

“Proper behaviour in an earthquake situation”

The lesson plan was developed according to the Bulgarian national curriculum

School level: Primary

Grade, age of students: 2nd grade, 8 years old

Approx. time needed: 85 minutes (approx. two school hours plus the break)

Domain: Environment

Sub-domain: Disaster protection

Classroom organization: Class, divided in several groups:

- students and teacher,
- rescue team – students, presumably boys (playing roles of firefighters, civil protection employees, policemen) - if possible another teacher or parents could join the exercise;
- doctors (emergency medical service) – another group of students, presumably girls

Concept competences:

Students acquire knowledge about:

- the nature and characteristics of an earthquake as an unexpected disaster with great speed and varying destructive power;
- the visible signs of the earthquake- sounds flutter to the ground, tearing of the earth’s crust etc.;
- the dangers caused by the earthquake disaster and the possible negative consequences;
- rules of safe behaviour before, during and after an earthquake;
- precautions to reduce the risk of injury and infection;
- practical utilization of the Action Plan in an earthquake, acquainted with how to leave from the building safely and immediately after the first quake

Skill competences:

Various, depending on the role games and simulations:

- recognize earthquakes by their characteristics;
- describe possible damage due to an earthquake, which is characterized as a natural disaster;
- comply with the instructions of the teacher, guidance on radio, television; orientation to the safest places in the building (school, home) and safe passage to them;
- prepare basic necessities and valuables on leaving of the building;
- observe personal hygiene because of the danger of epidemics;
- comply with the guidelines for orderly leave from the classroom and the school immediately after the first earthquake at a particular location;
- assist in checking the students that are brought out or play roles of rescue team or doctors;
- know the main activities and instructions stipulated in the Action Plan in an earthquake

Means and materials:

For the teacher:

- internet connected laptop and multimedia projector
- PowerPoint presentation with photos from an earthquake origin and effects
- set of questions regarding the earthquake effects, negative consequences and safe behaviour

For each team:

Suitable signs made from colour tape and glue identifying the different roles of students (i.e. roles of firefighters, policemen, doctors)

You can download suitable earthquake videos from YouTube such as:

<https://www.youtube.com/watch?v=heSOBf-sOm8>

or

<https://www.youtube.com/watch?v=fq2J6bLz2iQ>

Activities description:

Orientation phase

The teacher explains to students the negative effect of earthquakes and shows some slides and videos. He/she explains to students what the visible signs of earthquakes are, after showing the YouTube videos and photos of possible negative consequences of earthquakes to the surrounding environment and buildings. The teacher explains why it is important to learn rules for safe behavior during earthquakes. Finally, he/she asks three students to draw out some of the questions and tell to the class what they remember from the presentation.

Conceptualization phase

The teacher starts discussing in detail safe behaviour techniques and precautions to reduce the risk of injury and infection after an earthquake situation. He/she draws an Action plan for evacuation and safe behaviour and chooses roles for different students (i.e. firefighters, policemen, doctors). The students confirm that they have understood their roles and take the signs related to each role.

Investigation phase

The teacher announces the emergency (earthquake) and uses some of the surrounding objects to make bangs and noises typical for earthquake. Students rush under the desks with their heads bent between their knees and wrapped with hands. The teacher stands in the doorway, where he/she can observe and guide students and react when necessary. These final moments of the first class coincide with the school break. After the first “quake” students get out of the classroom to the school yard. Just before leaving the room, the teacher simulates an incident situation and asks few of the “firefighters” to help drag out of the “ruins” 2-3 randomly chosen students with “injuries”.

During the break, the whole class goes to a safe distance from the building and the teacher guides the “doctors” how to provide first aid to the earthquake “victims”. For authenticity purposes, he/she may use red pencil or colored paper to illustrate different injuries.

Conclusion phase

The class return to the room and the teacher makes complete analysis of the whole game exercise and gives recommendations and advice to students. He/she could use the remaining time to split the class into groups of two and give them questions to ask and answer to each other. He/she moves around the groups, listens to the dialogues and corrects the answers if necessary.

Useful information for the teacher:

- The lesson plan was developed according to inquiry – based learning (you can find more about it in the Intellectual Output 1 of the SSE project)
- The teacher could save some time by allocating students roles (i.e. firefighters, civil protection employees, policemen etc.) in advance and prepare the necessary materials
- The teacher may use the time before the class to check the laptop, the multimedia and the internet connection in order not to lose precious time during the class
- The teacher may use the first few minutes of the class to ask how many students know what an earthquake is in order to adapt the presentation to the level of the students
- The teacher could orient his/her questions directly to the premade slides so that each slide (illustrated with some pictures/photos) covers 2 - 3 questions
- During the “earthquake” the teacher could make some digital photos of the students’ behavior with his/her smartphone and use them to illustrate his/her analysis after the end of the game
- The teacher could ask the students some reasonable questions like “What is according to you the safe distance from a building once you get out of it during an earthquake situation?” or “Why do you think is dangerous to leave switched on electricity and heating devices in an earthquake situation?” in order to provoke their casual connection thinking
- Due to the relatively long exercise (two school hours) and the distribution of students into two groups, it is recommended to find another teacher or parent for support and assistance during the role game situation.
- The teacher could use the questions and materials in several different classes enriching them during the interaction with students and thus refining the quality of the lesson plan

Appendix

Some preliminary slides and related questions

1. What are the basic characteristics of an earthquake? How do we recognise it?

Leave the students to explain with their own wording (visual signs, noises, feelings)

a. Explain the difference between the two pictures – do they both show natural disasters?



a. What are the dangers caused by an earthquake disaster and the possible negative consequences? Explain how you came up with this decision.

c. Why people should not panic during an earthquake situation? Please explain.

2. What do you think is the safest behaviour during an earthquake? Explain how you should handle the situation during the different earthquake stages.

a. What is wrong with that reaction to an earthquake?



b. How far you should go from the neighbouring buildings after the first quake? Why?

c. What are the biggest risks after the earthquake situation? Please explain.



3. What should be your Action plan in an earthquake situation? Please enumerate your activities accordingly.

a. What belongings you should take first?

b. What are the authorities? Whose advice must we follow in an earthquake situation?



c. Please prepare an earthquake Action plan and keep it in an appropriate place
- homework for students

Based on the experience you have gained during this game:

- *Ask your parents which are the biggest earthquakes in the country they remember.
- * Ask your classmates after a couple of weeks what they remember as possible negative consequences after an earthquake.
- *Prepare an Action Plan for an earthquake situation.