

<b>TITLE OF THE SCENARIO</b>	<b>Learning the chemical elements</b>		
<b>Keywords</b>	Chemistry, periodic table, experimental sciences		
<b>To whom do I want to teach?</b>			
<b>Age Range and grade</b> of the learners	<ul style="list-style-type: none"> <li>* 1st and 2nd grade of non-compulsory secondary education, specialization in Sciences / technical Sciences (age: 16-18)</li> <li>* 1st year Chemistry college students</li> </ul>		
<b>Learner special characteristics</b>	<ul style="list-style-type: none"> <li>* Students interested in science, especially Chemistry (either at an academic or a personal level)</li> <li>* Students meeting problems for memorizing the valence of elements</li> <li>* Students who are not interested in Chemistry</li> </ul>		
<b>What do I want to teach?</b>			
<b>Learning subject / field / skills</b>	<ul style="list-style-type: none"> <li>* Chemistry</li> <li>* Formulation, oxidation numbers, anions and cations</li> </ul>		
<b>Specific Goals</b>	<ul style="list-style-type: none"> <li>* To get acquainted with the elements of the periodic table</li> <li>* To learn the oxidation numbers of the main elements in the periodic table</li> <li>* To understand the oxidation number according to properties</li> </ul>		
<b>How do I want to teach?</b>			<b>Rate 0-5</b>
<b>Learning metaphor</b> that can support the learning objectives	Acquisition (I will transmit / present / explain content to the learners)	□ □ □ □ □ <input checked="" type="checkbox"/>	
	Imitation (I will show to the learners how to do things related to this subject / content, i.e. I will be a model for them)	□ □ □ <input checked="" type="checkbox"/> □ □	
	Discovery (I will provide the necessary artifacts for the learners to find out / discover a specific concept / knowledge on their own. I will organize guiding activities and provide tips)	□ □ □ □ <input checked="" type="checkbox"/> □	
	Participation (I will organize sessions in which learners will discuss, share and / or collaborate for learning a specific subject / content and I will facilitate the interaction between them)	□ <input checked="" type="checkbox"/> □ □ □ □	
	Experimentation (I will organize activities in which learners will understand, learn how-to, practice, and / or exercise)	□ □ □ <input checked="" type="checkbox"/> □ □	
<b>Description of the game</b>	<b>Narrative description of the game plot</b>	In a Chemistry lab, a student has to discover which experiment has triggered an explosion. To do so, he/she will need to conduct several tests of knowledge. When s/he gets it right, s/he obtains his/her own laboratory with the materials that s/he obtained along the game.	
	<b>Goals</b>	To discover which experiment has triggered an explosion in the lab.	
	<b>Characters</b>	<ul style="list-style-type: none"> <li>* The student</li> <li>* Romi, a scientist who accompanies him/her in the adventure, as well as introduces and evaluates the knowledge tests</li> </ul>	
	<b>Scenes</b>	<ul style="list-style-type: none"> <li>* The lab entrance</li> <li>* Recognizing images, symbols and elements</li> <li>* Classification of elements: metals, non-metals, transition materials</li> <li>* Real experiment through a book</li> <li>* Questions on the experiment and behaviour of elements</li> <li>* End of the game: discovery of the experiment and of the prize</li> </ul>	
			<b>Learning settings</b>
			<b>Estimated time</b>

<b>Narrative Description of learning activities</b> - step by step organization and structuring	<b>Before the game:</b> Students get familiar with the periodic table, the oxidation numbers, etc.	In the classroom	As many lessons as needed (3-10h)
	<b>During the game:</b> Students play individually or in pairs (by discussing and make decisions together). Furthermore, a class activity could be conducted, i.e. experiments.	In the classroom or at home.	1h (20 min without the experiments)
	<b>After the game:</b> Questions activity	In the classroom	1h
			Total: 5- 10h

### How will I evaluate students?

<b>Evaluation approach</b>	<ul style="list-style-type: none"> <li>* Class discussion - 10%</li> <li>* Exam - 50%</li> <li>* Evaluation embedded in the game - 20%</li> <li>* Classroom activities - 20%</li> </ul>
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### What will learners need in order to achieve learning objectives?

<b>Prerequisites</b>	<ul style="list-style-type: none"> <li>* To be acquainted with the periodic table and the oxidation number</li> <li>* To be acquainted with the formulation rules</li> <li>* To be acquainted with the rules of behaviour in a chemistry laboratory.</li> </ul>
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<b>Settings and materials</b>	<ul style="list-style-type: none"> <li>* A laboratory with the necessary material to carry out experiments</li> <li>* An environment that allows dialogue between teacher and students and between students.</li> </ul>
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### What will learners need in order to achieve learning objectives?

<b>Applications involved</b>	Mandatory	<ul style="list-style-type: none"> <li>* &lt;e-Adventure&gt;</li> <li>* Flash Player</li> </ul>
	Optional	--
<b>Infrastructure / equipment</b>	Mandatory	<ul style="list-style-type: none"> <li>* Internet connection</li> <li>* One laptop / computer by student</li> </ul>
	Optional	--

### Other things to consider

<ul style="list-style-type: none"> <li>* The game is only available as a demo for now. The final version will last longer (for one hour approximatively).</li> <li>* The idea is that students play individually from home, although it is possible to include the game in a collective classroom activity.</li> </ul>
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