STEAME-DRREC

"STEAME for Saving Life: Guidelines for developing and implementing Disaster Risk Reduction Education in Elementary School Curriculum"

A set of 20 activities for Grades 4-6

www.steame-life.eu



Co-funded by the European Union



This content is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International license. Under the terms of the license, you are free to copy and redistribute the material in any medium or format, but only for non-commercial purposes. You must give appropriate credit, provide a link to the license and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. If you remix, transform, or build upon the material, you may not distribute the modified the material. You are not allowed to create derivative works based on this material. You may not use the material for commercial purposes.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Table of Contents

Catalogue of activities — Grades 4–6 (ages 9–12) 3

Activity 1: Brainstorming (Idea Stations) -The secret of earthquakes! Ready for action? 4

Activity 2: Investigation using video -The secret of earthquakes! Ready for action? 6

Activity 3: Experimentation and investigation using the model “Tectonic plates in action” -The secret of earthquakes! Ready for action? 8

Activity 4: Representation – Simulation of Seismic Movement -The secret of earthquakes! Ready for action? ..10

Activity 5: Browsing websites, experimenting with a garden hose and creative expression - *The secret of earthquakes! Ready for action?* 12

Activity 6: Activity with the website of the Geodynamic Institute -The secret of earthquakes! Ready for action? 14

Activity 7: Little engineers: How much can a building withstand? We build earthquake-resistant buildings - *The secret of earthquakes! Ready for action?* 16

Activity 8: Construction and testing: “We build and improve” - Fire! The «smart» little house saves our pet..... 18

Activity 9: Mapping hazards in the school grounds - Understanding Earthquakes — Building Safely, Protecting Life 20

Activity 10: Building an earthquake-resistant building - Understanding Earthquakes — Building Safely, Protecting Life..... 22

Activity 11: Introduction, Awareness-Raising and Waste Sorting – “Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires” 24

Activity 12: Systematic Analysis & Digital Interaction – “Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires” 26

Activity 13: Experiential Action “A day in the forest” & Self-Assessment – “Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires”..... 28

Activity 14: Digital Journey Through Time with Google Maps – “Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires” 30

Activity 15: Rules for Protection and Preparedness against Earthquakes – “Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires”..... 32

Activity 16: Learning about earthquakes – “An earthquake… now what do we do?” 34

Activity 17: Examining earthquakes in Greece – “An earthquake… now what do we do?” 36

Activity 18: Using the Merge application – “An earthquake… now what do we do?”..... 38

Activity 19: The earthquake emergency kit - “An earthquake… now what do we do?” 40

Activity 20: Review and evacuation drill – “An earthquake… now what do we do?” 42

Catalogue of activities — Grades 4–6 (ages 9–12)

No	Title	Thematic area	Grade	Duration
1	Brainstorming (Idea Stations) — The secret of earthquakes	Earthquake	5	2 x 45′
2	Investigation using video	Earthquake	5	2 x 45′
3	Experimentation with the model “Tectonic plates in action”	Earthquake	5	1 x 45′
4	Representation – Simulation of Seismic Movement	Earthquake	5	2 x 45′
5	Browsing websites, experimenting and creative expression	Earthquake	5	2 x 45′
6	Activity with the website of the Geodynamic Institute	Earthquake	5	2 x 45′
7	Little engineers – How much can a building withstand?	Earthquake	5	2 x 45′
8	Construction and testing: “We build and improve”	Fire	5	2 x 45′
9	Mapping hazards in the school grounds	Earthquake	6	1 x 45′
10	Building an earthquake-resistant building	Earthquake	6	2 x 45′
11	Introduction, Awareness-Raising and Waste Sorting	Earthquake / Fire	4	2 x 45′
12	Systematic Analysis & Digital Interaction	Earthquake / Fire	4	3 x 45′
13	Experiential Action “A day in the forest” & Self-Assessment	Earthquake / Fire	4	2 x 45′
14	Digital Journey Through Time with Google Maps	Earthquake / Fire	4	2 x 45′
15	Rules for Protection and Preparedness against Earthquakes	Earthquake / Fire	4	3 x 45′
16	Learning about earthquakes	Earthquake	5–6	1 x 45′
17	Examining earthquakes in Greece	Earthquake	5–6	2 x 45′
18	Using the Merge application (AR)	Earthquake	5–6	2 x 45′
19	“The earthquake emergency kit”	Earthquake	5–6	2 x 45′
20	Review and evacuation drill	Earthquake	5–6	1 x 45′

Activity 1: Brainstorming (Idea Stations) -The secret of earthquakes! Ready for action?

Thematic Area

Earthquake [X] **Fire** [ ] **Flood** [ ]

Students' Grades

1 [ ] **2** [ ] **3** [ ] **4** [ ] **5** [X] **6** [ ]

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Brainstorming (Idea Stations) -*The secret of earthquakes! Ready for action?***		
Summary	Students activate prior knowledge and feelings about earthquakes through an idea-stations game. They then compare their ideas with those of Artificial Intelligence (AI), evaluate their validity and draw conclusions.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the earthquake as a natural phenomenon, as a hazard and as a natural disaster. b. To state and explain how an earthquake is generated. c. To identify environmental impacts associated with earthquakes and to analyze the consequences of an earthquake. d. To act as responsible future citizens and to cultivate a spirit of volunteering. e. To connect school knowledge with real-life situations. To cultivate calmness and self-control in dangerous situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Language	Oral speech – Communication – Argumentation	- To communicate effectively, to justify their views, to express thoughts and feelings. To participate in discussions while following basic rules of communication.
	ICT	Development of digital literacy skills	- To use digital tools (AI) as means of learning and to take a critical stance towards their results.
	Active Citizen	Climate change – Natural disasters	- To learn prevention strategies and to cultivate critical thinking.
Learning Outcomes for DRR	At the end of Activity 1, students will be able to: a. Recall and express prior knowledge about earthquakes (e.g. tremor).		

	b. Connect earthquakes with feelings and social dimensions (anxiety, fear, help, professions). c. Participate actively in brainstorming, proposing words and ideas. d. Externalize their views, ideas and feelings and discuss them. e. Enrich and revise their initial ideas through discussion. f. Take a critical stance towards the views of AI and reflect on the essential knowledge.
Resources / Materials	a. Worksheets, markers, colored pencils b. 4 small pieces of cardboard or A4 sheets (idea stations) c. Interactive whiteboard d. Access to Copilot or ChatGPT (AI)
Activities	The teacher has set up 4 stations in the classroom: four small pieces of cardboard or A4 sheets, each posted at a different spot in the classroom. Each piece of cardboard constitutes a station: Station 1: What is an earthquake? Station 2: How do we feel? Station 3: What do we do for safety? Station 4: What can happen to the environment? The children are divided into three groups. Each group starts at a different station and has 5 minutes to record its ideas. At the teacher's signal, they move to the next station. The teacher writes the word «Earthquake» on the interactive whiteboard and the game begins. Next stage: Each group announces the ideas it recorded to the whole class, followed by discussion. Final stage: The teacher, together with the students, composes the appropriate prompt and invites the AI (Copilot or ChatGPT) to participate as an equal member and then as the «Seismologists» team. Discussion, comparison and drawing of conclusions follow regarding the validity of the AI's results. Note – Alternative variation: the groups record their ideas with various markers on the large piece of cardboard or roll of paper that will be posted on the wall at each station.

Activity 2: Investigation using video -The secret of earthquakes! Ready for action?

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Investigation using video -*The secret of earthquakes! Ready for action?***		
Summary	Students watch a video from the Noesis Science Center about earthquakes, complete a worksheet and are then asked to describe orally and in writing how an earthquake is generated, also making use of the E.P.P.O. (Earthquake Planning and Protection Organization) website.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the earthquake as a natural phenomenon, as a hazard and as a natural disaster. b. To state and explain how an earthquake is generated. c. To identify environmental impacts associated with earthquakes and to analyze the consequences of an earthquake. d. To connect school knowledge with real-life situations. To cultivate calmness and self-control in dangerous situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Science (Physics)	Energy – Waves	- To state that energy can take various forms and to identify waves as a way of transmitting energy.
	Language	Written comprehension and production – Oral speech	- To communicate effectively, to justify their views and to produce written text. To distinguish important from secondary information.
	ICT	Development of digital literacy skills	- To use digital tools as means of learning, expression and collaboration.
Learning Outcomes for DRR	At the end of Activity 2, students will be able to: a. Identify specific points in the video that sparked their interest or surprised them. b. Justify their choice, connecting it with prior knowledge or experiences.		

	c. Distinguish important from secondary information. d. Propose their own ideas (experiment, image, model) for better understanding of the phenomenon. e. Use their imagination to explain the phenomenon. f. Express interest in further investigation. g. Evaluate the content of the video and propose alternative ways of presenting the knowledge.
Resources / Materials	a. Video Noesis Science Center: https://www.youtube.com/watch?v=brDu508d3mU b. Worksheet (questions of observation, imagination, creativity, investigation) c. E.P.P.O. (Earthquake Planning and Protection Organization) website: https://oasp.gr/peri-seismon d. Interactive whiteboard / projector
Activities	- The teacher presents to the whole class the video from the Noesis Science Center about earthquakes: https://www.youtube.com/watch?v=brDu508d3mU The students watch carefully, collaborate and answer a worksheet with questions of observation, imagination, creativity, investigation and creative thinking. They are also asked to express themselves through drawing and to take a critical stance towards the video: whether it met their needs, whether they could add something or what else they would like to learn. - They are then asked to describe orally and in writing (collaboratively) how an earthquake is generated. In addition to the video, they also make use of the E.P.P.O. (Earthquake Planning and Protection Organization) website: https://oasp.gr/peri-seismon

Activity 3: Experimentation and investigation using the model "Tectonic plates in action" -The secret of earthquakes! Ready for action?

Thematic Area

Earthquake [X] **Fire** [ ] **Flood** [ ]

Students' Grades

1 [ ] **2** [ ] **3** [ ] **4** [ ] **5** [X] **6** [ ]

Teaching time	1 teaching hour (45 minutes)		
Title / Topic	**Experimentation and investigation using the model «Tectonic plates in action» -*The secret of earthquakes! Ready for action?***		
Summary	Students experiment with rubber bands and pieces of styrofoam to understand the storage and release of potential energy, the movements of lithospheric plates and the generation of earthquakes.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the earthquake as a natural phenomenon, as a hazard and as a natural disaster. b. To state and explain how an earthquake is generated. c. To connect school knowledge with real-life situations. To cultivate calmness and self-control in dangerous situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Science (Physics)	Energy – Forces	- To identify potential and kinetic energy. To explain how potential energy is converted into kinetic energy. To establish experimentally the occurrence of friction.
	Geography	The role of volcanoes and earthquakes in the changes of nature	- To grasp the role of earthquakes in shaping the earth's relief and to recognize the necessary coexistence with seismic activity.
Learning Outcomes for DRR	At the end of Activity 3, students will be able to: a. Identify the movements of lithospheric plates. b. Compare the movements (divergent, convergent, lateral movement). c. Talk about pressure and friction forces. d. Convert abstract concepts into simple, understandable representations. e. Describe and present how an earthquake is generated.		

Resources / Materials	a. Rubber bands b. Pieces of styrofoam (expanded polystyrene, colored, used as thermal insulation material) c. Worksheet with investigation questions
Activities	- Students experiment with rubber bands to «feel» the storage and release of potential energy. They stretch the rubber band and observe, realizing that the same thing happens at the edges of lithospheric plates. Questions used: a. What do you feel in your fingers when you stretch the rubber band? b. What form of energy do you think is stored in the stretched rubber band? c. Is there a limit to how much it can be stretched? What will happen if it is exceeded? d. What conclusion do you reach? e. What does the stretching represent, and what does the sudden snap-back represent, in terms of the behavior of lithospheric plates and the generation of an earthquake? - They then experiment collaboratively with pieces of styrofoam (colored) to grasp the movements of lithospheric plates, represent them, and talk about forces (friction, pressure). Movements: divergent, convergent, lateral movement. Questions used: a. How can you represent the movements of lithospheric plates with the styrofoam pieces you have? b. What will happen to the middle piece of styrofoam if you push the two outer pieces? c. Which movement of the plates are you representing? d. What do you feel in your hands when you push the styrofoam? e. What kind of force dominates when you press two pieces of styrofoam against each other? f. What kind of force do you feel when you push two pieces of styrofoam so that they slide?

Activity 4: Representation – Simulation of Seismic Movement -The secret of earthquakes! Ready for action?

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Representation – Simulation of Seismic Movement -*The secret of earthquakes! Ready for action?***		
Summary	Students collaboratively create a PowerPoint presentation that represents the movements of the lithospheric plates and the genesis of an earthquake, evaluate their work and reflect on it.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the earthquake as a natural phenomenon, as a hazard and as a natural disaster. b. To state and explain how an earthquake is generated. c. To participate actively in collaborative activities, to develop prevention and protection scenarios, as well as a common plan of danger points and escape points for a safe environment. d. To connect school knowledge with real-life situations. To cultivate calmness and self-control in dangerous situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	ICT	Development of digital literacy skills	- To use digital tools as means of learning, expression, collaboration and creation.
	Language	Comprehension and production of written language	- To communicate effectively, to argue and to organize their ideas in a logical order.
	Science (Physics)	Energy – Forces – Waves	- To explain how potential energy is converted into kinetic energy and to state that waves are a way of transmitting energy.
Learning Outcomes for DRR	At the end of Activity 4, students will be able to: a. Identify the movements of lithospheric plates. b. Compare the movements. c. Convert abstract concepts into simple, understandable representations.		

	d. Describe and present how an earthquake is generated.
Resources / Materials	a. Computers / tablets b. PowerPoint software or an equivalent presentation tool c. Images and audio files to insert into the slides
Activities	Students are asked to collaboratively create a representation-simulation of the movements of the lithospheric plates and the earthquake in PowerPoint, with the aim of presenting it to their classmates. They reflect, discuss and decide: a. How many slides they will create b. Which shapes they will use c. Which colors, which animations for the shapes and why d. Which images are suitable e. What else is needed (e.g. inserting text, sound, recording a voice-over for narration) At the end, a discussion follows about the concerns and difficulties they encountered, the skills and knowledge they acquired, their feelings and the next steps.

Activity 5: Browsing websites, experimenting with a garden hose and creative expression - *The secret of earthquakes! Ready for action?*

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Browsing websites, experimenting with a garden hose and creative expression - *The secret of earthquakes! Ready for action?***		
Summary	Students explore the characteristics of an earthquake through websites (Greek-language and foreign-language), experiment with a garden hose to understand seismic waves and express themselves creatively.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the earthquake as a natural phenomenon, as a hazard and as a natural disaster. b. To state and explain how an earthquake is generated. c. To identify environmental impacts associated with earthquakes and to analyze the consequences of an earthquake. d. To connect school knowledge with real-life situations. To cultivate calmness and self-control in dangerous situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Science (Physics)	Waves – Energy	- To state that waves are a way of transmitting energy. To experimentally verify the transfer of energy.
	ICT	Development of digital literacy skills	- To use digital tools as means of learning. To engage with foreign-language content.
	Language	Comprehension of written language	- To distinguish important from secondary information. To match foreign words with the Greek ones.
Learning Outcomes for DRR	At the end of Activity 5, students will be able to: a. Recognize and explain basic concepts: epicenter, focus, fault, fault line, seismic waves (transverse and longitudinal).		

	b. Describe in simple terms the difference between earthquake intensity and magnitude. c. Explain what happens when the focal depth is small or large.
Resources / Materials	a. Website ERT News: https://www.ertnews.gr/eidiseis/ellada/seismos-4-5-rixter-sta-ioannina-kathisyxastikos-o-eythymios-lekkas-den-anamenontai-isxyra-fainomena/ b. Foreign-language website: https://geo.libretexts.org/Bookshelves/Geology/GEOS%3A_A_Physical_Geology_Lab_Manual_for_California_Community_Colleges_(Branciforte_and_Haddad)/06%3A_Earthquakes/6.01%3A_Front_Matter c. Simulation website: https://open.oregonstate.education/earthquakes/chapter/earthquake-basics/ d. Garden hose e. Worksheet, drawing materials
Activities	First, students discuss and read the following website, watching the embedded video: https://www.ertnews.gr/eidiseis/ellada/seismos-4-5-rixter-sta-ioannina-kathisyxastikos-o-eythymios-lekkas-den-anamenontai-isxyra-fainomena/ Questions: What information does the website give us? What is the epicenter? From which point did the earthquake start? How do you understand magnitude? What conclusions do you draw from the sentence about the 5 on the Richter scale? They browse the websites: a. The foreign-language site – they focus on the image-diagram that shows the characteristics (hypocenter, epicenter, fault) and on the images with the seismic waves. They match the foreign words with the Greek ones. b. Another foreign-language site, where they focus on the earthquake simulation. Then they experiment by representing the seismic waves (transverse and longitudinal) with the garden hose. Finally, they express themselves creatively by drawing the characteristics of the earthquake and the seismic waves.

Activity 6: Activity with the website of the Geodynamic Institute - The secret of earthquakes! Ready for action?

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Activity with the website of the Geodynamic Institute -*The secret of earthquakes! Ready for action?***		
Summary	Students explore the website of the Geodynamic Institute, analyze earthquake data on an electronic map, compare old and recent earthquakes and draw conclusions about seismic activity in the Greek region.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the earthquake as a natural phenomenon, as a hazard and as a natural disaster. b. To state and explain how an earthquake is generated. c. To identify environmental impacts associated with earthquakes and to analyze the consequences of an earthquake. d. To evaluate protection and prevention measures. e. To connect school knowledge with real-life situations. To cultivate calmness and self-control in dangerous situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Mathematics	Measurement of quantities – Operations with decimal numbers	- To apply addition and subtraction of decimal numbers. To use a variety of problem-solving strategies.
	ICT	Development of digital literacy skills	- To use digital tools as means of learning, expression, collaboration.
	Language	Comprehension and production of written language	- To communicate effectively, to justify, to produce written language.
	Geography	The role of earthquakes in the changes of nature	- To understand the role of earthquakes in shaping the earth's relief.
Learning Outcomes for DRR	At the end of Activity 6, students will be able to: a. Locate recent and old earthquakes on the electronic map.		

	b. Compare earthquake data (magnitude), identify differences and reach conclusions.
Resources / Materials	a. Worksheet «Activities with the website of the Geodynamic Institute» b. Computers / tablets with internet access
Activities	The teacher gives the students the worksheet «Activities with the website of the Geodynamic Institute» and asks them to open the link. After observing carefully and browsing, they answer: a. What do you think the circles on the map show? b. Why are some circles larger or have a different color? c. Which colors appear most often? What might this indicate? They then work together to answer the remaining questions: they identify the time of occurrence, magnitude, focal depth, location, geographical coordinates. They make comparisons, find the sum and difference of decimal numbers and produce written language. In addition, the following is discussed: Looking at and comparing the data, what conclusions do we reach regarding the Greek region, the frequency of earthquakes and our daily life?

Activity 7: Little engineers: How much can a building withstand? We build earthquake-resistant buildings - *The secret of earthquakes! Ready for action?*

Thematic Area

Earthquake [X] **Fire** [ ] **Flood** [ ]

Students' Grades

1 [ ] **2** [ ] **3** [ ] **4** [ ] **5** [X] **6** [ ]

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Little engineers – How much can a building withstand? We build earthquake-resistant buildings** ***The secret of earthquakes! Ready for action?***		
Summary	Students design, construct and test a simple building model with building blocks, checking how well it withstands shaking. They then prepare a questionnaire for a discussion with a civil engineer.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the earthquake as a natural phenomenon, as a hazard and as a natural disaster. b. To participate actively in collaborative activities, to develop prevention and protection scenarios, as well as a common plan of danger points and escape points for a safe environment. c. To evaluate protection and prevention measures. d. To connect school knowledge with real-life situations. To cultivate calmness and self-control in dangerous situations. e. To recognize and describe basic principles of earthquake preparedness, documenting them in a clear and complete way.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Science (Physics)	Forces – Energy	- To experimentally verify the appearance of forces and to explain how construction affects resistance to shaking.
	Mathematics	Problem solving	- To use a variety of strategies (creating shapes, mental representations) for solving complex problems.
	Active Citizen	Climate change – Natural disasters	- To learn prevention strategies. To cultivate responsibility and critical thinking.

Learning Outcomes for DRR	At the end of Activity 7, students will be able to: a. State basic characteristics of an earthquake-resistant building (e.g. wide base, reinforcements). b. Design and construct a simple building model. c. Observe and improve their construction after testing (redesign). d. Explain how proper construction can reduce damage. e. Connect the school activity with real life.
Resources / Materials	a. Building blocks b. Cardboard (construction base) c. Stopwatch, observation sheet d. Computers for the shaking simulator (computer lab)
Activities	- Students collaborate and experiment with building blocks. They design and build a simple building model, place it on cardboard and test how well it withstands by moving the cardboard. Each time they add one more block, observe and record. Questions before construction: - What will happen if the building is very low? If the base is very small? If we put more weight on top? Questions during construction: - How can you improve your construction? What would you change? Questions after construction: a. Describe your construction. What puzzled you the most? b. So how does proper construction reduce damage? What happens in real life? The next step takes place in the computer lab, where they experiment with a simulator that changes the shaking conditions, the intensity and the magnitude. - Students collaboratively prepare a questionnaire for a discussion with a civil engineer about the earthquake resistance of buildings.

Activity 8: Construction and testing: "We build and improve" - Fire! The «smart» little house saves our pet

Thematic Area

Earthquake		**Fire**	X	**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Construction and testing: "We build and improve" - *Fire! The «smart» little house saves our pet***		
Summary	Students construct the smart little house and test it for stability, functionality and effective protection of the pet. They identify possible problems and proceed with improvements or modifications.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the dangers that a fire poses to people and animals and to describe ways of prevention and protection in case of fire. b. To collaborate on the design and construction of a «smart» house for the kitten. c. To apply basic principles of the problem-solving process (they construct, test, evaluate and improve their work). d. To develop a responsible attitude towards animals and the environment. e. To communicate the ideas and results of their work in various ways (e.g. orally, in writing, on a poster).		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Language	Moods (grammar)	- To use the grammatical moods, giving instructions in case of fire.
	Mathematics	Measurement of quantities	- To measure and calculate the quantities of the materials they will use.
	Art	Poster making	- To create a poster about fire.
	Design and Technology	Construction	- To draw construction drafts, cut wood and other materials using the appropriate tools, and use material-fastening techniques (e.g. triangulation technique).
	Science	Environmental awareness	- To develop a spirit of environmental awareness (e.g. tree planting, energy saving).
Learning Outcomes for DRR	At the end of Activity 8, students will be able to: a. Build the smart pet house and test it for stability, functionality and effective protection of the pet.		

	b. Identify possible problems and proceed with improvements or modifications.
Resources / Materials	- Construction materials: cardboard boxes and/or coriflux, craft sticks, aluminum foil, fabrics, plasticine, glue/tape, LED lights, simple sensors or buzzer, recycled materials.
Activities	Students build the smart pet house and test it for stability, functionality and effective protection of the pet. They identify possible problems and proceed with improvements or modifications. Possible functions of the model include a light alert, an alarm sound, a heat sensor, a safe escape exit and protective insulation.

Activity 9: Mapping hazards in the school grounds - Understanding Earthquakes — Building Safely, Protecting Life

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**		**6**	X

Teaching time	1 teaching hour (45 minutes)		
Title / Topic	**Mapping hazards in the school grounds - *Understanding Earthquakes — Building Safely, Protecting Life***		
Summary	Students carry out a brief investigation of the school grounds, identifying possible danger points in the event of an earthquake, and create a simple safety map of the classroom or the school, on which they mark safe spots, evacuation routes and points that need improvement.		
DRR (EMKK) Objectives	Students are expected: a. To explain how earthquakes are generated (basic understanding of the movement of tectonic plates). b. To describe the effects of earthquakes on inhabited areas, with reference to Cyprus. c. To recognize the appropriate protection measures before, during and after an earthquake. d. To measure and compare structures (height, base, stability). e. To design and build a structure resistant to an earthquake. f. To test, evaluate and improve a design based on data. g. To understand how engineers use mathematics and technology to protect human life. h. To reflect on safety and real-life application. i. To make informed decisions in emergency situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Science / Geography	Generation of earthquakes — tectonic plates	- To explain the basic movement of tectonic plates and the generation of earthquakes; to understand the relationship between earthquakes and the shaping of the earth's relief.
	Mathematics	Measuring and comparing quantities	- To measure and compare structures (height, base,

			stability, height-to-base-length ratio).
	Design and Technology / Engineering	Designing an earthquake-resistant structure	- To design, build, test and improve a structure resistant to an earthquake, based on specific constraints (budget, height).
	Active Citizen	Preparedness and protection measures	- To recognize appropriate protection measures before, during and after an earthquake and to make informed decisions in emergency situations.
Learning Outcomes for DRR	At the end of Activity 9, students will be able to: a. Describe the effects of earthquakes on inhabited areas, with reference to Cyprus. b. Recognize the appropriate protection measures before, during and after an earthquake.		
Resources / Materials	a. A floor plan/sketch of the school premises (or a blank A3 sheet to draw it). b. Paper, pencils and markers to create the safety map. c. An observation/hazard recording sheet.		
Activities	Students carry out a brief investigation of the school grounds, identifying possible danger points in the event of an earthquake, such as heavy objects, bookcases, glass panels, narrow corridors or obstacles at the emergency exits. They then create a simple safety map of the classroom or the school, on which they mark safe spots, evacuation routes and points that need improvement. Drawing on their information and observations, they propose ways of prevention, protection and correct response before, during and after an earthquake.		

Activity 10: Building an earthquake-resistant building - Understanding Earthquakes — Building Safely, Protecting Life

Thematic Area

Earthquake [X] **Fire** [ ] **Flood** [ ]

Students' Grades

1 [ ] **2** [ ] **3** [ ] **4** [ ] **5** [ ] **6** [X]

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Building an earthquake-resistant building - *Understanding Earthquakes — Building Safely, Protecting Life***		
Summary	Students build an earthquake-resistant building with paper straws and paper tape, applying in practice basic principles of structural stability and strength, based on specific constraints (budget, height, height-to-base-length ratio), and test it under a controlled «seismic» shake.		
DRR (EMKK) Objectives	Students are expected: a. To explain how earthquakes are generated (basic understanding of the movement of tectonic plates). b. To describe the effects of earthquakes on inhabited areas, with reference to Cyprus. c. To recognize the appropriate protection measures before, during and after an earthquake. d. To measure and compare structures (height, base, stability). e. To design and build a structure resistant to an earthquake. f. To test, evaluate and improve a design based on data. g. To understand how engineers use mathematics and technology to protect human life. h. To reflect on safety and real-life application. i. To make informed decisions in emergency situations.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Science / Geography	Generation of earthquakes — tectonic plates	- To explain the basic movement of tectonic plates and the generation of earthquakes; to understand the relationship between earthquakes and the shaping of the earth's relief.
	Mathematics	Measuring and comparing quantities	- To measure and compare structures (height, base, stability, height-to-base-length ratio).

	Design and Technology / Engineering	Designing an earthquake-resistant structure	- To design, build, test and improve a structure resistant to an earthquake, based on specific constraints (budget, height).
	Active Citizen	Preparedness and protection measures	- To recognize appropriate protection measures before, during and after an earthquake and to make informed decisions in emergency situations.
Learning Outcomes for DRR	At the end of Activity 10, students will be able to: a. Design and build a structure resistant to an earthquake. b. Test, evaluate and improve their design based on data (height, resistance to shaking, cost of materials). c. Connect their models to real buildings in their city and to the principles of earthquake protection.		
Resources / Materials	- Paper straws and paper tape for constructing miniature buildings capable of withstanding an earthquake.		
Activities	Students build an earthquake-resistant building with paper straws and paper tape, applying in practice basic principles of structural stability and strength. Their structure is designed on the basis of specific constraints, such as the available budget, the height and the height-to-base-length ratio, and is tested under a controlled «seismic» shake in order to evaluate its strength and effectiveness. They then draw conclusions about the construction of the earthquake-resistant building, taking into account the height, the resistance to the «seismic» shake and the total cost of the materials, and compare the models they created with real buildings in their city.		

Activity 11: Introduction, Awareness-Raising and Waste Sorting – "Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"

Thematic Area

Earthquake	X	**Fire**	X	**Flood**	

Students' Grades

1		**2**		**3**		**4**	X	**5**		**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Introduction, Awareness-Raising and Waste Sorting – *"Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"***		
Summary	Students are sensitized to the issue of forest fires through the screening of the educational video «Natural Disasters – Fire: I Protect the Forest». They discuss the forest as a precious lung of life and the role of waste and human negligence in the outbreak of fires. They then practice the correct sorting of waste with the worksheet «Waste: There are solutions!» and consolidate the 3 «magic» verbs: Reduce, Reuse, Recycle.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the natural causes (lightning, prolonged drought, high temperatures) of forest fires. b. To identify the human-induced causes of fires, distinguishing them into conditions of human negligence and acts of deliberate arson. c. To clearly distinguish the difference between the concept of «rubbish» and «useful material». d. To adopt responsible environmental behavior by correctly sorting and reducing their waste.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Environmental Studies	The natural environment and its protection / «Waste: There are solutions!»	Understanding the ecological consequences of disasters (loss of flora/fauna, soil erosion). Consolidation of the 3 «magic» verbs: Reduce, Reuse, Recycle.
Learning Outcomes for DRR	At the end of Activity 11, students will be able to: a. Recognize the forest as a precious lung of life. b. Distinguish the causes of forest fires (natural, negligence, arson). c. Distinguish the difference between «rubbish» and «useful material».		

	d. Apply correct waste sorting into the appropriate bins (Blue, Green, Special battery bin). e. Explain and apply the 3 «magic» verbs: Reduce, Reuse, Recycle.
Resources / Materials	a. Educational video: «Natural Disasters - Fire: I Protect the Forest» (Papakosta Aikaterini) b. Worksheet: «Waste: There are solutions!» c. Supporting recycling video on YouTube d. Interactive whiteboard / projector
Activities	Screening of the educational video «Natural Disasters - Fire: I Protect the Forest» in the class plenary. A guided discussion follows: students recognize the forest as a precious lung of life and identify how waste and human negligence turn into sources of fire risk. They give examples from their everyday lives and distinguish the difference between «rubbish» and «useful material». They then complete the handout «Worksheet: Waste: There are solutions!», sorting the rubbish into the correct bins (Blue, Green, Special battery bin). The activity concludes with the analysis and consolidation of the 3 «magic» verbs: Reduce, Reuse, Recycle.

Activity 12: Systematic Analysis & Digital Interaction – "Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"

Thematic Area

Earthquake	X	**Fire**	X	**Flood**	

Students' Grades

1		**2**		**3**		**4**	X	**5**		**6**	

Teaching time	3 teaching hours (3 x 45 minutes)		
Title / Topic	**Systematic Analysis & Digital Interaction – *"Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"***		
Summary	Students, divided into groups, study the Educational Infographic on Forest Fires and the Spider Concept Map «Fires», analyzing the four central pillars (Causes, Consequences, Prevention, Response). They then work on tablets/computers and interact with the H5P Interactive Video on the e-me platform, answering the embedded questions to consolidate the concepts.		
DRR (EMKK) Objectives	Students are expected: a. To recognize the natural causes (lightning, prolonged drought, high temperatures) of forest fires. b. To identify the human-induced causes of fires, distinguishing them into conditions of human negligence and acts of deliberate arson. c. To interact effectively with modern digital learning environments, such as H5P interactive videos and digital assessment forms (Google Forms). d. To collaborate harmoniously and effectively within groups to solve problems, without tensions.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Environmental Studies	The natural environment and its protection / «Waste: There are solutions!»	Understanding the ecological consequences of disasters (loss of flora/fauna, soil erosion). Consolidation of the 3 «magic» verbs: Reduce, Reuse, Recycle.
	ICT (Informatics)	Digital mapping, multimedia and interactivity	Development of skills in using interactive geographic maps (Google Maps), digital quizzes (Google Forms) and interactive environments (H5P).
Learning Outcomes for DRR	At the end of Activity 12, students will be able to:		

	a. Analyze the causes (natural and human-induced) and the consequences (ecological, economic, health) of forest fires. b. Describe basic prevention measures and ways of responding to fires. c. Collaborate harmoniously and effectively within groups. d. Interact with modern interactive digital environments (H5P / e-me).
Resources / Materials	a. Informational / Educational Infographic on Forest Fires b. Spider Concept Map «Fires» c. H5P Interactive Video (e-me content) d. Tablets / computers with internet access
Activities	Students are divided into groups. Each group studies the Informational/Educational Infographic on Forest Fires and the Spider Concept Map «Fires». The groups analyze the four central pillars of the topic: Causes (natural and human-induced), Consequences (ecological, economic, health), Prevention and Response. Each group presents its conclusions to the plenary and a discussion follows. Immediately afterwards, students work on tablets/computers and interact with the H5P Interactive Video on the e-me platform, answering the embedded questions to consolidate the concepts in an interactive and enjoyable way.

Activity 13: Experiential Action "A day in the forest" & Self-Assessment – "Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"

Thematic Area

Earthquake	X	**Fire**	X	**Flood**	

Students' Grades

1		**2**		**3**		**4**	X	**5**		**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Experiential Action "A day in the forest" & Self-Assessment – *"Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"***		
Summary	Screening of the Powtoon digital animation «A day in the forest», in which the characters clean up the forest. This is followed by an experiential simulation action in the schoolyard, where the children organize a «volunteer clean-up team» and identify mock sources of danger. The activity concludes with Google Form Quiz 1, the Student Self-Assessment Sheet and the assignment of homework.		
DRR (EMKK) Objectives	Students are expected: a. To collaborate harmoniously and effectively within groups to solve problems, without tensions. b. To adopt responsible environmental behavior by correctly sorting and reducing their waste. c. To recognize the value of volunteering and collective effort, acting as active and responsible citizens for the protection of the community and the forest.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Environmental Studies	The natural environment and its protection / «Waste: There are solutions!»	Understanding the ecological consequences of disasters (loss of flora/fauna, soil erosion). Consolidation of the 3 «magic» verbs: Reduce, Reuse, Recycle.
	Skills Labs	Caring for the Environment / Civil Protection	Learning protection rules and evacuation plans, and becoming familiar with the emergency telephone numbers (199, 112).
Learning Outcomes for DRR	At the end of Activity 13, students will be able to: a. Recognize the value of volunteering and collective effort.		

	b. Identify sources of danger in their environment and propose ways to eliminate them. c. Self-assess their knowledge and their attitude towards the environment. d. Make a personal commitment (promise) to protect the environment.
Resources / Materials	a. Powtoon digital animation: «A day in the forest» (Clean-up and prevention action) b. Digital assessment quiz Google Form Quiz 1 c. Student Self-Assessment Sheet d. Homework Assignment Sheet «Waste: There are solutions!» e. Schoolyard (experiential action area)
Activities	Screening of the Powtoon digital animation «A day in the forest». Students watch the characters clean up the forest and comment on the importance of their action for fire prevention. This is followed by an experiential simulation action in the schoolyard: the children organize a «volunteer clean-up team» and identify mock sources of danger, practicing collaboration, observation skills and volunteering. At the end, students answer the Google Form Quiz 1 and complete the Student Self-Assessment Sheet, making their own pledge for the environment. For homework, they are given the Assignment Sheet (identifying 5 products with excessive packaging).

Activity 14: Digital Journey Through Time with Google Maps – "Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"

Thematic Area

Earthquake	X	**Fire**	X	**Flood**	

Students' Grades

1		**2**		**3**		**4**	X	**5**		**6**	

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Digital Journey Through Time with Google Maps – *"Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"***		
Summary	Students work in the computer lab and explore the interactive Google Map «The Major Earthquakes and Fires of Macedonia from 1800 to Today». They study the temporal and geographical frequency of the phenomena and answer the questions of Google Form Quiz 2, drawing data directly from the map.		
DRR (EMKK) Objectives	Students are expected: a. To understand the nature and characteristics of seismic risk. b. To navigate with ease through digital interactive maps (Google Maps) to locate historical natural disasters. c. To interact effectively with modern digital learning environments, such as H5P interactive videos and digital assessment forms (Google Forms). d. To collaborate harmoniously and effectively within groups to solve problems, without tensions.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Geography & History	Elements of the local history of Macedonia	Study and recording of the historical development of natural disasters in the region (earthquakes and fires from 1800 to today).
	ICT (Informatics)	Digital mapping, multimedia and interactivity	Development of skills in using interactive geographic maps (Google Maps), digital quizzes (Google Forms) and interactive environments (H5P).
Learning Outcomes for DRR	At the end of Activity 14, students will be able to: a. Locate historical natural disaster events in Macedonia geographically and chronologically through the interactive map. b. Examine and compare the temporal and geographical frequency of earthquakes and fires.		

	c. Draw and process data directly from digital interactive maps. d. Answer digital assessment quizzes (Google Forms) using the data they collected.
Resources / Materials	a. Interactive Google Map: «The Major Earthquakes and Fires of Macedonia from 1800 to Today» b. Digital assessment quiz Google Form Quiz 2 c. Computer lab (computers with internet access)
Activities	Students go to the computer lab and open the interactive Google Map «The Major Earthquakes and Fires of Macedonia from 1800 to Today». They study the major earthquakes and fires of the region, identifying where and when each event occurred. At the same time, they examine the temporal and geographical frequency of the phenomena and discuss their conclusions: which areas are affected most often and why. They then answer the questions of Google Form Quiz 2, drawing data directly from the map and practicing inquiry-based learning with digital tools.

Activity 15: Rules for Protection and Preparedness against Earthquakes – "Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires"

Thematic Area

Earthquake	X	**Fire**	X	**Flood**	

Students' Grades

1		**2**		**3**		**4**	X	**5**		**6**	

Teaching time	3 teaching hours (3 x 45 minutes)		
Title / Topic	**Rules for Protection and Preparedness against Earthquakes – "*Becoming a Protector of Myself and the Environment: Learning about, Preventing and Responding to Earthquakes and Fires*"**		
Summary	Teaching of the official safety protocol for the event of an earthquake (Before, During, After). Students work through and complete the handout «Worksheet: Natural Disasters & Protection Measures», answering True/False questions on hazard maps, multiple-choice questions on the evacuation plan, and matching questions on natural phenomena.		
DRR (EMKK) Objectives	Students are expected: a. To understand the nature and characteristics of seismic risk. b. To apply the appropriate self-protection actions and skills before, during, and after the occurrence of an earthquake. c. To collaborate harmoniously and effectively in groups to solve problems, without tension.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Skills Labs	Caring for the Environment / Civil Protection	Learning protection rules and evacuation plans, and becoming familiar with the emergency telephone numbers (199, 112).
Learning Outcomes for DRR	At the end of Activity 15, students will be able to: a. Recognize the importance of prevention measures (hazard maps, preparedness drills, shelters). b. Calmly apply the self-protection steps before, during, and after a seismic event. c. Know the school's evacuation plan and the safe assembly points. d. Recognize the emergency numbers (199 and 112) and the correct way to call them.		
Resources / Materials	a. Worksheet: «Natural Disasters & Protection Measures»		

	b. Interactive whiteboard / projector
Activities	The teacher teaches the official safety protocol for the event of an earthquake, organized in three stages: Before, During, After. Students discuss and practice the self-protection steps and the importance of staying calm. Reference is made to hazard maps, the school's evacuation plan, and the safe assembly points. They then work through and complete the handout «Worksheet: Natural Disasters & Protection Measures», answering True/False questions on hazard maps, multiple-choice questions on the evacuation plan, and matching questions on natural phenomena.

Activity 16: Learning about earthquakes – "An earthquake… now what do we do?"

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	X

Teaching time	1 teaching hour (45 minutes)		
Title / Topic	**Learning about earthquakes – "*An earthquake… now what do we do?*"**		
Summary	Students, together with the teacher, browse the website of the Education Centre for the Environment and Sustainability of Lithakia, Zakynthos, and get a first introduction to basic information about earthquakes: what an earthquake is, how it is generated, types of seismic faults, calculation of earthquake magnitude, measurement scale, and seismic instruments. A whole-class discussion follows with questions and explanations.		
DRR (EMKK) Objectives	Students are expected: a. Students should understand the causes, consequences, and mechanism of an earthquake. b. Promotion of prevention and preparedness.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Geography	The role of volcanoes and earthquakes in the changes of nature / Natural disasters in Greece	- To recognize the role of earthquakes in the changes of the natural environment. To know how they should react in the event of an earthquake or fire.
	ICT	Digital literacy	- To evaluate the reliability of sources. To use digital tools.
Learning Outcomes for DRR	At the end of Activity 16, students will be able to: a. Explain in simple terms what an earthquake is and how it is generated. b. Recognize basic concepts: types of seismic faults, earthquake magnitude, measurement scale, seismic instruments. c. Use reliable digital sources to obtain scientific information. d. Formulate questions and participate in whole-class discussion.		
Resources / Materials	- Website of the Education Centre for the Environment and Sustainability of Lithakia, Zakynthos https://kpe-zakynth-new.zak.sch.gr/?page_id=1132		

	- Interactive whiteboard / projector
Activities	Students, together with the teacher, browse the website of the Education Centre for the Environment and Sustainability of Lithakia, Zakynthos. The information from the website's article is used to give students a first introduction to basic information about earthquakes: what an earthquake is, how an earthquake is generated, types of seismic faults, calculation of earthquake magnitude, earthquake measurement scale, seismic instruments, and more. While engaging with the website's article and prompted by its information, a whole-class discussion arises along with questions from the students, which are then explained. Link: https://kpe-zakynth-new.zak.sch.gr/?page_id=1132

Activity 17: Examining earthquakes in Greece – "An earthquake… now what do we do?"

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	X

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Examining earthquakes in Greece – *"An earthquake… now what do we do?"***		
Summary	Students watch a video from National Geographic with footage of real earthquakes from security cameras and learn how faults and earthquakes are created. Through two websites they observe earthquakes in real time from around the world and from Greece. They study the great Samos earthquake (October 2020) and concepts such as epicenter and focal depth, arriving at the observation that earthquakes occur where the tectonic plates intersect.		
DRR (EMKK) Objectives	Students are expected: a. Students should understand the causes, consequences, and mechanism of an earthquake. b. Reducing the vulnerability of individuals.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Geography	Natural disasters and their consequences on human life	- To develop the disposition and willingness to stand by and help those affected by natural disasters. To point out the consequences these phenomena have for humans.
	Mathematics	Statistics (Data management)	- To collect and organize data (on earthquakes).
	ICT	Digital literacy	- To evaluate the reliability of sources. To use digital tools.
Learning Outcomes for DRR	At the end of Activity 17, students will be able to: a. Describe how faults and earthquakes are created. b. Observe and collect earthquake data in real time from digital sources. c. Understand the concepts: epicenter, focal depth, aftershock. d. Conclude that earthquakes occur where the tectonic plates intersect.		
Resources / Materials	- Video from National Geographic https://www.youtube.com/watch?v=nmkp7Cpc13g		

	- Websites for monitoring earthquakes in real time: https://www.earthquakes.gr/loc_eq/earthquakes-world.asp http://www.geophysics.geol.uoa.gr/stations/maps/recent_eq_1d_el.htm - Interactive whiteboard / projector
Activities	Students first watch a video from National Geographic, with security camera footage of real earthquakes. They also watch how faults and earthquakes are created. Questions arise, which are answered through the discussion that follows. Then, through two websites, they observe earthquakes in real time from around the world and in Greece. Time is devoted to the great Samos earthquake (October 2020), studying its details and the large number of aftershocks. Students work with concepts such as epicenter and focal depth and arrive at the observation that earthquakes occur where the tectonic plates intersect. Links: https://www.youtube.com/watch?v=nmkp7Cpc13g https://www.earthquakes.gr/loc_eq/earthquakes-world.asp http://www.geophysics.geol.uoa.gr/stations/maps/recent_eq_1d_el.htm

Activity 18: Using the Merge application – "An earthquake… now what do we do?"

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	X

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**Using the Merge application – *"An earthquake… now what do we do?"***		
Summary	Students watch a video about the structure of the Earth's interior and, once their questions have been answered, they go on to view the Earth's interior with the Merge – Explorer application using the cube (the "Journey to the Core!" activity from the "Terraforming Earth" unit). They then watch a video about tectonic plates and study them with the "Plates, are a burning thing…" activity.		
DRR (EMKK) Objectives	Students are expected: a. Students should understand the causes, consequences, and mechanism of an earthquake. b. Creating a culture of safety.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Science (Physics)	Forces – Motion	- To establish that when forces are exerted on bodies, changes are caused.
	ICT	Digital literacy	- To evaluate the reliability of sources. To use digital tools.
Learning Outcomes for DRR	At the end of Activity 18, students will be able to: a. Describe the structure of the Earth's interior. b. Explore the Earth's interior and the tectonic plates through the augmented reality application Merge – Explorer. c. Connect the movement of tectonic plates with the generation of earthquakes. d. Use digital tools to understand natural phenomena.		
Resources / Materials	- Video about the structure of the Earth's interior and the tectonic plates: https://www.youtube.com/watch?v=V7Lsv9fjTGo https://www.youtube.com/watch?v=9iy8HvhfmaQ - Merge – Explorer application using the cube (application used on a mobile phone) https://mergeedu.com/explorer		

	- Interactive whiteboard / projector
Activities	Students first watch a video about the structure of the Earth's interior. Once the questions that arise have been answered through discussion, they go on to view the Earth's interior with the Merge – Explorer application. Specifically, using the cube, the first activity ("Journey to the Core!") from the "Terraforming Earth" unit is carried out. Students then watch a video about tectonic plates and, after a whole-class discussion, study the tectonic plates using the application. Specifically, again using the cube, they study the second activity ("Plates, are a burning thing…") from the "Terraforming Earth" unit. Links: https://www.youtube.com/watch?v=V7Lsv9fjTGo https://www.youtube.com/watch?v=9iy8HvhfmaQ https://mergeedu.com/explorer

Activity 19: The earthquake emergency kit - “An earthquake… now what do we do?”

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	X

Teaching time	2 teaching hours (2 x 45 minutes)		
Title / Topic	**The earthquake emergency kit - *“An earthquake… now what do we do?”***		
Summary	The teacher and the students discuss the importance of prevention and the preparation of a bag with basic emergency supplies. Through the discussion, the most essential items are noted on the board, and the students make two posters about the earthquake emergency kit and its contents. The posters are put up around the school with the aim of informing and raising the awareness of all students, achieving the dissemination of knowledge throughout the school.		
DRR (EMKK) Objectives	Students are expected: a. Promotion of prevention and preparedness. b. Creating a culture of safety. c. Reducing the vulnerability of individuals.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Social and Civic Education	Life in the community and in the wider world	- To develop civic awareness and an attitude of solidarity in disasters.
	Visual Arts	Applied arts	- To create posters combining text and image in a way that reinforces the message they want to convey.
Learning Outcomes for DRR	At the end of Activity 19, students will be able to: a. Recognize the importance of prevention and preparedness before an earthquake. b. Select and justify the basic emergency supplies for the earthquake emergency kit. c. Create posters that combine text and image to convey their message. d. Inform and raise the awareness of the school community.		
Resources / Materials	a. Board, kraft paper roll, markers b. Materials for creating posters		

Activities	The teacher and the students discuss the importance of prevention and the preparation of a bag with basic emergency supplies. Through the discussion, the most essential items that the earthquake emergency kit should contain are noted on the board. The students make two posters about the earthquake emergency kit and its contents. The posters are put up around the school with the aim of informing all students and raising their awareness of the topic. In this way, the dissemination of knowledge to all the students of the school is achieved.

Activity 20: Review and evacuation drill – "An earthquake… now what do we do?"

Thematic Area

Earthquake	X	**Fire**		**Flood**	

Students' Grades

1		**2**		**3**		**4**		**5**	X	**6**	X

Teaching time	1 teaching hour (45 minutes)		
Title / Topic	**Review and evacuation drill – "*An earthquake… now what do we do?*"**		
Summary	Students review the new knowledge in a playful way, through Wordwall and exercises about earthquakes, recalling key terms and facts while playing. Finally, one student, guided by the teacher, demonstrates the correct way to take cover under the desk during an earthquake and the quick, but panic-free, way to safely evacuate the classroom once the earthquake is over.		
DRR (EMKK) Objectives	Students are expected: a. Promotion of prevention and preparedness. b. Creating a culture of safety.		
Subject Curriculum Objectives	**Subject**	**Unit**	**Objectives**
	Geography	The role of volcanoes and earthquakes in the changes of nature / Natural disasters in Greece	- To recognize the role of earthquakes in the changes of the natural environment. To know how they should react in the event of an earthquake or fire.
	ICT	Digital literacy	- To evaluate the reliability of sources. To use digital tools.
Learning Outcomes for DRR	At the end of Activity 20, students will be able to: a. Recall key terms and facts about earthquakes through playful activities. b. Apply the correct way to take cover under the desk during an earthquake. c. Practice the quick and safe evacuation of the classroom, without panic, after the end of the earthquake. d. Develop a positive attitude towards prevention and preparedness.		
Resources / Materials	a. Digital Wordwall exercises about earthquakes b. Interactive whiteboard / projector c. Classroom (evacuation drill area)		

Activities	Students review the new knowledge in a playful way. Through Wordwall and exercises about earthquakes, they recall key terms and facts while playing. Finally, one student, guided by the teacher, demonstrates the correct way to take cover under the desk during an earthquake and the quick, but panic-free, way to safely evacuate the classroom once the earthquake is over. Link: Wordwall address - Earthquakes