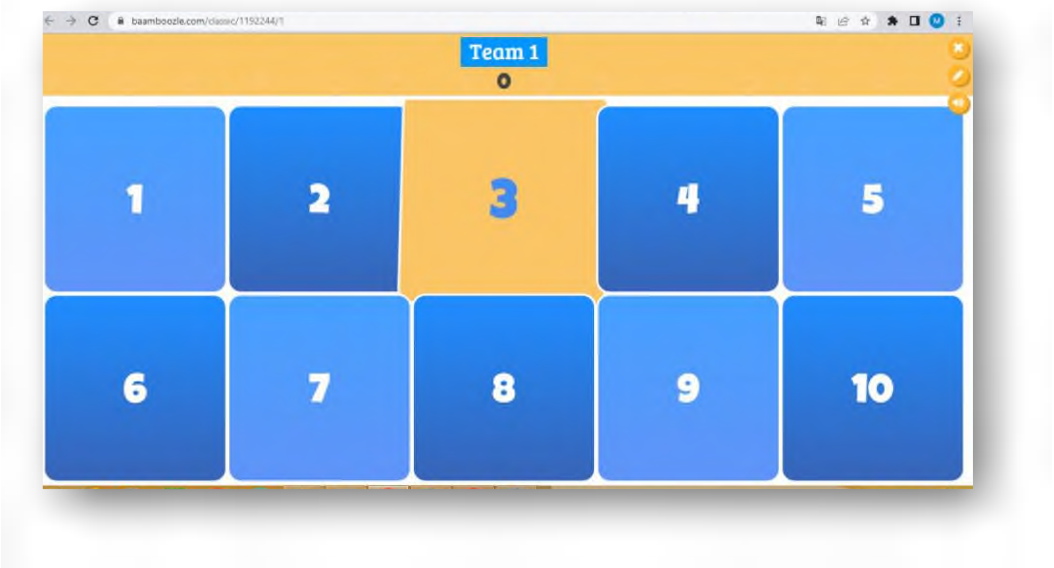
Researchers bring about the idea that educational and digital games promote not only emotional and cognitive abilities, motor skills and sensory perception but also self-confidence and social behavior. Having a learning friendly potential, digital games have led to a new type of approach in education "digital game-based learning".

Digital games provide the learners with exciting and refreshing effect in learning , thus they serve an essential purpose in classrooms. While playing digital or educational games, learners can calm and relax as well. One can benefit from these games and activities. There are many advantages.

In order to name and order some of the advantages, here are a few examples: The player has to achieve clearly defined goals. Both players and students are motivated to achieve these goals. For this you need to become active. Both the learning task and the challenge required by the game require their full attention. Successful play as well as learning with good results require a certain degree of effort and the ability to solve the problems that have arisen. Players, like students, are not allowed to be either overworked or underworked in order to maintain their motivation.

In the light of this information, here are the games C.C.D.C. project partners (TURKEY(Coordinator- HOCA AHMED YESEVI ANADOLU LISESI), GREECE (Gymnasio L.T. Halkis "Socratis Fanurakis"), PORTUGAL (Escola Secundária de Penafiel), CROATIA (ZDRAVI GRAD), ROMANIA (UNIVERSITATEA DIN PITESTI)) prepared in the second mobility meeting in Portugal:

1. BAAMBOOZLE

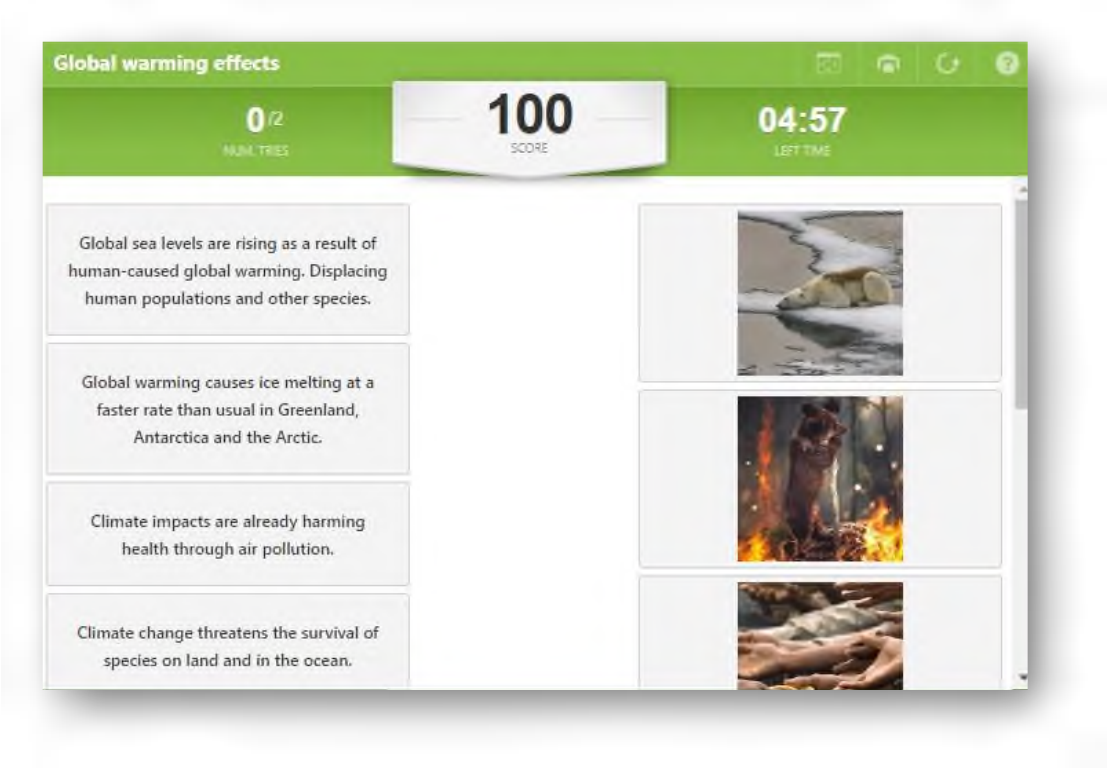


Baamboozle is a fast and easy-to-use tool to play and create games. Teachers can create learning games with text, image animation, and more – or browse thousands of existing games to find one that fits. Learning is done in an engaging and competitive environment, with the whole class or in groups.

https://www.baamboozle.com/classic/1192244/1

https://www.baamboozle.com/classic/1192276/1

2. EDUCAPLAY

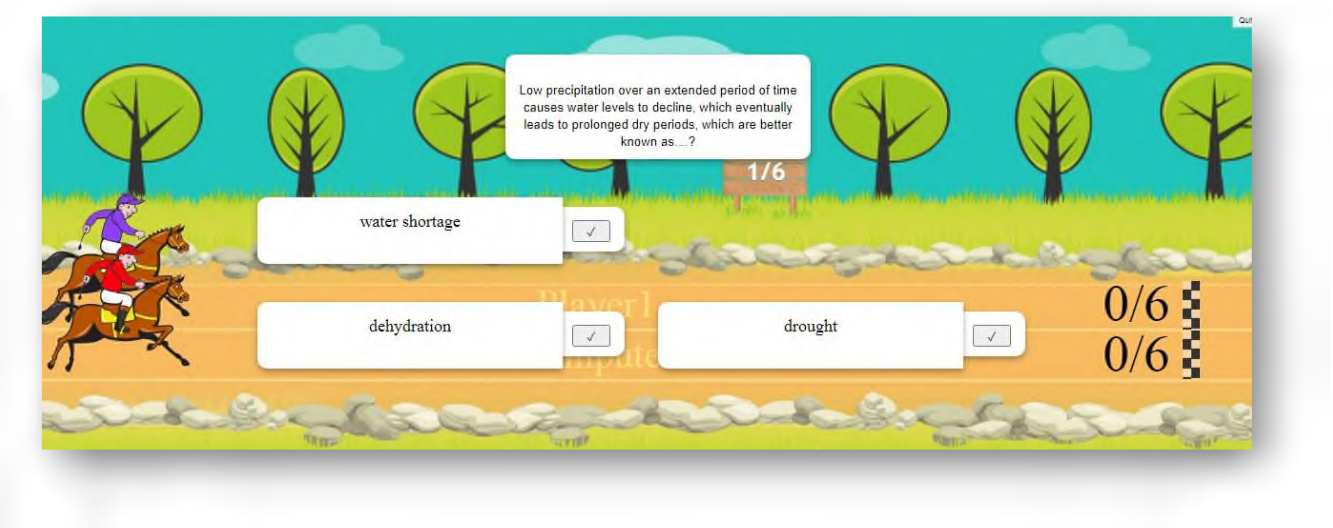


Educaplay is a free interactive platform, with sixteen types of games that can be played online: crossword puzzle, word search puzzle, ABC game, memory game, quiz, matching columns game, unscramble words game, slideshow, dictation game and dialogue game. It is one of the most complete tool of gamification that we can find in order to create educational activities, to manage classes nd to encourage engagement. Teachers can create their own educational resources, by using this free educational games generator.

https://www.educaplay.com/learning-resources/13023914-global_warming_effects.html

https://www.educaplay.com/learning-resources/13024272-ways_to_reduce.html

3. LEARNINGAPPS

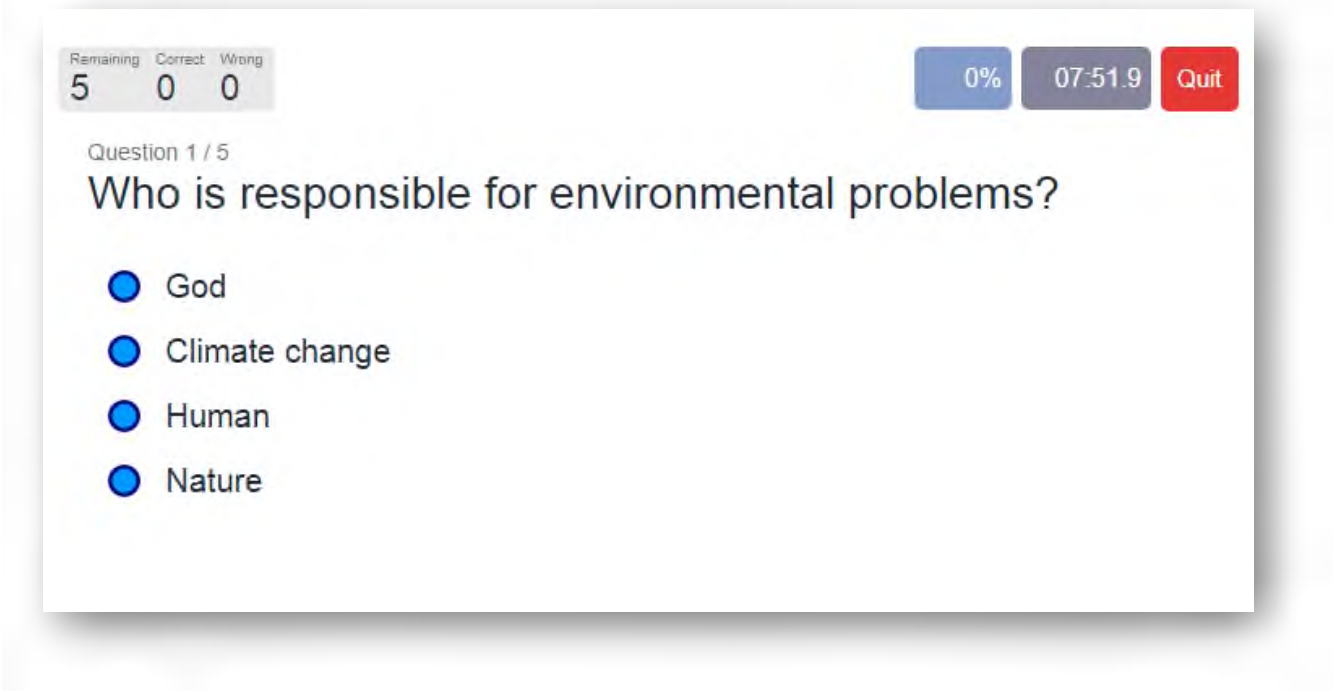


Learningapps is a Web application designed to facilitate learning and pre-learning processes through interactive modules**.** These modules can be integrated directly into learning content, but they can also be designed online by the users themselves or can be modified. The aim is to gather modules that can be reused and make them available to the public.

https://learningapps.org/view26694121

https://learningapps.org/26696111

4. PURPOSE GAMES

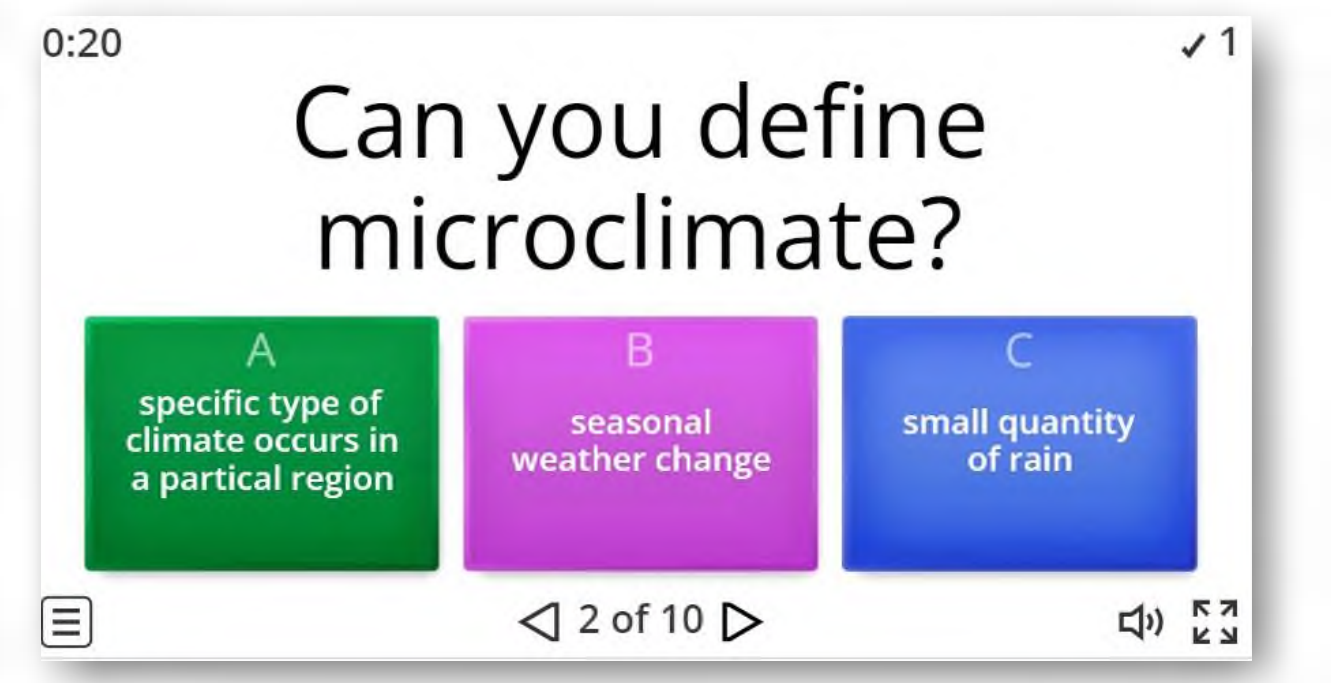


Purpose Games is a free platform for creating digital educational games in order to use them in the classroom. It allows users to create custom games, share games, and play games.

https://www.purposegames.com/game/basic-environemtal-questions

https://www.purposegames.com/game/environemental-issues

5. WORDWALL



Wordwall is an easy way to create a teacher's teaching resources. Making custom activities such as quizzes, match ups, word games, and much more at classroom can create a beneficial learning phase.

https://wordwall.net/resource/36123691/game-1

https://wordwall.net/resource/36164300/lets-see-what-you-have-learned

TEACHERS' HANDBOOK 2

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Project Number: 2021-1-TR01-KA210-SCH-000032316

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HANDBOOK-2

Latent learning – an important educational experience

Latent learning can be defined as a form of unintentional, spontaneous learning, naturally articulated in response to a type of curiosity, the result of an exploration, arising from an investigation, detached by implicit correlations between the data of existence.

We learn so many things without even realizing that learning has already taken place. This has a lot of benefits in daily life.

- Latent learning improves problem-solving abilities.
- This learning is a cognitive process. Thus, it also helps to sharpen our memory and reasoning skills.
- Latent learning helps to form mental associations that improve a person's ability to learn complex things.
- It facilitates critical thinking.
- Latent learning is used to train animals such as dogs and parrots.
- Children can be taught to learn good habits by using latent learning.
- Latent learning happens in classroom setups where students learn simply by observing the teachers. Later on, they replicate the same learning in solving complex problems.

The Role of the Teacher With Latent Learning

As teachers, we know about the importance of role models in educating young people, about what force of formative impact can have the presence of significant adults, whose behaviors are observed, admired and taken over as successful models. Can latent learning be a good opportunity for deep learning? Surely yes, to the extent that through it lucid filters of critical

thinking are applied, relevant associations are made, various encodings are granted to life experiences, the efficient transfer of knowledge to other contexts of signification takes place.

Teachers/stuff in our project have transfered their survey results on what school subjects include the environment and climate change in their curriculum and to what extent.Then, they have been trained on latent learning and how to combine two different objectives that the students are aimed to pick consciously and subconsciously using digital games. After that, the teacher groups which were formed before according to their branches have gathered to identify a common learning outcome in their curricula.They have focused on a part of their lesson plan where they use digital games.They have made their preparations.They have created at least 2 different games that teach/practice the learning outcome of their curriculum and raise awareness of environment and climate change with stimuli. In the end, they have prepared a description on how to implement the activity.

Here are the steps teachers/stuff followed during implementation:

Lesson title – for the following school disciplines or learning area: arts, economics / business, languages, chemistry, physics, biology / ecology, sports, history, educational technology.

Main Objective -is represented by Integrating environment and climate change subconsciously to the learning outcome of the lesson using digital games' web 2.0 tools. Thus, the students will be able to learn about the outcome consciously while they are raising awareness on the environment and climate change subconsciously using digital games. These games can be applied to indoor and outdoor learning environments, distance and traditional (face-to-face) classrooms.

Learning Objectives of the lessons: Upon completion of each lesson, students will be able to acquire understanding of the lesson's topic, as well as to develop environmental awareness.

Learning outcomes and environmental awareness and climate change implications are made through digital games.

Description of the game and activities and technical specs- offers information about the development of the games, how they should be played.

Key points for the teacher to underline: represent the key information that should be brought in discussion while teaching.

LESSON PLANS

Arts Lesson Plan

https://drive.google.com/file/d/15UJ1QfAKFXod_eCZsn8mQqwy-e3TlNf4/view?usp=drive_link

Biology Lesson Plan

https://drive.google.com/file/d/178PYVQumrd3tlYz4SYeXaSi0PC5obtsk/view?usp=drive_link

Chemistry Lesson Plan

https://drive.google.com/file/d/1v6Z2Y5-EH9dO9VgmQbgL1bb0rJZh4r3v/view?usp=drive_link

Economics Business Lesson Plan

https://drive.google.com/file/d/1bM8yER2e3aEOEqo6pZbFMRnwJs-ZrJpn/view?usp=drive_link

English Languages Lesson Plan

https://drive.google.com/file/d/13WdR1QSXAoDdPoWpymN51xfiQUg4bcoY/view?usp=drive_link

Geography Lesson Plan

https://drive.google.com/file/d/1x0oCXeoNSuPeVRfAiWbbxib5suPD_L_L/view?usp=drive_link

History Lesson Plan

https://drive.google.com/file/d/1y23wZ9WCGZmEIQgh4Jw3IZhxrEvbGrUW/view?usp=drive_link

Physics Earth Science Lesson Plan

https://drive.google.com/file/d/1CGBSrJG1essvapxKHiiiXzj_T362qJjQ/view?usp=drive_link

Sports Lesson Plan

https://drive.google.com/file/d/1kGiu3pb1DcARbVPyjSvWnUr7wWkd1cUH/view?usp=drive_link

Technology Lesson Plan

https://drive.google.com/file/d/11hG9Cp9Hqy-BTJRrryrBmhVnMal2gC7d/view?usp=drive_link

GAMES

Chemistry Game

https://learningapps.org/display?v=ptia5tk7c23

A visit to the mountains Game

https://learningapps.org/display?v=pnsa5qc0v23

Energy Forms And Changes Game

https://learningapps.org/watch?v=pqoet2zh523

Save Water- Save the Planet Game

https://learningapps.org/30412409

Climate Change - Puzzle Game

https://www.educaplay.com/learning-resources/14775443-climate_change.html

Climate - Fill in the blank game

https://www.educaplay.com/learning-resources/14776583-climate.html

Climate Change on Industrial Revolution - Fill in the blank game

https://www.educaplay.com/learning-resources/14764789-climate_change_on_industrial_revolution.html

Sustainable Scuba Diving

https://www.educaplay.com/learning-resources/14758176-sustainable_scuba_diving.html

Being a Responsible Hiker

https://wordwall.net/resource/55913537/being-a-responsible-hiker

The Water Cycle - Fill in the blank game

https://wordwall.net/resource/55956722

TEACHERS' HANDBOOK -3-

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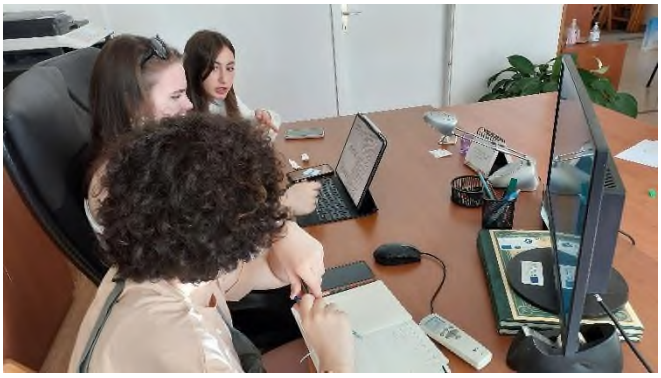
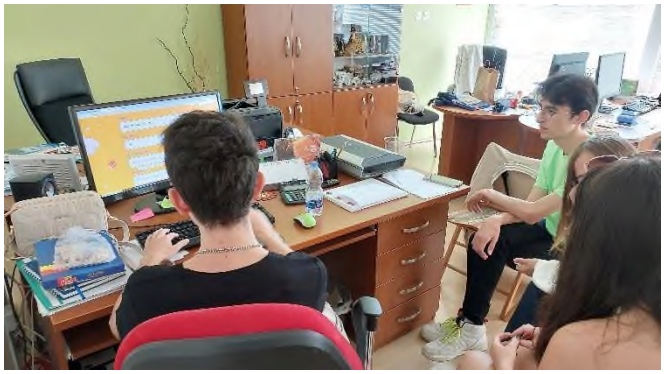
HANDBOOK-3

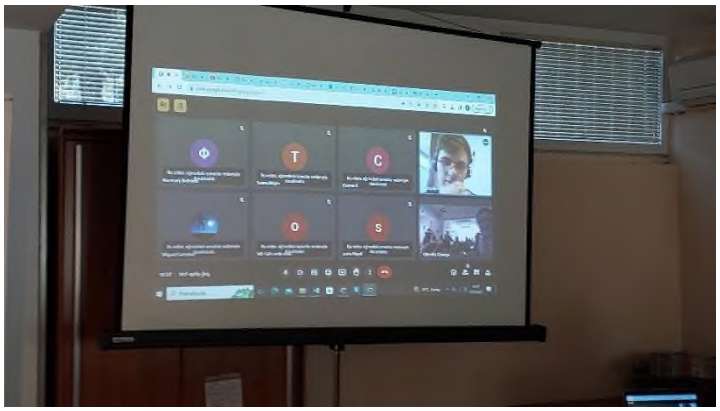
Play And Learning

In terms of psychology and pedagogy, "Play and learning" occupies an important role because the game is an experimental space of essential importance for children and adolescents. And, the best way to learn something is by having fun. During the game, they develop emotional and cognitive abilities, train their motor skills and sensory perception, they form their self-confidence and social behavior. At the same time, children and adolescents become creative when they play and learn to cope better with failures.





Games serve an essential purpose in classrooms. They promote the idea that learning is fun, and they enable teachers to reinforce concepts and involve all students in the learning process. In the spotlight is the question of whether through digital games one can really achieve similar learning effects as in the case of analog games. Different digital games can address different types of learning: cognitive and haptic learning, to the same extent as visual or auditory learning. In role-playing, children and adolescents have the opportunity to test and gather experiences that are not possible for them in their daily lives.

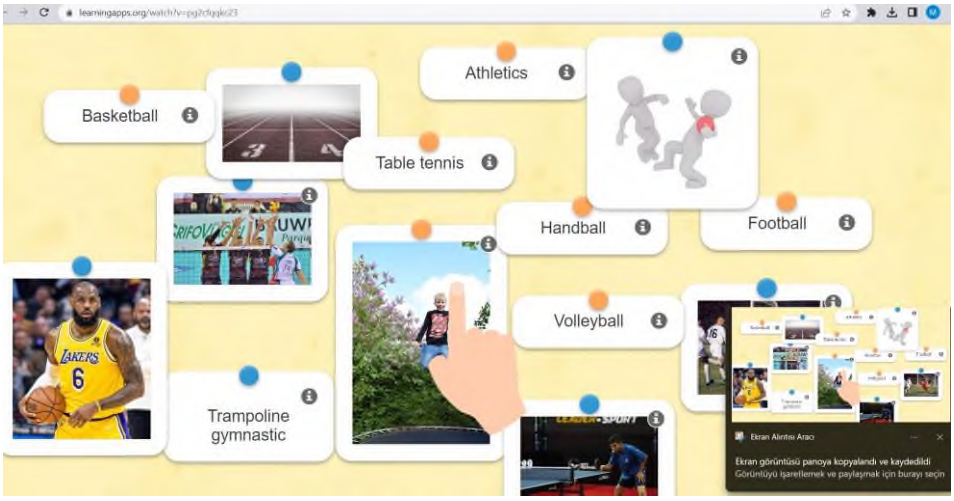


The students have been put into 4 mixed groups to create digital games. Each group has had a mentor teacher. Teachers have helped students create digital games. These games are in specific objectives of particular lessons/domains. The students have used five digital tools picked up from a poll in order to create the games. The games have aimed at reaching the target objective of the specified lesson/domain.

GAMES

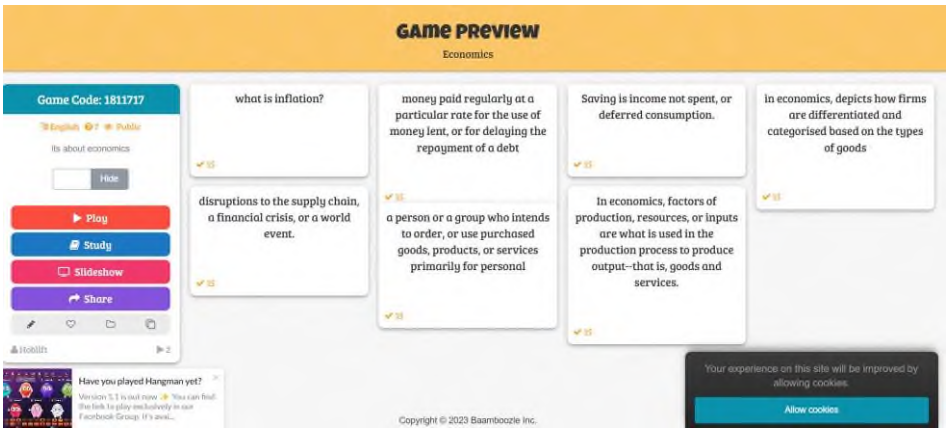
Group 1 – Learningapps – Sports

https://learningapps.org/watch?v=pg2cfqqkc23



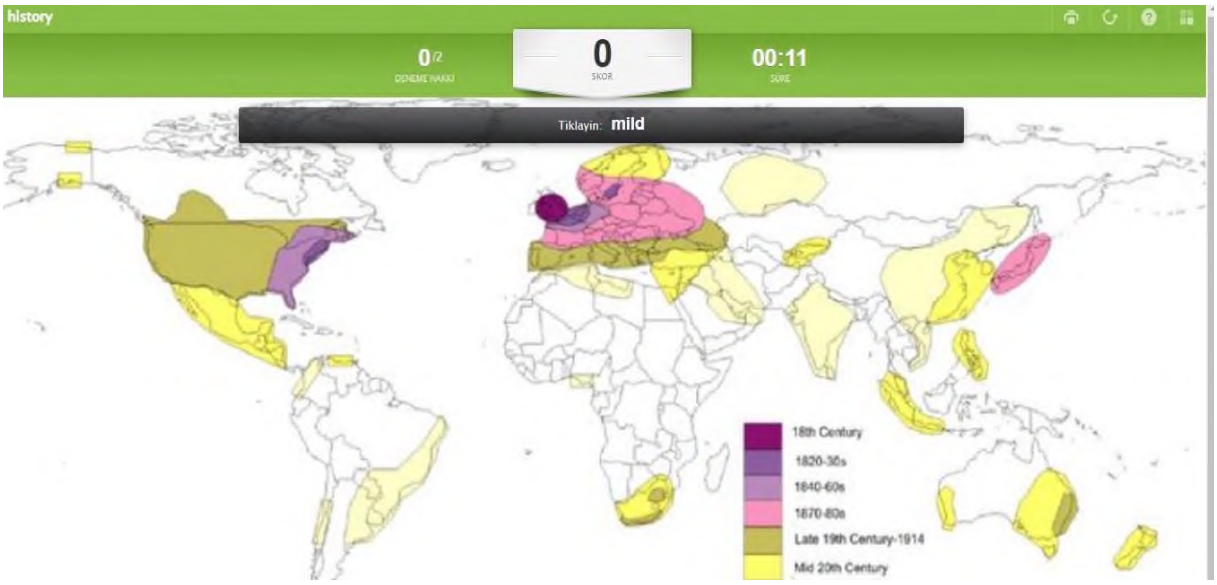
Group 1 – Baamboozle- Economics

https://www.baamboozle.com/game/1811717



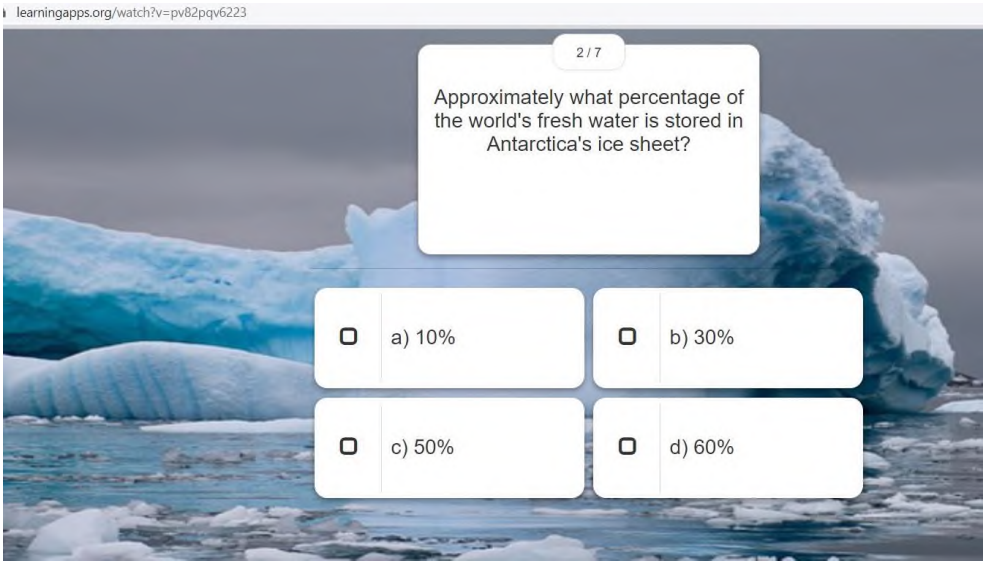
Group 2 - Educaplay – History

https://www.educaplay.com/game/16733789-history.html



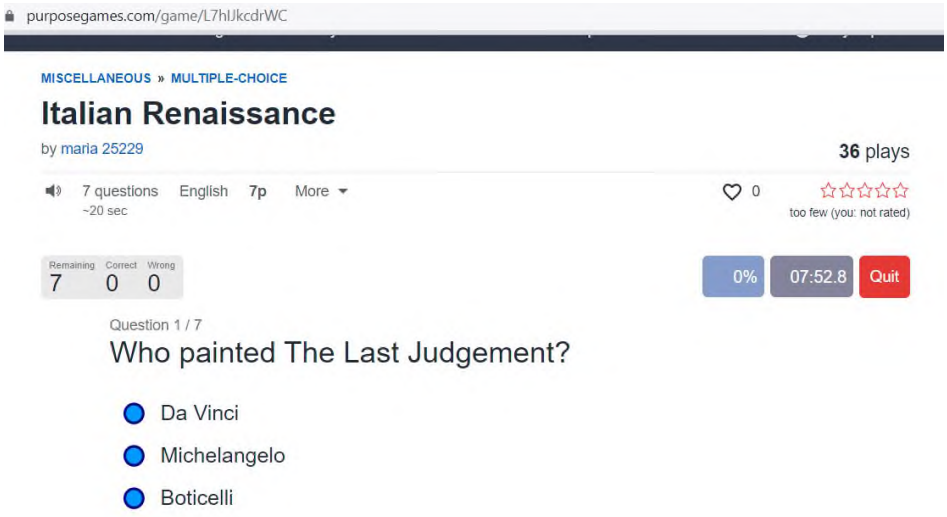
Group 2 – Learningapps - Geography – Antartica

https://learningapps.org/watch?v=pv82pqv6223



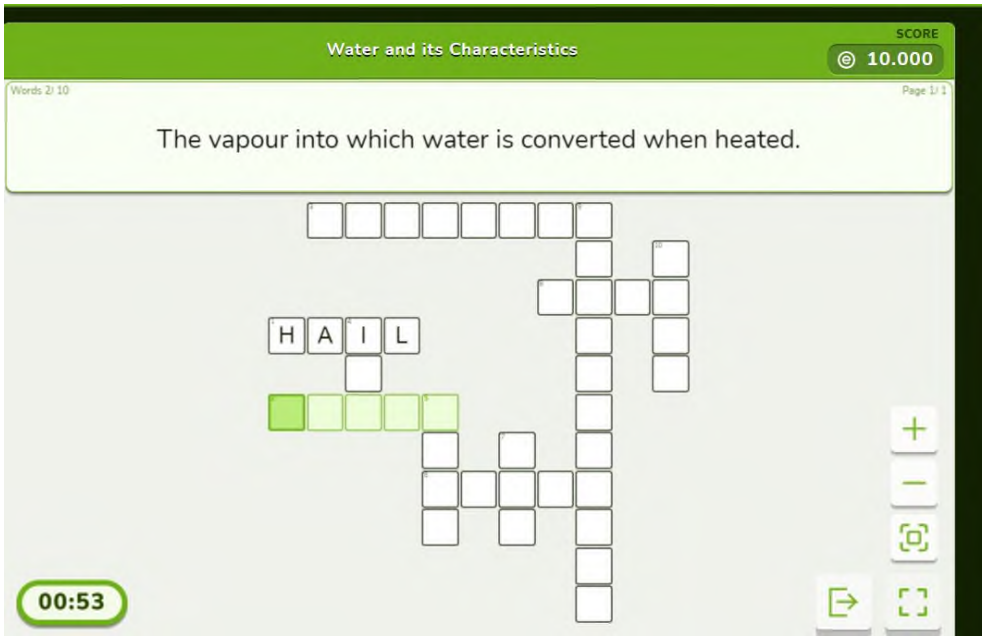
Group 3 - Educaplay - Art Lesson

https://www.educaplay.com/learning-resources/16293164-water_and_its_characteristics.html



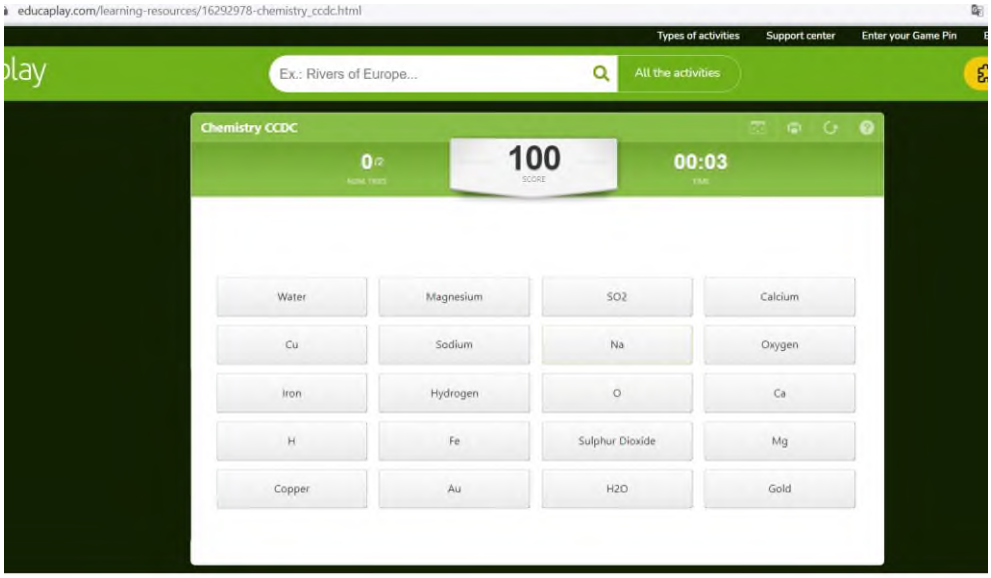
Group 3 - Purposegames- Geography

https://www.purposegames.com/game/L7hIJkcdrWC



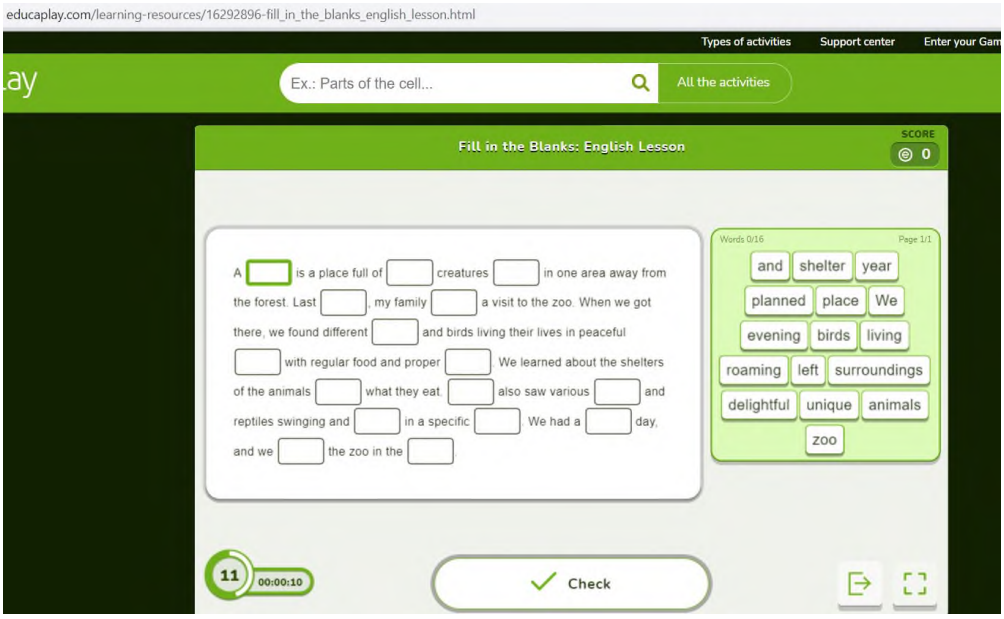
Group 4 - Educaplay – Chemistry Lesson

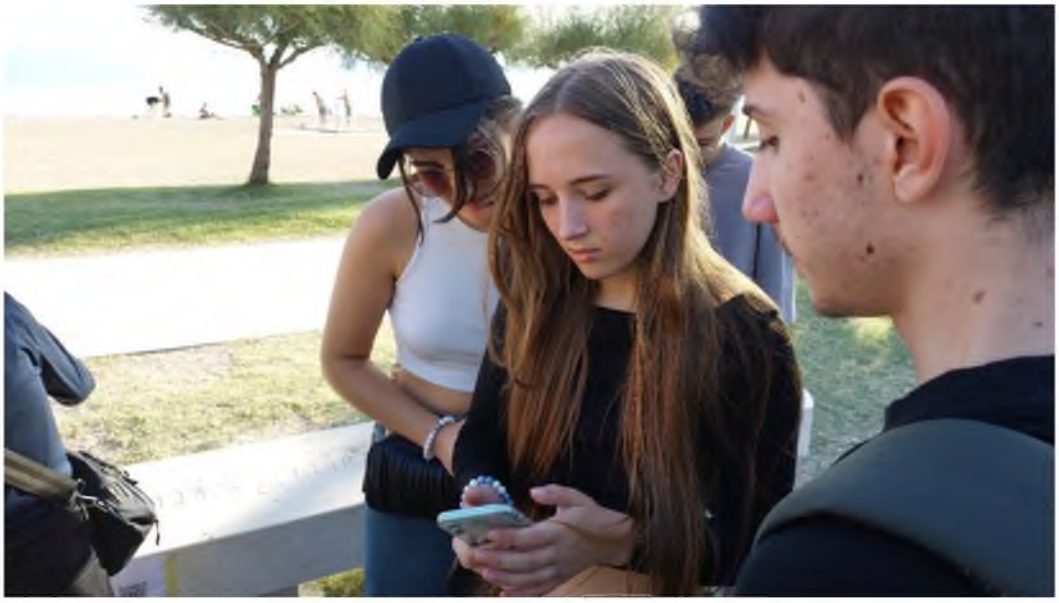
https://www.educaplay.com/learning-resources/16292978-chemistry_ccdc.html



Group 4 - Educaplay – English Language

https://www.educaplay.com/learning-resources/16292896-fill_in_the_blanks_english_lesson.html



The tools, which have been chosen and taught by the training partners in advance, have been applicable to all branches in terms of integrating environment and climate change latently.

ORIENTEERING