The volcano erupts!

1 Overall aims:

Cognitive (C)

- To discover the layers of the Earth (Geosphere)
- To know that there are solid and liquid layers
- To understand that lava is formed by rocks molten at high temperatures that emerge from the interior of the Earth
- To learn about natural phenomena
- To discover that the Earth has its own dynamics that affect man and nature

Affective (A)

- To know natural disasters' consequences
- To understand the natural world we live in

Psychomotor (P)

- To develop fine motor skills: cutting, molding, building, painting…

2 Vocabulary - keywords

Science: volcanoes, magma, volcanic eruptions, atmospheric gases, lava

Sustainability: atmospheric layer, greenhouse effect, global warming, destruction of ecosystems, natural disasters, destruction of homes, economic losses

Art: trim, mold, paint, build

3 Sustainable abilities developed

- Problem solving competence (How can we solve eruption consequences?)
- Self-awareness competence (what happens if a volcano erupts? What shall I do?)

4 Pillars of sustainability included

Environmental:

- Use of different materials such as recycled cardboard or paper and other natural ones to build a volcano
- Know and understand natural phenomena such as volcanoes and their environmental impacts: destruction of ecosystems, biodiversity loss, vegetation loss, greenhouse gas production, temperature rise of the earth…

Social:

- Discover the social impact caused by a volcanic eruption: destruction of homes, destruction of crops, human displacements, etc.

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Economic:

- Analyze the economic impact caused by a volcanic eruption: material losses, food, jobs, etc.

5 STEAM domains

Science skills (understand, know, and/or reproduce natural phenomena, layers of the Earth, Earth dynamics, gasses production, lava formation)
Artistic skills (design, plan and build a volcano with recycled materials)

6 Teaching methodologies/activity outline

1. Watch the video files (a) about what a volcano is and how it erupts and (b) about haw to make a volcano.
   The teacher shows video files (15 minutes). All the group.
2. Try to build a volcano and reproduce how it works.
   The teacher and the support teacher help the children to make a volcano and reproduce the eruption through a chemical reaction. Two sessions of 45' in small groups (3-4 children)

7 Expected learning outcomes

The child will be able to:

- recognize a natural phenomenon
- know what the lava is
- know the Earth's layers
- build a volcano a recognize an eruption

8 Assessment

(C)

- ✓ Does the Earth have layers? How many? are they solid or liquid? what happens if the crust breaks? what is the lava?
- ✓ what happens when a volcano erupts? what is emitted into the atmosphere? what happens to the plants and animals around it?

(A)

- ✓ What is a natural phenomenon? What would happen to houses, livestock, and crops around an erupting volcano? What would happen to atmosphere? How would impact on men's health?

(P)

- ✓ How can you build a volcano? How can you simulate an eruption? What happens when it erupts?

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9	**Equipment and materials to be used in learning unit (tools, ingredients etc.)** 1. Digital whiteboard or computer and projector 2. Materials: wooden box, paints for wood, clay, brushes, paint for clay, markers, large toothpicks
10	**Kind of setting - lab, kitchen, outdoor etc.** 1. Classroom 2. Drawing classroom
11	**References - source:** a) What is a volcano? How does a volcano erupt? https://www.youtube.com/watch?v=lAmqsMQG3RM b) How can I make a volcano? https://www.youtube.com/watch?v=9b_gltKtERY

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