

GUIDE ACTIVITY INTELLECTUAL OUTPUTS

INNOVATIVE SCHOOLS ADAPTED TO THE DIGITAL SOCIETY FOR IMPROVING TECHNOLOGICAL EDUCATIONAL SKILLS

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OUTPUT 4 EDUCATIONAL BREAKOUT

EDUCATIONAL BREAKOUT ALLOWS THE TEACHER TO MOTIVATE STUDENTS, PROMOTING INCLUSIVENESS, TEAMWORK, PROBLEM SOLVING. ALL IN A SERIOUS GAMING ENVIRONMENT





TITLE Primary and secondary colours

ABSTRACT

The students will learn and talk about primary colours, secondary colours and other information about combining colours.





AUTHOR/S

Scoala Gimnaziala Maria Rosetti

DATE 15/12/2021 VERSION 1



DIDACTIC OBJECTIVES

Web sites, encyclopaedia, studies about colours.

	LANGUAGES
TECHNOLOGY	LITERATURE
	MUSIC
GEOGRAPHY/HISTORY	OTHERS: ARTS

EDUCATION LEVEL

This activity is prepared to be completed by...

TOOLS NEEDED

Slides, photos, web sites, Genially, Office PPT.





CHOOSE THE NARRATIVE

Before using Genially, students took a lesson about colours. They were talking about colors, how they are classified and how we can get them. The first ones they were discussing - the primary colors. The colors red, yellow and blue are independent colors, which means that they are not obtained from any chromatic mixture, but they are the ones that help us obtain other colors. Mixed in pairs, the primary colors give rise to the firstdegree binary colors, also called secondary colors. Therefore, as you have in the example, if we mix yellow with red we get orange, if we mix yellow with blue we get green, and if we mix blue with red we get purple. Green, purple and orange are the secondary colors. Secondary colors form tertiary or binary second-degree colors. Therefore, reddish orange, yellowish orange, bluish green and yellowish green, reddish violet, bluish violet are the tertiary colors, they are obtained by mixing binary colors with one of the colors that are part of them. We have other color categories, including warm colors. The warm colors are red, yellow and orange and the warmest is orange because it consists of two warm colors. The cool colors are blue, green and purple. The coldest color is blue, because it is the primary color, while the other two have a warm color in their composition, which is why they cannot become the coldest colors. Green contains yellow and purple contains red. All these colors were classified by lohanes Itten on a color wheel. Here we also find the primary colors and the secondary colors and the tertiary colors. We also have range of colors, named complementary colors. They are called а complementary because they complement each other, that is, they are beautiful next to each other and help each other to shine. We divide them into red with green, yellow with purple and blue with orange. Here I will show you some examples of complementary colors captured in natural for the pair of red and verbs, we see a field with poppies, for the yellow and purple pair, a field of lavender, and for the pair of orange and blue a sunset.

At the end they were told that they will be evaluated for this lesson next time in the computer lab, where they will have to work on a game that will help you fix this knowledge.



FINAL OBJECTIVE

Final objective of this lesson is to consolidate the primary and secondary colours and how can we combine them.

TEST AND MATERIALS

The test is a game: THE ESCAPE COLOURS GAME



RESOURCES

Digital photos using Procreate app, Paint. Link about presentation.





Students activity:





STUDENT'S EVALUATION

As soon as they acquired the knowledge about the colours, the students will create a multimedia product on their own – a multimedia picture. Below, a few photos made with Procreate....

ACTIVITY 1



BIBLIOGRAPHY

- Internet, web sites, teacher materials.
- Presentation

SCALABILITY

The material can be used with pupils from 4th grade to 8th grade

MORE INFORMATION

This activity could continue by use this applications and technologies when students work in teams, maybe, or in pairs.



TITLE The Web Marketing

ABSTRACT

Learn how to use the principal marketing tools in order to reach the success of a tourist enterprise and be able to realise a marketing plan for a new enterprise.

Enrich the working method of the students to make them able to search info and to know how to use them.

AUTHOR/S

IPS Maffeo Pantaleoni

DATE 06/12/2021 **VERSION** 1

DIDACTIC OBJECTIVES

Books, restaurant web sites, pictures, audio, maps

	LANGUAGES
TECHNOLOGY	
	MUSIC
GEOGRAPHY/HISTORY	OTHERS: TECNICHE ADMINISTRATIVE

EDUCATION LEVEL

This activity is prepared to be completed by...



TOOLS NEEDED

Google Forms

CHOOSE THE NARRATIVE

Before developing the Google Form activity, the students have seen some slides and maps, then they have searched on the Internet for the different restaurant websites in Rome in order to understand the differences between the restaurant (location, products, prices, services, name, strategic and operational marketing and typologies of communication channels and web marketing).

They have finally learned the topic and played with the Google Form break out Edu.

FINAL OBJECTIVE

After having acquired the knowledge on the topic, the students will create a web site of their future hypothetical restaurant.

TEST AND MATERIALS

The students will perform the educational game using Kahoot and the Escape room using Google form.







RESOURCES

Link about presentation. Video about activity with students.



Students activity:



ACTIVITY 2



STUDENT'S EVALUATION

The students will be evaluated through an oral test and the realisation of their web site. They will also have to demonstrate what they learnt, the general meaning of the marketing: strategic, operational and web marketing.

BIBLIOGRAPHY

- Organising the tourist accommodation establishments (food and wine, sales and service address courses of study); slides, tables, pictures, maps, teacher's notice board.
- Presentation

SCALABILITY

For younger students of lower secondary school, the activity could be adapted by asking them to draw images of some restaurants or search them on newspapers or on the Internet and then to match the pictures to create the restaurant of their dreams.





MORE INFORMATION

Other steps could be added, developing educational games on the topic, sorting the students into teams and having them use the right digital tools.



TITLE The forms of State and Government

ABSTRACT

Being acquainted with the different forms of State and Government of the World States and understand the importance of their relation with the individual rights and freedoom.

AUTHOR/S

IPS Maffeo Pantaleoni

DATE 02/11/2021 **VERSION** 1

DIDACTIC OBJECTIVES

Books, web sites, newspaper articles.

SCIENCELANGUAGESTECHNOLOGYLITERATUREMATHEMATICSMUSICGEOGRAPHY/HISTORYOTHERS: CIVIC EDUCATION
AND LAW

EDUCATION LEVEL

This activity is prepared to be completed by...

🔄 12 – 14 YEARS 🗹 14 – 16 YEARS 📃 OTHERS

ACTIVITY 3

TOOLS NEEDED

Digital books, digital maps, slides, photos, web sites, Genially, Adobe Spark, Google Drawings, Mindomo, Popplet.



CHOOSE THE NARRATIVE

Before developing the Genially activity, the students have seen some slides and maps, then they have searched on the Internet for the different forms of State and Government of many World States in order to understand the differences in terms of freedom granted or not by the States.

They have finally created a digital map and have played with the Genially breakout Edu.

FINAL OBJECTIVE

After having acquired the knowledge on the issue, the students will create a multimedia product on their own.

TEST AND MATERIALS

The students will do the test using Google Modules and Scape Room in Genially.

RESOURCES

Digital maps created using Google Drawings, Mindomo, Popplet; photos of the practicing moments; Adobe Spark videos.

Video about activity with students.

Students activity:

STUDENT'S EVALUATION

The students will be evaluated with a Debate activity and they will have to demonstrate what they learn doing the right references that have to be linked to reality, they will also have to make examples of real events happened in the World and referred to individual rights and freedom.

BIBLIOGRAPHY

- 101 Lessons of Law and Economics
- websites

SCALABILITY

For younger students of primary school, the activity could be adapted asking them to draw images of some of the World States and of real events or search them on newspapers and then to match the pictures with their forms of State or Government.

Students of the last years of school, from the third to the fifth year of high school, would be asked to produce personal opinions on the way some of the States still rule their people or to motivate which form of Government is expression of the best form of Democracy in their opinion.

MORE INFORMATION

Other steps could be added, developing educational games on the issue, sorting the students into teams and having them use the right digital tools.

TITLE Discovering the solar system

ABSTRACT

Students will perform activities that will eventually discover the components of the solar system

AUTHOR/S

Scoala Gimnaziala Maria Rosetti

DATE 15/02/2022 VERSION 1

DIDACTIC OBJECTIVES

Information websites, info about animals, plants, senses, solar system, planets, etc.

- SCIENCE
- **TECHNOLOGY**
- MATHEMATICS
- GEOGRAPHY/HISTORY

- LANGUAGES
- LITERATURE
- MUSIC
- ✓ OTHERS: ARTS

EDUCATION LEVEL

This activity is prepared to be completed by...

🔄 12 – 14 YEARS 🛛 🗌 14 – 16 YEARS 🗹 OTHERS: 9–12 YEARS

TOOLS NEEDED

Images, printed documents, boxes, cipher locks, colored pencils, objects for recognition...

CHOOSE THE NARRATIVE

The children met with the teachers, set up the teams, were told what they would have to do during the activity - they would have to look for the red boxes, find out the number, find the activity they had to do, do the activity. The first stage took place at the library. They searched the box, found the cipher, found the activity - they had to find the names of some animals in a letter box and then place certain animals on a system of axes. The correct completion of this step showed them where the next one would take place.

The second stage - took place in a classroom. They searched for the box, found the cipher, found the activity - the discovery of the senses - they received a series of files that they have to work on together. Then they receive an object, and blindfolded, they will have to figure out what object they have in their hand. The correct completion of the activity showed them where the next step would take place.

The third stage - back to the library. They searched the box, found the cipher, found the activity - the meeting with the seasons. Find them in a multi-word box and then illustrate them as they are discovered. Whoever completes these tasks first will be the first to go to the last stage.

To the gym - the last stage of our Escape room activity - they searched for the box, found the cipher, found the activity - Discovering the Solar System.

FINAL OBJECTIVE

The ultimate goal of this activity is to discover the Solar System through other knowledge they have already acquired.

TEST AND MATERIALS

- xerox paper
- boxes
- padlocks
- worksheets

RESOURCES

Office PPT, encyclopedias

Video about activity with students.

Students activity:

STUDENT'S EVALUATION

This activity also includes assessment, assessment of the knowledge on the basis of which students must discover the Solar System. If they do not know them, they will not be able to solve the tasks, and, implicitly, they will not be able to complete the game / activity.

BIBLIOGRAPHY

- Internet
- websites
- teacher materials

SCALABILITY

The activity can be carried out from the 1st grade to the 4th grade level.

MORE INFORMATION

This type of activity can be proposed for any level of education and for any subject; pate combines information from several curricular areas.

TITLE Money heist breakout-edu

ABSTRACT

The activity aims to evaluate general secondary school contents using gamification in the classroom. It also aims to promote cooperative work and the integration of students with educational needs.

Current topics are used to promote student motivation.

AUTHOR/S

IES Mediterráneo

DATE 10/12/2021 **VERSION** 1

DIDACTIC OBJECTIVES

- Maintain students' motivation by developing their imagination.
- Facilitate immersion in learning.
- Solve reasoning problems.
- To evaluate in an alternative way the knowledge acquired on a subject.
- Encourage group cohesion and teamwork.
- Learn to think before acting.
- Acquire and develop the ability to see the big picture.

SCIENCE	
MATHEMATICS	MUSIC
GEOGRAPHY/HISTORY	OTHERS: COMPUTING

EDUCATION LEVEL

This activity is prepared to be completed by...

✓ 12 - 14 YEARS ✓ 14 - 16 YEARS ○ OTHERS

TOOLS NEEDED

Genially

CHOOSE THE NARRATIVE

You are going to be part of a team of robbers, but not just anyone can do it, you have to have the knowledge to prove that you will not endanger either the team members or the operation. Prove your worth.

FINAL OBJECTIVE

Objective of the game

• The goal is to get the code that opens the safe. Each test rewards you with a number.

Objective of the activity.

- To evaluate through gamification the general contents of the students.
- To value the capacity of logical reasoning of our students.
- To value the ability to work in a team.
- To value the digital competence of the students.

TEST AND MATERIALS

• Rio:

Students will be required to demonstrate basic computer skills such as uses of terminology.

• Naerobi:

The student body will be required to demonstrate logical reasoning skills.

• Berlin:

The aim is to assess elementary mathematical knowledge and deduction analysis.

• Lisbon:

Brief introduction to graph theory from gamification.

• Tokyo:

It is intended to evaluate the visual and spatial perception of the students. It contributes to develop their analytical skills, improve their mental agility and stimulates visual and working memory.

• Teacher:

Students must place the countries correctly on the world map to obtain the code number.

• Stockholm:

The students' memory capacity is evaluated.

• Palermo:

The students will have to know monuments scattered in different parts of the country.

RESOURCES

Photos, audios, Genially Video about activity with students.

STUDENT'S EVALUATION

- Direct observation.
- Collection of operationsheet.

BIBLIOGRAPHY

• Internet

SCALABILITY

The activity is designed for use at various educational levels, and assistance such as internet access can be provided for lower educational levels. However, the genially is editable and each test can be modified to assess a particular content that is being taught at that moment, just by modifying the questions.

TITLE The Dragon's Dungeon

ABSTRACT

In this activity, we would like to make education fun. Learning with fun is more effective for students. So students can focus on subjects.

Firstly, teacher teaches subject and then students make test in this activity. We don't use classic tests. Genially helps us about that activity.

The theme provides interaction between user and portal. It is not just a presentation theme.

It gives rights to choose for user. There are different algorithms according to the choices

Awarding is important in education. Students will answer the questions correctly and they will save the kingdom and finally they will win.

AUTHOR/S

Sultantepe Prof. Dr. Cemil Taşçıoğlu Ortaokulu

DATE 08/11/2021 Version 1

DIDACTIC OBJECTIVES

- To increase awareness of inventions and discoveries
- Increases awareness of mathematical operations
- Increases awareness of animals.
- Increases awareness of sports and cultural issues
- Increases awareness of online fun education

SCIENCE	
TECHNOLOGY	
MATHEMATICS	MUSIC
GEOGRAPHY/HISTORY	OTHERS: CULTURE

EDUCATION LEVEL

This activity is prepared to be completed by...

TOOLS NEEDED

- Genially online platform
- Tablet or PC
- Computer Lab (To study together)

CHOOSE THE NARRATIVE

We would like to provide funny education by online portal. We have a story. According to the story;

A dragon has conquered the kingdom. We want to destroy the dragon and save the kingdom. So we need a special sword. This sword contains 4 very special elements. These;

Earth, air, water and fire.

In order to receive these elements, you must answer the questions.

A bone man will appear in front of you. This bone man will ask you questions in separate categories. If you can be successful in these categories, he will give you the elements. You have 1 mistake right to be successful. You will fail on your second mistake.

There are questions on different topics.(Maths, History, Sports, IT,Science) While you answer, necessary directions will be given to you.

Do not forget! The kingdom trust you. You are their only hope. Be patient and defeat the dragon.

FINAL OBJECTIVE

Students must answer all questions correctly and they should get all the elements. They will put the elements to the sword and they will have the power to defeat the dragon. Finally, Kingdom will be saved.

TEST AND MATERIALS

At the first stage; students must pass 'Discoveries and Inventions' tests. At the second stage; students must pass 'Animals' tests At the third stage ; students must pass 'Culture' tests At the fourth stage; students must pass 'Maths' tests

Genially Game.

RESOURCES

Video about activity with students.

Students activity:

STUDENT'S EVALUATION

Tests were prepared on different subjects because We would like to see their lots competences. These competency topics are given under the title of "Test and Materials". Teachings in different subjects will be tested with this theme and this test will help the student's different types of intelligence.

BIBLIOGRAPHY

• 7th Grade English book.

SCALABILITY

There are 4 topics in this theme.

Otherwise, there may be 3 different application options:

- 1. It is not limited to 4 subjects, but other courses that students see in a year can be added. This includes physical and mental lessons. This will turn the application into a general assessment test.
- 2. You can reduce the application to a subject and ask detailed questions about the subject. This means increasing the number of pages
- 3. With the appropriate license, the application can also be used offline. This gives students the opportunity to work whenever they want.

In addition, since the application has the feature of adding sound, background sound or audio samples can also be added to the application.

MORE INFORMATION

"Student License" was purchased in the application. Other schools that want to continue this practice should pay attention to this issue.

Similar studies can be done without purchasing a license.

TITLE Funny Educational Activities

ABSTRACT

Technology is taking an important role in our lives. So that we need new softwares. Young people can easily make these software nowadays. During this time, there have been updates, developments and changes in education. We used these developments and tried to make education funny with software supported. Generally, students are worried about exams. With these new methods, we ensure that students enjoy exams. We increase success and motivation.

We used 3 technology tools for this activity.

- 1. Genially
- 2. Appinventor
- 3. Plickers

We used these tools separately from each other. The students have to complete 3 activities in order to move on to a new level. We created an atmosphere of competition

AUTHOR/S

Sultantepe Prof. Dr. Cemil Taşçıoğlu Ortaokulu

DATE 27/12/2021 VERSION 1

DIDACTIC OBJECTIVES

New students for this activity;

- The student discovers the Genially interactively.
- Student discovers mobile application development with Appinventor.
- The student discovers making quizzes with Plickers.
- The student learns by having fun with Genially.
- The student develops a mobile application by having fun with Appinventor.
- Student tests himself using QR Code with Plickers.

Experienced students;

- Student creates their own account with Genially
- Students can works on the theme what they have chosen
- Student can develop their own mobile app for Android and IOS with Appinventor
- Students use the work developed for Appinventor and IOs on their mobile device without uploading it to PlayStore or AppleStore.
- Student can create their own class and their own questions for Plickers work. He uses Plickers in his own work (Debate, Workshop, Club, Interview etc.)
- Student uses the quiz reports obtained with Plickers for both individual and group development.

TECHNOLOGY	
MATHEMATICS	MUSIC
GEOGRAPHY/HISTORY	OTHERS

EDUCATION LEVEL

This activity is prepared to be completed by...

✓ 12 – 14 YEARS
□ 14 – 16 YEARS

OTHERS

TOOLS NEEDED

- Computer
- Tablet or Phone
- Genially account
- Appinventor account
- Plickers account
- Paper, cardboard etc. on which the Plickers will be printed.
- "MIT AI2 Compenion" and "Plickers" mobile applications

CHOOSE THE NARRATIVE

1-Genially Level;

1.1. An account at https://app.genial/. You can work on the themes in the system with the account you have set up. However, it should be noted that the themes are paid.

1.2. Choose a theme for yourself. The theme is filled with topics and questions that you will determine.

1.3 We used the theme "Ninja, Battle Room". According to the theme, student has to take 4 warriors to his team during the test. There are different questions but students will join durinf exam because of game format.

1.4 students receive a numeric code for each section they complete. It will take 4 numbers for 4 subjects in total.

1.5 If he can enter these 4 numbers correctly in the password field at the end of the chapter, he will complete the work. Of course, an important factor here is to be able to do this quickly. Because it's a race against time.

2-Appinventor Level;

2.1 Our student must create an account at https://appinventor.mit.edu/. Using this account, he can develop applications with block-based programming.

2.2 Our students have learned how to use Appinventor, but the application to test students is developed by the teacher.

2.3 The test work prepared by the teacher in .aia format is uploaded to the student account. Now the student is ready to transfer the work in their Appinventor account to their phone. With the application called "MIT AI2 Compenion", the test study is transferred to the mobile device by scanning the QR.

2.4 Erasmus+ logo, Istedu logo and school logos welcome the student on the first screen displayed on the student's mobile device (tablet or phone). In addition, the student has to enter the 4-digit code obtained from Genially into the "TexBox" here. Otherwise, the students will not be able to see the other test on the screen.

2.5 The student who enters the 4-digit codes will switch to the other screen and answer the test questions here. Student will see questions in 4 different areas and will try to answer them correctly.

3-Plickers Level;

3.1 The teacher must create an account at https://www.plickers.com/.

3.2 After the account is created, the class members and questions are created into Plickers , and the site is ready for use.

3.3 It is also necessary to download Plickers cards from the site. They can print these cards on paper.

3.4 The teacher installs the application called "Plickers" on their mobile device. The teacher logs into the mobile with the plickers account.

3.5 While the questions are shown to the student on the interactive board, the student should hold the plickers cards to be scanned by phone according to their answer. When the teacher's scanning process is finished, the student results will be displayed on the interactive board.

3.6 A detailed report can also be obtained after all questions.

FINAL OBJECTIVE

First the students solve the Genially Game.

Students should know the number given to them at the end of each chapter.

Appinventor Works:

ACTIVITY 7

Plickers work:

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+ Quick Add Studer	ut.	Add Students Print Class Roster ***
FIRST NAME	LAST NAME	CARD NO
Berrak	Karabulut	3
Ecrin Naz	Ofluoğlu	1
Jadon	Robles	4
Mert	Urcan	10
Onur	Bhatti	6
Sarp	Şen	2
Sevin	Bhatti	7
Türker	Yüceer	8
Zeynep	Zaybeider	5
Zeynep	Öztürk	9

TEST AND MATERIALS

- https://app.genial.ly/
- https://appinventor.mit.edu/
- https://www.plickers.com
- "Plickers" mobile Application
- "MIT AI2 Compenion" mobile application

Genially game.

RESOURCES

- https://app.genial.ly/
- https://appinventor.mit.edu/
- https://www.plickers.com

Video about activity with students.

STUDENT'S EVALUATION

Our students started the activities simultaneously. Genially, our students determine how much time the activity will spend.

In the Plickers event, on the other hand, the amount of correct answers will be important for us, not the time.

In student evaluation;

Genially is based on time. Because it is possible for the student to reach the right answer by trial and error method. It can be said that our student who reaches the 4-digit code in a shorter time is more successful.

In Appinventor, both the speed of the student and the correct / incorrect answer are based.

The correct/wrong answer of the student is evaluated in Plickers. The test result will be reflected in the report.

BIBLIOGRAPHY

- 6th Grade Science Book
- 7th Grade maths Book
- 7th Grade English Book
- 8th Grade English Book
- 7th Grade Social Science Book

SCALABILITY

Our works consist of different disciplines and subjects. It can be applied to all groups of secondary school students.

MORE INFORMATION

Genially is just one of the sites where you can work interactively. There are hundreds of sites like this. Among them, suitable ones for education can be determined and studies can be done in classrooms and at home.

Much more work can be done in Appinventor, especially since content can be produced for IOS. As the studies can be used in education; It can also be published on PlayStore and AppleStore.

In order for the reporting feature of Pickers to be more functional, studies can be presented to all students in a school, not to a group of students, and their evaluations can be taken.

TITLE Fermat's coffee

ABSTRACT

The activity takes place in a vintage café where the regular customers are mathematicians.

There, they share conjectures and demonstrations. Showing their progress to the rest of their classmates.

AUTHOR/S

IES Mediterráneo

DATE 15/11/2021 **VERSION** 1

DIDACTIC OBJECTIVES

- Maintain students' motivation by developing their imagination.
- Facilitate immersion in learning.
- Solve logical and mathematical reasoning problems.
- To evaluate in an alternative way the acquired knowledge of a subject.
- Encourage group cohesion and teamwork.
- Learning to think before acting.
- Acquire and develop the ability to see the big picture.

SCIENCE	
TECHNOLOGY	
MATHEMATICS	MUSIC
GEOGRAPHY/HISTORY	OTHERS

ACTIVITY 8

EDUCATION LEVEL

This activity is prepared to be completed by...

✓ 12 - 14 YEARS ✓ 14 - 16 YEARS OTHERS

TOOLS NEEDED

- Wooden boxes
- Switches
- Led
- Various padlocks
- Cryptex
- Ultraviolet light flashlight
- Invisible ink pen
- Tablet
- Computer
- Magnet
- Images of mathematicians
- Pen drive
- APPLICATIONS AND INTERNET PAGES
- Youtube
- Genially
- QR code reader
- Avatar design applications (ZEPETO)
- We use Genially

CHOOSE THE NARRATIVE

The pupils were immersed in the lives of great mathematicians and how important it was and is to write notes in the margins of the books. The pupils will have to find the key that opens the door to the room, using their ingenuity, knowledge and observation skills.

ACTIVITY 8

FINAL OBJECTIVE

Game objective

The final objective is to find a key that opens the exit door of the cafeteria. Activity objective.

To introduce students to the work of some mathematicians and mathematicians from different eras and how they have influenced the development of mathematics.

To value the capacity of logical reasoning of our students.

To value the ability to work in a team.

To value the students' digital competence.

TEST AND MATERIALS

Unlocking the Tablet: The unlock pattern is obtained by ordering some of the books on the shelf.

Open the big wooden box: The key is hidden in the cash register. Previously you have to open the cash register whose key is hidden around the room.

Open the Lost and Found box: The key is hidden among the tea bags. In the box there is a decoding card, a card holder with documentation and a compass.

Unlocking the medium-sized box: In the margins of the book there is a text written in invisible ink. Together with the decoding card and an ultraviolet light (which will be hidden around the room), you can decipher the code for the lock that opens the medium-sized box. Inside are a series of switches. To get the code hidden in the box you need to place the switches in the right order and put a magnet hidden in the room on it.

Order of the switches in the middle box: It is obtained from the years of birth of the mathematicians that are in the pictures of the room. With the tablet you can read the QR codes that appear in each box. These will lead to a video that provides information about each character.

Pen drive: It is hidden inside a cryptex compass and is unlocked with the code on one of the cards in the card holder (both were in the lost and found box). It is unlocked with the code you get from the medium-sized box.

Genially: It can be accessed from the computer and once the Pendrive is unlocked. It consists of a series of logical-mathematical reasoning tests. Once solved, a 3-digit code is obtained.

Open a small box: It has a lock of three numbers. They are obtained as a solution to the Genially. It contains inside the exit key of the café.

RESOURCES

Video about activity with students.

STUDENT'S EVALUATION

- Direct observation.
- Collection of operation sheet.

BIBLIOGRAPHY

Wikipedia

SCALABILITY

The activity we have presented is designed for any educational level, since the codes that must be obtained to advance are obtained from basic mathematics content.

This same activity can be modified and complicated at any educational level. For example, instead of finding the solution by adding natural numbers (1st ESO), it could be the result of a definite integral (2nd baccalaureate).

From the information provided by the videos of the different mathematicians, we have focused on the century of birth (thus working with Roman numerals) but more data can be taken into account. For example, Goldbach's conjecture can be used when working with prime numbers, Euclid's fifth postulate when studying the relative position of straight lines, or Euler's equation can help to introduce numerical sets.

