CLIL Lesson Outline

Topic/Title: ***EU in Riddles & Numbers***

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Target group: students aged 15-18 (level of English B1/B2)

Duration: 90 minutes (two lessons/a double lesson, 2x45min, in Croatia/Greece)

Background information: This lesson plan was created for the purpose of educating students/junior European Parliament ambassadors within the extracurricular EPAS program & the international eTwinning project ***STEAM EPASsionates***, aimed at introducing SDGs & STEAM into ELT through CLIL lessons.

Aim(s)	To celebrate/contribute to **Croatian Maths Evening** (on 5 Dec) **2024** by developing students' understanding of the importance of applying logical/critical thinking and mathematical knowledge and skills to learn about the EU and solve everyday problems. To develop students' understanding of multicultural sustainability and its impact on global peace.
Learning objectives	
Content objectives	Students will be able (to explain how) to solve simple and medium-advanced problem tasks (related to EU Fact File) by exploring reliable sources, interpreting graphs, using general mathematical operations and calculating percentages, fractions, ratio…
Language objectives	Students will be able to use (new) Maths-related vocabulary to solve problem tasks and interpret results. Students will be able to use specific sentence structures and discourse functions in order to mediate mathematical content in mixed/transnational teams.
4Cs 1. Content	
Subject matter	- practicing mathematics/solving mathematical problems in a foreign (English) language (at the end of Unit 2: Science & Technology, Pearson's Focus 2, 2nd Edition) – learning basic EU facts & statistics within the EPAS program (notable European scientists, inventors, artists, project-partners' fun facts and statistical data…)
Relevance	- the content is engaging, age-appropriate and linked to the students' knowledge and real-world (EPAS) applications
4Cs 2. Communication/Language	
Language learning	- using English for communication (students practice speaking, listening, reading, writing and mediation while engaging with the subject content – in the class and online)
Language support	- linguistic scaffolding provided by English/Maths teacher, if needed (key vocabulary – math symbols & operations, phrases and sentence structures, to help students understand & interpret the content)
4Cs 3. Cognition	
Cognitive skills	- challenging students to develop higher-order thinking skills, such as analyzing, evaluating, interpreting (graphs, riddles), comparing and creating, rather than just remembering and understanding (word puzzles/riddles, problem tasks)
Critical thinking	- encouraging students to think critically about the content (Internet sources, EU facts), ask questions, solve problems, and apply their (mathematical) knowledge in new contexts
Cognitive engagement	- active learning (through independent research) & deep content understanding (through mixed-ability & multinational team work)

4Cs 4. Culture (and Community)	
Cultural awareness	- incorporating cultural elements (EU member states, primarily project-partner countries) in the lesson-planning process, helping students develop intercultural understanding (by comparing statistical data & cultural practices, discussing global issues)
Cultural integration	- Greek & Croatian students collaborate, co-creating problem tasks for the lesson, evaluating Internet sources & info, exploring how certain statistical data (e.g. EU member states' size, GDP, population rate) can be understood from a global (or other states') perspective
Global citizenship (EPAS)	- encouraging Sts to view themselves as part of a global community (EU/world citizens), fostering national identity, but also empathy, respect for diversity and an understanding of global statistics/issues
SDG – https://sdgs.un.org/goals The GOALs referred to in the lesson plan	SDG 3 – Good Health & Well-Being; **SDG 4 – Quality Education** SDG – Industry, Innovation & Infrastructure; **SDG 17 – Partnerships for the Goals**
Language Triptych	
Language of learning – the specific language (vocabulary, grammar, functions) needed to access and understand the content	- basic knowledge of interpreting statistical data about the EU (countries) & AI riddles; - basic mathematical (vocab) knowwledge (math symbols, operations in English)
Language for learning – the language Ss need to participate in class activities & communicate effectively in the lesson	- asking questions, commenting, argumenting; - exploring the Net, filling in Forms; - collaborating with peers, co-creating
Language through learning – acquired through Ss' engaging with content & participating in class activities; L which goes beyond what is explicitly taught	- Students acquire basic structures of Romanian, Greek and Croatian through engaging with multicultural content and participating in classroom and online activities in mixed-ability & transnational teams (Webex „Maths Evening“ Meeting on Dec 5, 2024).
Lesson planning & structure **– Google-presentation with activities & learning outcomes** (the measurable results indicating whether Ss have achieved the objectives and met the aims), with **time frame & class management** – available **HERE**	
Scaffolding & support	
Visual aids	- diagrams, charts, AI-images, and other visual tools to support understanding of content and language are available in the teachers' **Google-presentation** used during the **Maths Evening Webex Meeting** of EPASsionates' project partners on **Dec 5, 2024**
Modeling and examples	- AI-riddle & Suno AI models/examples, as well as Mentimeter evaluation feedback are in the teachers 'presentations; - rubric for self-/peer-evaluation may be provided
Differentiation	- it is possible to adapt the lesson to meet the needs of students with different language proficiency levels and learning styles (there are 6 handouts for students of different math-knowledge level)
Interaction & collaboration	
Student Interaction	- the lesson is promoting international peer interaction through group work, discussions, and collaborative tasks, which encourages the use of English & maths in a social context
Teacher Interactionb	- the teacher acts as a facilitator, guiding students through the learning process, providing feedback, adjusting support as needed
Authentic resources	
Real-World Materials	- use of authentic resources (European Parliament/Commission's documents and websites with statistical data about the EU), that are relevant to the content area and reflect real-life use of English

Cross-Curricular Links	- connecting mathematical content to other subject areas (English language learning, Civic Education, Sociology, Politics & Economics, Geography & History), enhancing interdisciplinary learning and making the content more meaningful
STEAM elements	
Technology	
- **digital literacy** – understanding how to use computers, the Internet and various software applications (for communication, collaboration & digital creation); typing, navigating digital environments and understanding basic online safety and ethics; - **cybersecurity** – applying basic principles of protecting computers, networks and data from digital attacks, which includes understanding how to secure information and the importance of privacy; - **artificial Intelligence** (AI) – introduction to how machines can learn from data and make decisions (creating prompts); understanding basic concepts of algorithms, data processing, and ethical considerations; - **networking** – understanding how different devices connect, communicate & collaborate over networks, including the basics of how the Internet works	
(STE) Arts & Mathematics	
Mathematics - **Descriptive & Inferential Statistics, Probability Theory**: using methods for summarizing and describing important features of data; making predictions or inferences about a population based on a sample; calculating expected value & referring to randomness and uncertainty; - **Discrete Mathematics** – Combinatorics & Graph Theory: counting, arrangement, and combination of elements in sets; studying graphs and networks; - **Applied Mathematics**: using mathematics to represent, analyze, and solve real-world problems… **Literary Arts** - **Creative Writing**: developing skills in storytelling/poetry writing & music creation, emphasizing language arts, communication, and the ability to convey complex ideas creatively; - **Media and Communication**: exploring the use of various media (digital platforms), and understanding the impact of media on society and how to create compelling content using modern technologies…	
AI-tools	
ChatGPT, Microsoft Copilot, Gemini (Google AI)	free natural language processing AI-tools (for riddles)
Bing Image Creator, Ideogram, Runway, Suno AI	AI Image/Story/Video/Music Generators

Forms Handouts (1-6)	
Duplicate the handouts to your personal Google Drive and use them as they are or make changes based on your students. **DO NOT change the files before duplicating them!!!**	Handout 1 Handout 2 Handout 3 Handout 4 Handout 5 Handout 6 **HANDOUTS 1-6 in Google document (ready to print out)**