

Lesson plan: The 3 forms of water

School	<input checked="" type="radio"/> Primary <input type="radio"/> Middle <input type="radio"/> High
Year / Class	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5
Subject :	SCIENCE Topic: THE 3 FORMS OF WATER
CLIL language	English

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

Student group profile (general)	CEFR Level: <input checked="" type="radio"/> A1 <input type="radio"/> A2 <input type="radio"/> C1 <input type="radio"/> B1 <input type="radio"/> B2 <input type="radio"/> C2
	<input type="radio"/> Experiences of CLIL <input checked="" type="radio"/> Migrant background: 3 <input type="radio"/> English mother tongue <input checked="" type="radio"/> Special Educational Needs: 4 <input checked="" type="radio"/> Other mother tongue: 5 <input type="radio"/> Other: _____

Timetable fit	<input type="radio"/> Module <input checked="" type="radio"/> Lesson (2 hours)	Previous lessons: Sources of water in nature; Water on Earth (salt water, fresh water)
		Future lessons: Water can change form; Water cycle

Resources & tools	<p>Three ready-prepared desks with the materials for the 3 investigations: 3 tea towels, a little bowl containing water, a knife, a hammer, a chopping board, a cooler box containing ice cubes; a diffuser, a candle, a lighter, a piece of blue cardboard.</p> <p>A magnetic board that can be opened, magnets, pictures showing the steps of the scientific method.</p> <p>Ready-prepared worksheets for less able learners.</p> <p>A worksheet with a table; a poster with the same table; pictures showing the three forms of water (16 little; 19 medium-sized), patafix.</p>
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Students' prior knowledge, skills, competencies	Subject	Language
	Prior knowledge: Scientific method, Water on Earth Skills: label, put in order, classify	Vocabulary: vocabulary referring to the scientific method; <i>water, liquid, ice, frozen, cut</i> ; Structures: <i>because...; It is..., Is it...?; I can see...; This is..., We can find...</i>

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Learning Outcomes expected for this lesson	Identify the three different forms of water Observe the three forms of water Classify the three forms of water Say simple sentences about the forms of water Respecting turns
Methodology	Scaffolding Cooperative Learning

Activity	Activity aims	Activity Procedure	Language	Interaction	Materials (please cite all sources)	Timing	Assessment
1	<p>Warm up</p> <p>Knowledge: recall basic concepts, tell, label</p> <p>Comprehension: put in order</p>	<p>T: says what T and SS are going to do in this lesson.</p> <p>T: asks which method scientists use to conduct their investigations.</p> <p>T: gives prompts, if students don't remember it.</p> <p>T: helps students to remember the steps opening the board and showing pictures with the steps randomly hung on the board before the start of the lesson.</p> <p>T: writes "Scientific method" at the top of the board.</p> <p>T: asks students to name the steps of the scientific method and put them in order in a numbered list.</p> <p>SS: observe the pictures, raise their hand, name the different steps, go to the board, put them in the list and write the name of the step.</p> <p>T: if necessary, helps students to remember the name of the steps by using body gestures; gives positive feedback, calls less able learners if she knows</p>	<p>T: "<i>Today we are going to do three investigations.</i>"</p> <p>T: "<i>Which method do scientists use to do their investigations?</i>"</p> <p>SS: "<i>The scientific method.</i>"</p> <p>T: "<i>How many steps does the scientific method have? What is step number 1...?</i>"</p> <p>SS: "<i><u>Make an observation...</u></i>"</p> <p>T: "<i>Come here and hang the picture, then write.</i>"</p> <p>SS: "...2) <i><u>ask a question</u></i>, 3) <i><u>form a hypothesis</u></i>, 4) <i><u>do an experiment</u></i>, 5) <i><u>record and analyze data</u></i>, 6) <i><u>draw a conclusion.</u></i>"</p>	<p>○ Whole class</p> <p>SS: raise their hand to answer to the teacher's questions.</p> <p>SS: go to the board to put the picture in the list, write the name of the step.</p> <p>SS: sing and mime together a rap song.</p>	<p>Three ready-prepared desks with the materials for the 3 investigations and covered with tea towels.</p> <p>A magnetic board that can be opened, magnets.</p> <p>Pictures showing the steps of the scientific method; pictures taken from:</p> <p>http://www.divagatoriscientifici.it/blog/wp-content/uploads/2010/10/Metodo-Scientifico01-mini.jpg</p> <p>A ready-prepared numbered list on the board.</p> <p>The rap song has been inspired from the refrain of "Scientific Method Song" by Have Fun Teaching: https://www.youtube.com/watch?v=KIFz_-KzURY</p> <p>SEE ATTACHMENTS 1-2</p>	20'	<p>Observing if students participate.</p> <p>Observing if students respect turns.</p> <p>Checking if students can answer to the questions.</p> <p>Checking if students can remember the steps of the scientific method.</p>

		<p>they can give a correct answer in order to improve their self-esteem.</p> <p>T: encourages students to sing a known rap song, which includes gesture, to revise together the scientific method and help students who find easier to learn through this way. SS: sing the rap song.</p>	<p>T: <i>“Let’s sing the scientific method song, do you remember it?”</i> T and SS: <i>“Make an observation, ask a question, form a hypothesis...”</i></p>				
2	<p>Analysis: reason on a form of water (liquid)</p>	<p>The procedure used in the 3 investigations is similar: the teacher writes on the board the steps of the scientific method and, interacting with students, writes about the ongoing investigation. Students write a report about the previous investigations in their exercise book with the help of the teacher. The teacher helps students to understand new vocabulary by using body gestures, drawings or asking for translation, if necessary; she walks around the room to check if students need extra time for writing; she gives ready-prepared worksheets to fill in to students who find it difficult to write for a long time.</p>	<p>T: <i>“What are the 3 forms of water? What do you think?”</i></p>	<ul style="list-style-type: none"> ○ Whole class ○ Individual work <p>SS: reason on teacher’s questions and answer.</p> <p>SS: try to cut or break water.</p> <p>SS: write a report in their exercise book.</p>	<p>A desk with a little bowl containing water, a knife, a hammer. Ready-prepared worksheets.</p> <p>SEE ATTACHMENT 3</p>	20’	<p>Observing if students participate. Observing if students respect turns. Checking if students can reason on the questions. Checking if students can build a good sentence. Checking if students can give a reason for the conclusion.</p>

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		<p>T: writes the title on the board: "The 3 forms of water" and invites students to reflect on it. SS: reflect on the title.</p> <p>T: takes off the tea towel from the first desk and shows the materials for the first investigation. T: asks students about what they can see. SS: answer. T: if needed, she helps students to build a sentence by using the structure "I can see..."; she helps students to recall vocabulary and provides new vocabulary.</p> <p>T: gives ready-prepared worksheets to fill in to students who find it difficult to write for a long time. T: referring to the board with the scientific method steps, she says that she is going to start with a question this time. T: writes on the board: 1. The teacher asks a question. Then she asks and writes: Is it possible to cut or break water? SS: write and form their hypothesis.</p> <p>T: introduces the experiment.</p>	<p>T: <i>"Look at the desk. What can you see?"</i> SS: <i>"I can see a..."</i></p> <p>T: <i>"Today I will start with a question. Is it possible to cut or break water?"</i> T: <i>"What does it mean?"</i> SS: answer, also by using some L1. T: <i>"Form your hypothesis, but don't say it loudly. Think it over!"</i> T: <i>"Write in your exercise book "2. I form a hypothesis." And write, please, "Yes" or "No"."</i></p> <p>T: <i>"Let's do an experiment. Write 3. We do an experiment. Materials."</i></p>				
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		<p>T: writes on the board: “3. We do an experiment. Materials:” and asks about them. SS: say about materials. T: provides new vocabulary.</p> <p>T: calls students around the desk; tries to cut or break water using the knife or the hammer. SS: try to cut or break water.</p> <p>T: asks students to draw a conclusion showing the question on the board and inviting them to build a good sentence and to give the reason. SS: answer the question.</p>	<p>T: “<i>What do we need for this experiment?</i>” SS: “<i>We need water...</i>”</p> <p>T: “<i>Come here around the desk. I’ll try to cut or break water, then you will try.</i>”</p> <p>T: “<i>So children. What is the conclusion? Is it possible to cut or break water?</i>” SS: “<i>No, it is not possible to cut or break water.</i>” T: “<i>Why?</i>” SS: “<i>Because water is a liquid.</i>”</p>				
3	Analysis: reason on a form of water (solid)	<p>T: invites students to guess what the 2nd investigation will be about. SS: reason on the question.</p> <p>T: shows the materials for this investigation; involves students in saying what they can see.</p> <p>T: Same procedure of investigation 1; the teacher asks now: Is it possible to cut or break water now? T: invites students to say</p>	<p>T: “<i>What is investigation 2 about? What do you think?</i>” SS: give their answers.</p> <p>T: “<i>Look at the desk. What can you see?</i>”</p> <p>T: “<i>My question is: Is it possible to cut or break water now?</i>”</p>	<ul style="list-style-type: none"> ○ <i>Whole class</i> ○ <i>Individual work</i> <p>SS: reason on teacher’s questions and answer. SS: try to break ice. SS: write a report in the exercise book.</p>	<p>A desk with a chopping board, a cooler box containing ice cubes; a hammer, a knife; a tea towel.</p> <p>SEE ATTACHMENT 4</p>	20’	<p>Observing if students participate. Observing if students respect turns. Checking if students can reason on the questions. Checking if students can build a good sentence. Checking if students can give a reason for the conclusion.</p>

		<p>how the investigation is going to be continued. SS: suggest how to continue the investigation following “Investigation 1” as an example.</p> <p>T: introduces the experiment and calls students around the desk; tries to cut or break ice cubes by using the knife and then the hammer. SS: try to break ice cubes with the hammer.</p> <p>T: asks students to draw a conclusion. SS: answer the question.</p>	<p>T: “<i>Let’s do the experiment. “What do we need for this experiment?”</i>” SS: “<i>Ice cubes, a chopping board...</i>” T: “<i>Come here around the desk.</i>” T: “<i>I’ll try to cut or break ice cubes, then you will try</i>”.</p> <p>T: “<i>What is the conclusion?</i>” SS: “<i>It is possible to cut or break water.</i>” T: “<i>Why?</i>” SS: “<i>Because water now is a solid.</i>”</p>				
4	Analysis: reason on a form of water (gas)	<p>T: asks a question and checks if students understand the question.</p> <p>T: introduces the experiment. T: asks students about what they see, checks that students know what the materials are and what they are used for. SS: answer.</p>	<p>T: “<i>My question now is: Is it possible for water to go up to the sky? What does this question mean?</i>”</p> <p>T: “<i>Let’s do the experiment. What is it?</i>” SS: answer to the question.</p>	<ul style="list-style-type: none"> ○ Whole class ○ Individual work <p>SS: reason on teacher’s questions and answer.</p> <p>SS: observe and feel water vapour.</p> <p>SS: say what they</p>	<p>A desk with a diffuser, a candle, some water, a lighter, a piece of blue cardboard; a tea towel.</p> <p>SEE ATTACHMENT 5</p>	20’	<p>Observing if students participate.</p> <p>Observing if students respect turns.</p> <p>Checking if students can reason on the questions.</p>

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		<p>T: calls students around the desk; lights the candle, pours some water in the diffuser.</p> <p>T: invites students to observe what happens; holds a piece of blue cardboard, so that students can see better the water vapour.</p> <p>SS: observe.</p> <p>T: invites students to come and feel the vapour.</p> <p>SS: observe and feel the water vapour; say what they can see and feel.</p> <p>T: invites students to draw the conclusion.</p> <p>T: helps students to build a sentence.</p>	<p>T: <i>"Now I'll light the candle and pour some water. Look! What can you see?"</i></p> <p>SS: answer.</p> <p>T: <i>"Yes, this is water vapour. You can feel it. Get in line."</i></p> <p>SS: <i>"It's water. It's hot."</i></p> <p>T: <i>"What is the conclusion? Is it possible for water to go up to the sky?"</i></p> <p>SS: (helped by the teacher) <i>"Yes, water can go up to the sky as water vapour."</i></p>	<p>can see and feel.</p> <p>SS: write a report in the exercise book.</p>			
5	Knowledge: recall information	<p>T: suggests a short plenary session to recall what students have just learnt.</p> <p>T: asks for some key-words of the lesson.</p> <p>T: asks students to fill in some sentences on the board.</p> <p>SS: fill in orally the sentences and then go to the board to write.</p>	<p>T: <i>"What have you learnt today? Can you recall some key-words?"</i></p> <p>SS: <i>"Water, ice, solid..."</i></p> <p>T: <i>"Look at the board: We can find water in..(3).. different ...(forms).....: -liquid -...(solid)..... -gas Water is a ...(liquid)....."</i></p>	<p>○ Whole class</p> <p>SS: recall information and fill in sentences on the board.</p>		5'	<p>Checking if students can recall what they have learnt during the lesson.</p> <p>Checking if students can fill in some sentences.</p>

		T: helps students inviting them to look for the answers in the exercise book, if necessary.	(Ice)..... is a solid. (Water vapour).. is a gas. SS: "We can find water in 3 different forms. ..."				
6	Application: classify	<p>T: forms four groups of four students and one of three students; provides each group with a worksheet and 16 pictures.</p> <p>T: explains the task and writes on the board the sentences students are going to need to communicate:</p> <p>1) What's this? This is water/ice/water vapour.</p> <p>2) What is it?</p> <p>Water/Ice/Water vapour is a liquid/solid/gas.</p> <p>T: proposes a modelling activity to get students confident with structures.</p> <p>T: shows an example of communication calling two students.</p> <p>SS: communicate in each group taking turns (like in a chain) and categorize the pictures; help each other if necessary.</p> <p>T: walks around, helps students (especially students with special needs), gives positive feedback.</p> <p>T: prepares the board for the plenary activity: in the central board one poster with the table, in the lateral boards the coloured</p>	<p>T: "Classify the pictures in the three columns. Use these sentences:..."</p> <p>SS: "What's this?", "This is ice." What is ice?" "Ice is a solid." ...</p>	<ul style="list-style-type: none"> Group work Whole class <p>SS: classify pictures asking question in a sort of "chain game" in the group.</p> <p>SS: go to the board, classify a picture and tape it on the poster.</p>	<p>A worksheet with a three-column table with "solid, liquid, gas" at the top; 16 pictures showing the three forms of water.</p> <p>A poster with the same table; 19 coloured pictures; patafix.</p> <p>SEE ATTACHMENT 6-7</p>	25'	<p>Observing if students participate.</p> <p>Checking if students can identify and classify the 3 forms of water by using vocabulary and structures.</p> <p>Checking if students can help each other.</p> <p>Less able students and special needs students are helped by the teacher if necessary.</p>

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		<p>pictures.</p> <p>At the end of the group task each student goes to the board, takes one picture and classifies it saying: <i>“This is ice. Ice is a solid.”</i> ...</p> <p>There are three new pictures: the Marmolada glacier, the Atlantic Ocean in front of the Cliffs of Moher, the River Liffey.</p> <p>SS: ask about these pictures. T: says something about these pictures.</p>	<p>SS: <i>“This is ice. Ice is a solid. This is water. Water is a liquid. This is water vapour. Water vapour is a gas.”</i></p> <p>T: <i>“This is one of the glaciers we can find in our region”.</i></p> <p>T: <i>“I have taken these pictures in Ireland. This is the Atlantic Ocean in front of the Cliffs of Moher. These cliffs are about 8 km long and until 200 metres high. Some scenes of “Harry Potter” have been shot here”.</i></p> <p>T: <i>“This is River Liffey. It flows through the city of Dublin. It divides the city in two sides”.</i></p>				
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