



CLIL LESSON PLAN

Fractions

School level	Primary	Middle	High
Year / Class	1	2	3
Subject :	Mathematics	Topic:	Fractions
CLIL language:	English		

Teacher / Teaching team profile	Teacher's role:	<input type="radio"/> Main Teacher <input type="radio"/> Co-teacher <input type="radio"/> Other: _____	Subject taught: Mathematics
	Teacher's role:	<input type="radio"/> Main Teacher <input type="radio"/> Co-teacher <input type="radio"/> Other: language support	Subject taught: English

Student group profile (general)	CEFR Level:	<input type="radio"/> A1/A2 <input type="radio"/> A2	<input type="radio"/> B1 <input type="radio"/> B2	<input type="radio"/> C1 <input type="radio"/> C2
	<input type="radio"/> Previous CLIL Experience <input type="radio"/> English mother tongue <input type="radio"/> Other mother tongue	<input type="radio"/> Migrant background <input type="radio"/> Special Educational Needs <input type="radio"/> Other: _____		

Timetable fit	Module	Previous Lesson: factor and multiple; divisibility rules
	n° 7 hours (55' x7)	Future Lesson: exponentiation of a fraction; mathematical expressions with fractions

Resources & tools	PowerPoint; Interactive Whiteboard; worksheets; Internet Connection;
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Students' prior knowledge, skills, competencies	Subject	Language
	Factors and multiples are especially important in working with fractions as well as finding the greatest common factor; least common factor, least common multiple and prime factors of a number are important skills in this section.	Know some vocabulary about maths; Know the use of the present simple; Be able to construct simple sentences

<p>Learning Outcomes expected for this Lesson</p>	<p><u>Content skills:</u> By the end of this module, students would be able:</p> <ul style="list-style-type: none">- to explain what a fraction is- to recognize different types of fractions and explain the difference between a proper fraction, an improper fraction and a mixed number- to recognize if two fractions are equivalent and describe the procedure for finding equivalent fractions- to position a fraction correctly on a number line diagram- to simplify a fraction by dividing its numerator and its denominator by a common factor.- to add and to subtract fractions with both unlike and like denominators- to multiply and divide fractions- to apply fraction concepts to complete exercises- to apply all concepts and procedure to complete exercises with real-world problems <p><u>Cognition:</u> Comparing and contrasting (when students compare and contrast the different types of fraction) Recalling prior knowledge (when students have to answer to some question) Understanding a procedure using visual instructions Classifying (when students classify fractions in the appropriate group) Creating (when students create their own word problem) Verifying (when students verify if the procedure is correct) Reasoning, hypothesizing and drawing conclusion (when students discuss to find correct procedure to solve word problems) Describing the procedure applied to solve a question Evaluating (when students evaluate their own and their classmate's work)</p> <p><u>Learning skills:</u> Ability to work individually Ability to work in pairs and in small groups Ability to argue their opinion Ability to share their own work in a group Ability to complete a task in a given time both with a partner and individually Ability to use prior knowledge to make connections and formulate reasoning</p> <p><u>Communication:</u> <u>Linguistic skills:</u></p> <ul style="list-style-type: none">- Listening: to improve the student's ability to understand already know structures in a different context;- Reading: to improve comprehension of different kinds of short text (definitions, rule, instructions,..)- Speaking: to improve fluency and enrich vocabulary (subject-specific vocabulary such as the words: <i>fraction, numerator, denominator, fraction line, equivalent, proper, improper, factor, multiple,..</i>)- Writing: to improve the student's ability to complete exercise on worksheets <p><u>Grammar structures:</u> Sequence of events with present tense (time adverbs: <i>first, next, then, at the end</i>) Past tense (for recounting what has been done) Use of conditional 0 (to lead to logical conclusions) Use of the imperative form (for procedure or instructions) Consolidation of the verbs to be and to have and of the simple present Use of intentional future Questions form</p>
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	<p>Modal verbs</p> <p>Linguistic functions: Asking for and giving information Hypothesizing Asking and answering questions Agreeing and disagreeing Expressing an opinion Analyzing and drawing conclusions Comparing and contrasting Asking for and making suggestions Giving instructions</p> <p>Culture: Application of functions concept to solve real life problems</p>
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<p>Methodology</p>	<p>Each lesson starts with a participative activity, using the IWB and an explicative Power Point as a visual and contextual support.</p> <p>To integrate language and content, during the lesson <u>multimodal inputs</u> will be employed, such as: interactive whiteboard, labelled images, video, glossary with pictures, mimes and gestures, repetitions and reformulations of requests in order to support learner’s communication and to guide understanding.</p> <p>Work <u>group activities</u> give the possibility to support content knowledge acquisition and to develop thinking skills. Learner autonomy, communication and interaction between learners are strongly encouraged. The group-work activities group are constantly monitored by the teacher.</p> <p>At the end of both the activities and the whole lesson, a whole <u>class plenary</u> is done to check, revise and assess contents and language acquisition.</p> <p><u>Formative assessment</u> will be used. Students know what the learning outcomes and assessment criteria are, they give feedback to each other (<u>peer assessment</u>) and learn how to assess their own progress (<u>self assessment</u>). They know what the teacher observes and collects data during all the collaborative group works in order to give students constructive feedback.</p> <p>Furthermore, <u>summative assessment</u> will take place at the end of the module: students will be tested on different kinds of exercises with varying levels of difficulty.</p>
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n. Ac	Lesson Main Aim/s + activities	Activity / Procedure	Language	Interaction	Materials	Time	Assessment tools
	<p><i>What's the purpose of this lesson within the Unit? How many activities does it consist of? (please list)</i></p> <p><i>See the document "Critical thinking skills".</i></p>	<p><i>Skills in focus (listening, speaking, reading, writing, interacting)</i></p>	<p><i>What materials will be used in the lesson? (Flashcards, pictures, songs, auth. texts, web-based resources, PPT Pres., ICT tools, etc....)</i></p>	<ul style="list-style-type: none"> ○ <i>Whole class</i> ○ <i>Group work</i> ○ <i>Pair work</i> ○ <i>Individual work</i> 	<p><i>What the teacher does...</i></p> <p><i>(Please, specify Ts' respective roles if 2 teachers are present)</i></p>	<p><i>What the SS do...</i></p>	<p><i>Assessment tools, with ref. to the lesson / unit expected learning outcomes (formative, on-going, peer/self assessment, summative assessment...)</i></p>
1	<p>Warm up activity:</p> <p>Know: activating learner's prior knowledge on the fractions</p> <p>Be able to: talk about fractions</p>	<p>Teacher asks students what they know about fractions: <i>do you know any common fractions?</i> $\frac{1}{2}$, $\frac{1}{4}$, ..</p> <p><i>Can you think of any fractions that are used throughout the day ? (telling time...)</i></p> <p>Students try to recall everything they know about fractions (brainstorming)</p> <p>Teacher writes a list of fraction examples on the black board</p>	<p>Use the appropriate present tense form when stating facts</p> <p>Recalling and thinking skills</p>	Whole class	Blackboard	10'	Listen attentively to other's contributions during class discussion (assessment of learner's attitudes)

2	<p>To introduce the topic</p> <p>Know: What a fraction is and types of fractions</p> <p>Be able: to listen and take note of the key specific vocabulary and perform the exercises proposed</p>	<p>The teacher introduces the topic (fractions, types of fractions) with a Power Point presentation and a video</p> <p>Asks students to take note</p> <p>Students listen, understand the video clip, take notes, answer questions and perform the exercises proposed in the PowerPoint</p>	<p>Language focus: use the correct present tense</p> <p>Language support: key specific vocabulary will be written on the PowerPoint</p> <p>The video-clip is descriptive. The same concepts are also explained in the presentation</p>	<p>Whole class listen the explanation, answer the questions</p> <p>Individual work: note taking</p>	<p>PowerPoint presentation on the fraction (see Attachment 1: Fractions_PPT)</p> <p>Whiteboard</p> <p>Video-clip on YouTube: “Types of fractions: proper, improper, mixed” https://goo.gl/uxvXdV</p> <p>PC, Internet connection</p>	20’	<p>Asks students to answer questions and to complete exercises during the explanation to verify understanding</p> <p>Listen attentively to others’ contributions during class discussion (assessment of learner attitudes)</p>
3	<p>To complete worksheet</p> <p>To be able: to apply fraction concepts to complete worksheet</p>	<p>Students work on tasks individually to find the answers to the questions of worksheet</p> <p>The teacher assists the students with difficulties</p> <p>Then, students compare their answers in pairs: they talk together and help each other to check and complete the exercise correctly</p> <p>At the end the teacher shows the correct answers on the white board</p>	<p>Read, comprehend the instructions and analyse a simple text</p> <p>Comprehend subject-specific language</p> <p>Subject-specific vocabulary: e.g. <i>numerator, denominator, proper fraction...</i></p> <p>Content compatible vocabulary: <i>part, whole, half, third</i></p> <p>Communication functions: asking and answering questions, suggesting, expressing opinion, agreement, disagreement</p> <p>Language support: key vocabulary and sentence starters on worksheet</p>	<p>Individual work</p> <p>Pair work</p>	<p>Worksheet 1 Worksheet 2</p> <p>‘the language of fractions’</p> <p>Whiteboard</p>	25’	<p>The teacher moves around the class and checks if the students are completing the worksheet correctly</p> <p>Peer assessment: students correct each other and help each other in completing worksheet</p>

4	<p>Know: Fractions on a number line</p> <p>Be able: to place a fractions on a number line diagram correctly</p>	<p>The teacher uses a PowerPoint presentation and a video to explain the topic and asks students to take notes</p> <p>Students watch the video, listen the explanation and take notes.</p>	<p>Listen, read and comprehend subject-specific language and subject-specific vocabulary e.g. <i>number line</i>, ...</p> <p>Content compatible vocabulary: (e.g. <i>steps</i>, ..)</p> <p>Communication functions: asking and answering questions.</p> <p>Language support: key vocabulary on PowerPoint</p>	Whole class and individual work	<p>Video on YouTube: “<i>Fractions on a number line</i>” https://goo.gl/5deOQf</p> <p>PowerPoint presentation on the procedure to position a fraction on a number line diagram correctly (see Attachment 3: Fractions on a number line PPT)</p> <p>White board</p> <p>PC, Internet connection</p>	30’	Asks students to answer questions during the explanation to verify understanding
5	<p>To do exercise activities online</p> <p>To be able: to apply the fraction concept; to identify the location of a fraction on the number line</p>	<p>Students work in pairs to find the answers to the questions about fractions on a number line</p> <p>Students read the question, talk together, reason and argue their ideas and complete the task in the given time</p>	<p>Read and comprehend subject specific language and subject specific vocabulary</p> <p>Content compatible vocabulary</p> <p>Communication functions: asking and answering questions, negotiating meaning, expressing own ideas</p> <p>Language support: key vocabulary on PowerPoint</p>	Pair work	<p>White board</p> <p>PC, Internet connection</p> <p>Worksheets: https://goo.gl/OWfToV https://goo.gl/RYXtPl</p>	25’	<p>The teacher moves around the class and checks if the students are completing the activity online correctly</p> <p>Peer assessment: students correct and help each other in completing the activity</p>

6	<p>Know: Equivalent Fractions and fractions in their simplest form</p> <p>Be able: to calculate equivalent fractions and to reduce a fraction to lowest terms</p>	<p>The teacher uses a PowerPoint presentation to explain the topic and asks students to take notes</p> <p>Students listen to the teacher and take notes</p>	<p>Listen, read and comprehend subject specific language and subject specific vocabulary e.g. <i>equivalent fraction, common factor, simplest form, ..</i></p> <p>Content compatible vocabulary: (e.g. <i>divide, multiply, congruent, etc.</i>)</p> <p>Communication functions: asking and answering questions</p> <p>Language support: key vocabulary on PowerPoint</p>	Whole class	<p>PowerPoint presentation on the procedure to calculate equivalent fractions and to reduce a fraction to lowest terms correctly (See Attachment 4: Equivalent fractions_PPT)</p> <p>White board</p>	30'	Asks students to answer questions during the explanation to verify understanding
7	<p>To do exercise activities online</p> <p>To be able: to apply fraction concept about how to simplify a fraction and reduce it to lowest terms</p>	<p>Students work in pairs to find the answers to the questions (see online Worksheets) about fractions on a number line</p> <p>Students read the question, talk together, reason and argue their ideas and complete the task in the given time</p>	<p>Listen, read and comprehend subject specific language and subject specific vocabulary e.g. <i>equivalent fraction, common factor, simplest form, ..</i></p> <p>Content compatible vocabulary: as above</p> <p>Communication functions: asking and answering questions, negotiating meaning, expressing own opinion</p> <p>Language support: key vocabulary on PowerPoint</p>	Pair work	<p>White board</p> <p>PC, Internet connection</p> <p>https://goo.gl/juB9Bz https://goo.gl/dLSFzZ https://goo.gl/ZJd4lK https://goo.gl/tCEAOr</p>	25'	<p>The teacher moves around the class and checks if the students are completing the activity online correctly</p> <p>Peer assessment: students correct and help each other in completing the activity</p>

8	<p>To do activities in small group</p> <p>To be able: to recognize equivalent fractions.</p>	<p>Teacher reads aloud instructions to do activities and gives the students materials</p> <p>Students listen and read the instructions to take part in a game about equivalent fractions.</p> <p>Students play a game in which they move along a game board by finding equivalent fractions</p>	<p>Listen, read and comprehend subject-specific language and subject-specific vocabulary e.g. <i>equivalent fraction, common factor, simplest form, ..</i></p> <p>Content compatible vocabulary: as above</p> <p>Communication functions: asking and answering questions</p>	<p>Small groups work (group size: four students)</p>	<p>‘Welcome to Equivalent Fraction Land’ game (see Attachment 5, instructions and materials on pdf: https://goo.gl/4BcTuf for credits)</p> <p>Game board and game fractions cards, number cube for each group</p>	<p>30’</p>	<p>The teacher moves around the class and checks if the groups are doing the activity correctly</p> <p>Peer assessment: students correct and help each other</p>
9	<p>Know: compare fractions</p> <p>Be able: to compare fractions</p>	<p>The teacher use a PowerPoint presentation to explain the topic and asks students to take notes</p> <p>Students listen to the teacher and take notes</p>	<p>Listen, read and comprehend subject-specific language and subject-specific vocabulary (e.g. <i>equivalent fraction, multiply..</i>).</p> <p>Content compatible vocabulary: (e.g. <i>greater than, less than, the smaller, the greater, equal to, ..</i>)</p> <p>Communication functions: asking and answering questions and compare fractions (<i>greater than, less than, ..</i>)</p> <p>Language: comparatives</p>	<p>Whole class</p>	<p>PowerPoint presentation on how to compare fractions (see Attachment 6: comparing fractions_PPT)</p> <p>White board</p>	<p>25’</p>	<p>Asks students to answer questions during the explanation to verify understanding</p>

10	<p>To complete worksheet</p> <p>To be able: to compare fractions</p>	<p>Students work on tasks individually to find the answers to the questions on the worksheet</p> <p>The teacher assists the students with difficulties</p> <p>Then, students compare their answers in pairs: they discuss and help each other to check and complete the exercise correctly</p> <p>At the end, the teacher shows the correct answers on the white board</p>	<p>Read, comprehend the instructions and analyse a simple text</p> <p>Comprehend subject-specific language and subject-specific vocabulary (e.g. <i>compare, equal, greater, smaller</i>)</p> <p>Content compatible vocabulary: (<i>multiply,..</i>)</p> <p>Communication functions: asking and answering questions, suggesting, expressing opinion, agreement, disagreement</p> <p>Language support: key vocabulary and sentence starters on worksheet</p>	Individual work and pair work	<p>Worksheet 1 https://goo.gl/NbMQfb</p> <p>Whiteboard</p>	20'	<p>The teacher move around the class and checks if the students are completing the worksheet correctly</p> <p>Peer assessment: students correct each other and help each other in completing worksheet</p>
11	<p>Know: math operation with fractions</p> <p>Be able: to solve math operations with fractions</p>	<p>The teacher uses a PowerPoint presentation to explain the operations with fractions and asks students to take notes and to answer questions during the explanation</p> <p>Students listen to the teacher, do the tasks and take notes</p>	<p>Listen, read and comprehend subject-specific language and subject-specific vocabulary e.g. <i>math operations, common denominator, addition, subtraction, division, simplification, multiplication, ..</i></p> <p>Content compatible vocabulary: (e.g. <i>divide, multiply, add, subtract, invert ..</i>)</p> <p>Communication functions: asking and answering questions</p> <p>Language support: key vocabulary on PowerPoint</p>	Whole class	<p>PowerPoint presentation on the procedure to solve fraction math operations correctly (see Attachment 8: fraction math operations_PPT)</p> <p>White board</p>	35'	Asks students to answer questions during the explanation to verify understanding

12	<p>To do exercise activities online</p> <p>To be able: to solve fractions math operations correctly</p>	<p>Students work in pairs to find the answers to the questions online about fractions math operations</p> <p>Students read the question, talk together, reason and argue their ideas and complete the task in the given time</p>	<p>Listen, read and comprehend subject-specific language and subject-specific vocabulary e.g. <i>math operations, common denominator, addition, subtraction, division, simplification, multiplication, ..</i></p> <p>Content compatible vocabulary: (e.g. <i>divide, multiply, add, subtract, invert ..</i>)</p> <p>Communication functions: asking and answering questions, expressing agreement/disagreement, expressing own opinion, negotiating meaning</p>	Pair work	<p>White board</p> <p>PC, Internet connection</p> <p>https://goo.gl/W6OsSW</p> <p>https://goo.gl/rPjo2z</p> <p>https://goo.gl/YuRyMN</p> <p>https://goo.gl/R57BVR</p>	45'	<p>The teacher moves around the class and checks if the students are completing the activity online correctly</p> <p>Peer assessment: students correct and help each other in completing the activity</p>
13	<p>Summative test</p> <p>To evaluate student's performance and assess learning</p>	Students work on tasks individually to find the answers to the questions of test		Individual work	<p>Assessment 1: https://goo.gl/uxkhcC</p> <p>Assessment 2: https://goo.gl/joDKFz</p>	55'	Summative assessment
14	<p>Metacognition</p> <p>To involve students in evaluating their own work and learning progress (self-assessment)</p>	<p>Teacher reads aloud the questions and</p> <p>Students listen to the teacher, do the tasks and take notes</p>		Individual work	<p>Student self assessment rubric (https://goo.gl/GsI5R2)</p>	10'	Student self assessment