



TOOL

Resilient house



Title : Resilient house | *Developed by* : Ecocène

Topics : Floods | *Website* : www.ecocene.fr

Description

Flood simulation inside a house that helps understand how to protect the residents before, during and after a flood:

- A software easy to use;
- A virtual interface showing concrete images from flooding damage;
- Presentation of the different safety systems to prevent flooding.

Duration

1h00

Resources needed

To use the tool, we need:

- A software;
- Laptop or computer;
- Projector.

Age

Primary School : 5 to 11
years old

Relevance to CRISEPAC Objectives

As part of the CRISEPAC project, this tool is perfectly suited to flood prevention and preparedness. It teaches participants how to equip themselves to protect their material goods and how to act to protect themselves.

Expected outcomes

- Prevent of natural risk;
- Vocabulary and knowledge related to a flood;
- Raise awareness of natural risk in its territory;
- Understand how to react at a similar event;
- How to be safe.

Resilient house

Management

The teacher must be guided by the application.

All the necessary information and answers to questions are in the software. The teacher only acts as a guide.

Risk prevention

This tool teaches you how to protect your home and its residents from the risk of flooding.

Pupils have to install a number of devices on the house, such as cofferdams, non-return valves, roof windows, survival kits, closing the ventilation vents and raising the electricity meter.

Others

Weaknesses

- Focus on Gave of Pau area in South-West in France,
- Concerns only the schools affected by the floods.

Strengths

- Playful activity,
- Pedagogical tool,
- Participative.

Possible adaptations

The school or the city/town is an area at risk of flooding. Spring season is the best scenario because the river has a high level of water and this is the season where the risk of the forecast announcing heavy rain or storm is more common.

Climate change

Flooding will become increasingly intense as a result of global warming, due to the phenomenon of evaporation and cloud formation.

Methodologies

The software guides the whole intervention; the educator leads the group to participate:

- Introduction: A scenario presents the house area and the context (weather, forecast, rivers, season, characters, etc.). The simulation tells a story about a family who lives in an area at risk of flooding and the forecast announces a high level of precipitation during the night.
- Presenting the house before the forecast is changing. Before starting the visit, the educator asks the pupils to give hypotheses at each room (garden, bedroom, bathroom, basement, living room/kitchen) about what could happen during a flood. They are free to give whatever hypotheses they want with any help from the educator.
- Provoking simulation at 80 cm. After the night, the house is flooding. Now, the educator does the visit again but this time with the water outside and inside the house. At this time, the educator and the pupils could validate whether or not the hypothesis they made before the flood is correct. So, room by room the educator shows what happened and the pupils notice the damage.

Separate the class into 6 groups. Now, they're going to work together to protect the house from the flood. The educator gives the rule:

- Each group will have a card pile: cofferdam, anti-return valve, air vent, survival kit, emergency call, little boat/canoe, diving mask and a snorkel, roof window, electric meter.
- In the first round, they have to choose one bonus card which they don't know the meaning of. They have a few minutes to decide and then, they show their choice when the educator asks them. The software explains the selected cards.
- The second round, this time they have to choose one card to protect the house from the flood. Same thing, the educator waits a few minutes and then asks to show their answer. The educator puts the cards chosen in the house model. It starts the simulation again from the beginning (without flood) and provokes the flood again. It's still flooding outside, but now the educator goes inside the house. If the cofferdam and anti-return valve have been chosen there is no water in the bedroom and the bathroom. But it still has water in the basement.
- Third round, the educator asks the question: what could we use to protect the basement from the flood? Choose one card. Same thing to the first and second round the educator waits and the pupils show their choice. If they chose the air vent, when the educator puts the card and restarts the simulation the basement is not flooding anymore. Keep going the visit as they could see the house is now protected from the flood. At this point, the educator could talk about the electric meter and ask them: is it the right choice to put the electric meter in the basement? Wrong, it's better upstairs and high.
- Fourth round, now that the house is protected the educator asks about the resident: what could you do to protect the resident from the flood? They have to discuss what could be useful with those cards to protect the resident. The educator asks their choice and then discusses it. The pupils must understand to be safe they must stay at home and upstairs close to a window if they can. So, if you are living in an area at risk of flooding you must have a roof window and a survival kit.

Conclusion: the house is now resilient. Explain the term "resilient" and the educator can come back to the homepage of the software and conclude.

More informations : Ecocène - 0033 559 321 236 - info@ecocene.fr