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GAMIFICATION IN CLASS - challenges
and rewards

Teachers' guide to implementing Gamification
in core subjects
Erasmus + Project
„GAMIFICATION IN CLASS - challenges and rewards“

POKEMON: WE'VE GOTTA SAVE THEM ALL

<https://view.genial.ly/61d348d31d0f2b0ded90136c/interactive-content-aventura-pokemon>

Domain/ Area/ Subject	MATH, ENGLISH, AND SCIENCE
Topic	Pokémon
Group age	8 years old.
Environment	Classroom
Period of time / lesson number	21/03/23 -11/04/23. 15 lessons.
The purpose and objectives of the lesson	<ul style="list-style-type: none"> - To identify parallel lines and secants. - To identify and express basic hours (point, and quarter, and half, and least fourth) in Spanish and English. - To identify vocabulary related to stores in English and employ it. - To know the basic rights and duties of infants and citizens. - To identify the different parts of a municipality. - To develop the ability of students to work as a team.

Narrative

The Pokémon World is in danger. Because of climatic change, some Legendary Pokémon have been trapped in their islands and, some other, had to emigrate to our world and are lost in Alicante. Our mission as Pokémon hunters is to save them and bring them back to their world. Once we have done that, we will have to liberate the Legendary Pokémon, the only ones able to save the Pokémon World. To save the Pokémon in our city, we will have to finish the different missions and tasks found on each island. Once we have passed all the missions, we will have a final mission, which will allow us to save the Legendary Pokémon.

Throughout this gamification, there will be three islands (one for each area developed). Each island has 4 missions and one final mission, to save the legendary Pokémon.

MATHS- KALOS

MISSION 1.- To identify parallel, secant and perpendicular lines.

MISSION 2.- To trace parallel, secant and perpendicular lines.

MISSION 3.- To follow movements and itineraries on a map.

MISSION 4.- To identify time in digital and analogue clocks.

RESHIRAM'S MISSION

SCIENCE- HOEN

MISSION 1.- To create a mural with rights, responsibilities and duties (at school) and rules for being good citizens.

MISSION 2.- To draw a rural and urban area, with its characteristics.

MISSION 3.- To search for buildings in Alicante that belong to the different parts studied in previous lessons.

MISSION 4.- To identify the activities that belong to each economic sector.

SOLGALEO'S MISSION

ENGLISH- TESELIA

MISSION 1.- To identify the store vocabulary.

MISSION 2.- To identify and recognize the time in analogue and digital watches (in English).

MISSION 3.- To represent and recognize the time in analogue and digital watches (in English).

MISSION 4.- To play with the time.

MEWTWO MISSION

Missions/ challenges

<p style="text-align: center;">Tasks/ Development</p>	<p style="text-align: center;"><i>Mission 1- KALOS</i></p> <p>1.1. https://es.liveworksheets.com/mh2053929zc</p> <p>1.2. https://es.liveworksheets.com/sd2543141sa</p> <p>1.3. To observe lines and check whether they are straight, secant, perpendicular (Page 204 of the book activities nº 2, 3, 4 and 5)</p>
	<p style="text-align: center;"><i>Mission 2-KALOS</i></p> <p>1.4. To identify parallel, perpendicular and secant lines (https://learningapps.org/watch?v=pju125oaj22)</p> <p>1.5. Pokesudoku</p>
	<p style="text-align: center;"><i>Mission 3- KALOS</i></p> <p>2.1. To perform the movements that the teacher indicates, steps to the right, jumps towards, in front, turn left...</p> <p>2.2. To describe the movements that a partner makes.</p> <p>2.3. Cooperative work p. 214 of the book</p>
	<p style="text-align: center;"><i>Mission 4- KALOS</i></p> <p>3.1. Hour's explanation (topic 13: time)</p> <p>3.2. Playing with watches, pointing the time indicated.</p> <p>3.3. Pokémon dice.</p>
	<p style="text-align: center;"><i>RESHIRAM MISSION</i></p> <p>4.1. Identify parallel lines and dryers in the courtyard of the college.</p> <p>4.2. The handkerchief of the hours</p> <p>4.3. Time exercise</p>
	<p style="text-align: center;"><i>Mission 1 - HOEN</i></p> <p>1.1. Video "Why rules are important"</p> <p>1.2. To read the rights, responsibilities, and obligations of children/children.</p> <p>1.3. Identifying which sentences refer to rights and obligations and which ones are not true.</p>

Mission 2- HOENN

- 2.1. Presentation of the characteristics of an area urban and a rural area.
- 2.2. To classify different images, considering if they belong to an urban or rural area
- 2.3. Classifying the characteristics of an urban area and a rural area.

Mission 3- HOENN

- 3.1. To complete a mental map with the parts of a municipality.
- 3.2. To classify images of different areas of Alicante

Mission 4- HOENN

- 4.1. Presentation of maps sectors economic.
- 4.2. To identify the characteristics of each economic sector.
- 4.3. To classify activities according to the sector to which they belong.

SOLGALEO MISSION

- 5.1. To identify rights and duties of a citizen that are correct.
- 5.2. To find the differences in images corresponding to rural areas and urban.
- 5.3. To difference the parts of a township.
- 5.4. To classify activities according to the economic sector they belong to.

Mission 1- TESELIA

- 1.1. To introduce the vocabulary of the shops.
- 1.2. To match vocabulary to the right picture.
- 1.3. Word search vocabulary shops.

Mission 2- TESELIA

- 2.1. Hour's explanation (page 57 Student s book)
- 2.2. Exercise 1 and 2 p. 55 Activity book

Mission 3- TESELIA

- 2.3. Exercise 1 p. 56 Activity book
- 2.4. What time is it? (time's exercise)
- 2.5. Relate the written time with the corresponding clock.

	<p style="text-align: center;"><i>Mission 4- TESELIA</i></p> <p>2.6. Time's bingo</p> <p>2.7. Time board game</p> <p style="text-align: center;"><i>MEWTWO MISSION</i></p> <p>3.1. To identify the time with the corresponding clock.</p> <p>3.2. Identifying shops with the corresponding picture.</p>
Tools	<p>MATERIALS</p> <ul style="list-style-type: none"> - Digital board - School supplies - Watches (analogue and digital) - Paper activities <p>SPACES</p> <ul style="list-style-type: none"> - Classroom - Schoolyard
Rewards	<p style="text-align: center;">INDIVIDUAL CHALLENGES AND REWARDS</p> <p>When each mission finishes, students will get a Pokémon, which they will put on their Pokedex.</p> <p>They will also get extra Pokémon when they accomplish some challenges and a secret Pokémon if they develop special tasks.</p> <p style="text-align: center;">GROUP CHALLENGES AND REWARDS</p> <p>Once all missions are finished, the group will have a final mission (about the previous ones), in which they will have the opportunity to liberate a Legendary Pokémon.</p>
Assessment	<p>In order to evaluate the learning process, different activities will be carried out by students during the sessions. In addition, a test will be performed at the end of the gamification, to verify that the contents have been properly acquired.</p> <p>Therefore, a continuous evaluation and final assessment will be developed.</p>

Feedback	<p>Throughout this unit, students show their interest and enthusiasm in the topic (Pokémon). A huge number of students choose to develop the challenges and special tasks, in order to acquire the extra Pokémon. Then, motivation is increased in them, especially in tasks development. Despite that, those students with difficulties in work and study management find difficulties too.</p> <p>Besides, it is necessary to make sure those students with special needs achieve the different missions, so they feel motivated too.</p>
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The best example (Romania)
**Teachers' guide to implementing Gamification
in MATHS**

Domain/ Area/ Subject	Maths
Topic	Egypt
Group age	10 years old – 3rd grade, Scouts class
Location:	the activities took place in the classroom
Period of time/lesson number :	The project took place between 6th September – 30th November
The purpose and objectives of the lesson	Using numbers in doing calculus: 1.1 Recognizing the numbers between 0 – 10 000 1.2 Comparing the numbers between 0 – 10 000 1.3 Ordering the numbers between 0 – 10 000 1.4 Doing addition and subtraction with numbers between 0 – 10 000
Contents	Numbers between 0 – 10 000 - how they are formed and written - comparing, ordering and math rounding them - how they are formed, written and read using roman letters
	Addition and subtraction of the numbers between 0 – 10 000, with and without going beyond order -addition and subtraction; addition properties -finding the unknown term through different methods (going backwards method, the balance method)
Narrative:	The project started on the first day of school.

The students were welcomed with a specially decorated classroom based on the chosen topic: the ancient Egypt

On the first days the students got acquainted with the chosen topic, they talked about the knowledge they had on the topic and they also wrote down the information they wanted to acquire.



I gamified all the learning units as follows:

1. Numbers between 0 – 10 000 – *The room of supplies*
2. Addition and subtraction of the numbers between 0 – 10 000 – *The room of the weapons*
3. Multiplying the numbers between 0 – 10 000 – *The room of the mummies*
4. Dividing the numbers between 0 – 10 000 – *The room of the offerings*
5. The order of the operations and how to use parenthesis – *The queen's room*
6. The fractions – *The Gods' room*
7. Geometry elements and measuring elements – *The Pharaoh's room*

<p>The students were divided into four teams:</p>	<ol style="list-style-type: none"> 1. Cleopatra's team 2. God Ra's team 3. Pharaoh Ramses' team 4. Pharaoh Keops' team
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The students received badges with a picture representative for their team. During the project and based on their school performances, they could change teams, too.



Each team got a mascot as well. This was offered each day to the student who gave the most correct answers or represented the best his team or showed an excellent behavior during the working tasks. At the end of each day that student could take home the mascot and bring it back the following day.

In order to reward their learning and new acquisitions, I used score charts and even passports. At the end of each activity, all students received a card which they stuck onto their passports. On those cards there were information about the people from ancient Egypt. Thus, at the end of each learning unit, students discovered information such as why people built their houses on the banks of the Nile, what their typical food was or why cats were worshipped in Egypt. My purpose was to combine all the mathematical notions with general knowledge.



Missions/challenges:

Tasks

1 Room of supplies

1. The restoration of the library from Alexandria

All students received carton scrolls, colored paper and glue

Each team had to fulfil a different task:

- Cleopatra's team: to write even numbers between 0 – 10 000
- God Ra's team: to write uneven numbers between 0 – 10 000
- Pharaoh Ramses' team: to write strings of numbers based on Fibonacci string
- Pharaoh Keops' team: to write multiples of thousands of numbers between 0 - 10 000

After having written all their numbers, students glued the papers on the carton and created “papyrus” which then were laid on the shelves from the classroom library.



2. Superiority, equality, inferiority

After having open the mystery box, students discovered many cards with numbers between 0 – 10 000. Each team delegated a representative, which then had to go on a duel with opponents from the other teams. It was a true “battle” between the Romans and the Egyptians. There was one rule: each student who took part in the duel had in his hand some cards with numbers. If his number was lower than the opponent's, he had to take a bow. If the number was higher, he stood straight, waiting for his opponent to bow. If the numbers were identical, they had to shake hands.





3. Gathering the crops

The mystery box revealed the next task: look in the bale of straw from your classroom for some chips with apples on them. There will be different exercises on those chips. Solve the exercises carefully and then stick the apple on the giant basket from the whiteboard. For each apple, you will get a glass full of real crisps, which you can eat, at the end of the activity. Good luck!



1. The laurels of victory

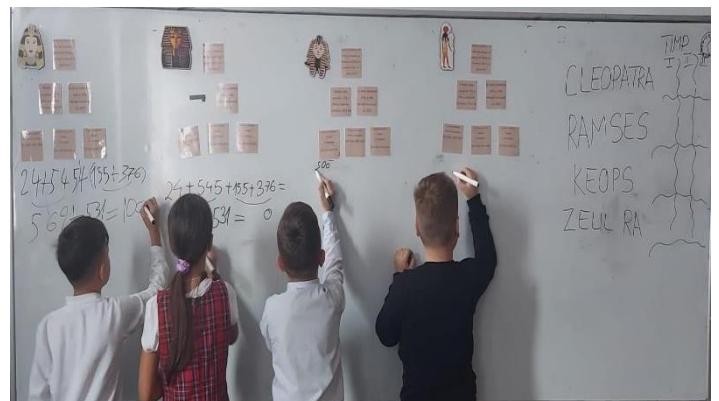
The students received chips in the form of papyrus. There were exercises on them, which demanded students to identify Roman numbers and transform them into Arabic numbers. The team, which solved most of the exercises from the papyrus, won. At the end of the activity, the members of the winning team received a reef made of willow branches.







II *The room of the weapons*

1. Observe, conquer and build!

Students received chips in the form of bricks. They had to read the exercise, solve it correctly and then lay a construction cube in such a way as to build a pyramid at the end of the activity.





		TIMP		
		I	II	III
 I	CLEOPATRA	5'34"	5'	2'
 II	RAMSES	7'20"	4'	3'
 IV	KEOPS	9'	7'	3'20"
 III	ZEUL RA	8'	6'	3'50"

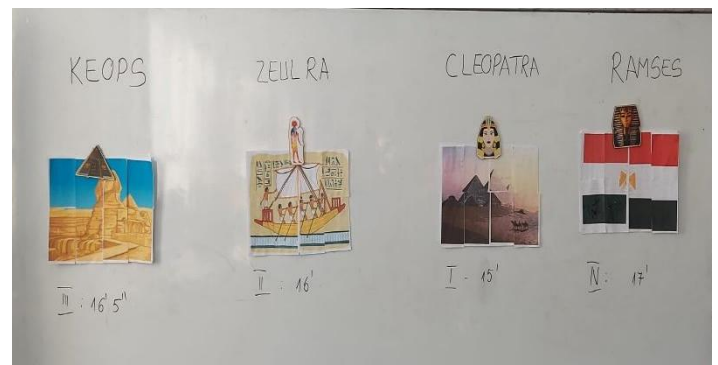
2. Find the missing pyramid!

Big construction pieces were hidden within the classroom. On them there were stuck exercises with addition and subtraction with numbers from 0 to 10 000. Each time students found a piece, they returned to their desks, solved the exercise and then they took the cube they had found and place it at the front of the classroom in order to build an enormous pyramid at the end of the activity. Each team received a lot of chocolate at the end of this activity!



3. Discover the mystery!

On their desks, the students found the pieces of a mathematical puzzle; on the back of the pieces, there were exercises with unknown terms and on the whiteboard, there were numbers designated to each piece of the puzzle. After each correct identification of the unknown term, students went to the whiteboard and stuck the piece on its correct place. At the end of the activity, students could discover a typical ancient Egyptian image (pyramids, Egyptian flag, the Sphinx).



Tools:

Passports and rewards, mascots, worksheets, a box for mission messages, construction cubes, willow reeds, a bale of straw, a pyramid with the names of all rooms designated to the learning units, charts to keep track of the students' progress, badges, chips, educational games about Egypt, magnetic whiteboard, magnets in different Egyptian shapes, crisps, glasses, bags, baskets, coloured paper, photo frame, pencils, bookmarks, scrolls of paper etc.

Rewards:

1. Badges
2. A day with no homework
3. Watching a movie
4. Extra points at a test paper
5. 5 minutes more on the break
6. Changing place with a student from another team
7. Sweets
8. Receiving home the mascot

Feedback:

In order to implement the project I started designing it two months before the start of the school year. Many materials were necessary and a lot of time invested in creating them.
