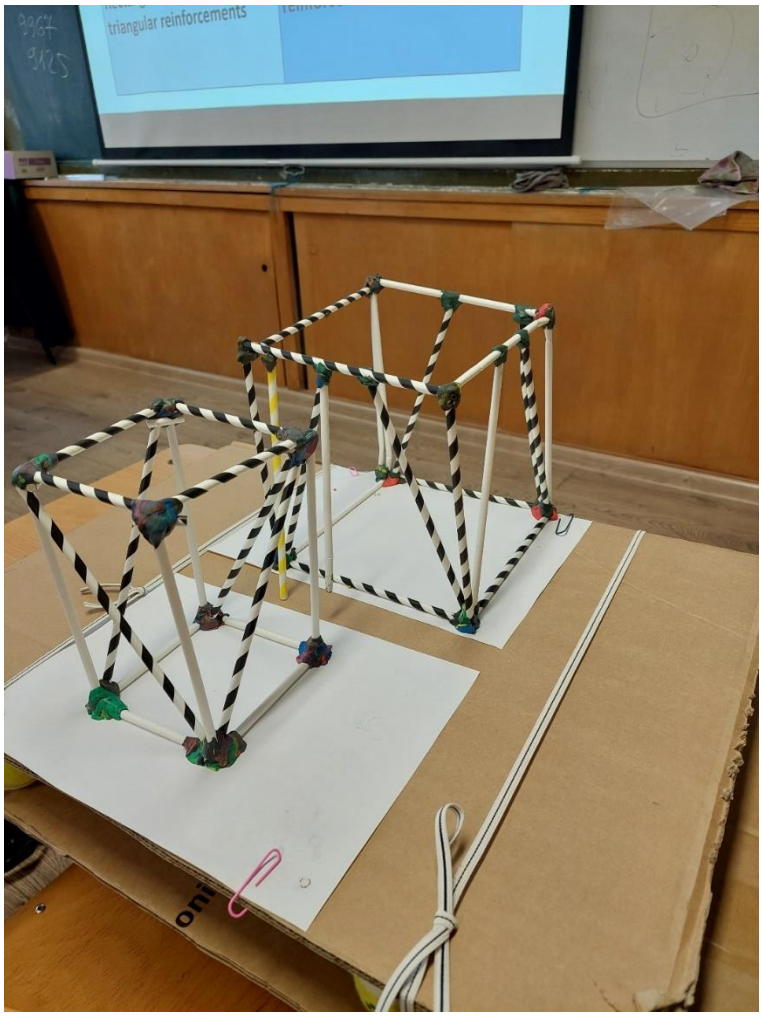
Let’s shake it up: An earthquake

Pamokų metu mokiniai susipažino su teorine medžiaga, peržiūrėjo video, taip pat mąstymo mokyklos žemėlapių pagalba analizavo ir sistemino informaciją. Mokiniai analizavo per parą įvykusių žemės drebėjimų statistiką, grupavo žemės drebėjimus pagal vietą (žemynus), braižė stulpelinę diagramą. Mokiniai statė pastatų modelius, aprašė juos, darė hipotezes, kaip pastatai bus paveikti žemės drebėjimo. Po žemės drebėjimų simuliacijos hipotezes paneigė arba patvirtino. Tada modelius tobulino ir kartojo eksperimentą, darė išvadas, kokie pastatai geriau atlaiko žemės drebėjimus, kokie konstrukcijų patobulinimai padeda sustiprinti pastatus. Galiausiai, paruošė informacinį plakatą, kaip elgtis prieš, per ir po žemės drebėjimų.



Graph it

11th October

Body waves

- Primary (primary waves) — Primary travel through all types of rock.
- Primary shake the ground back and forth.
- Primary is fastest seismic wave.
- Primary travel through rock.
- Secondary shake the ground up and down.
- Secondary (secondary or shear waves) — Secondary slower than P waves.

Surface waves

- Love waves — faster surface wave; Only moves the ground side to side.
- The deeper the earthquake is, the less measurable these waves are.
- Rayleigh waves — Rolls like an ocean wave along the earth's surface; Moves the ground both up and down side to side; Cause most of the movement people feel during an earthquake.

Magnitude

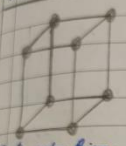
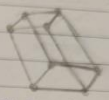
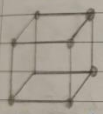
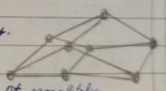
- Measures the strength of an earthquake
- Often measured on the Richter scale (0-9)
- Determined by seismic wave's amplitude
- Each whole number is 10x stronger than the previous one
- Each whole number is 32x stronger than the previous one
- 6.5 earthquake is 10x stronger than 5.5 earthquake

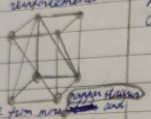
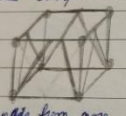
Magnitude scale

- More universally used by seismologists
- Calculated by total moment of release of an earthquake
- Ranges from negative numbers (unlikely) to greater than 10

Intensity

- Measures the severity of an earthquake
- Based on a scale from I to XII
- Scale: Modified Mercalli scale
- Less scientific
- Relies heavily on human experience and observation
- Damages does not always equate to earthquake strength

Structural observations	My prediction	How did it hold up?
 Rectangular prism, made from pepper straws and clay, it is large.	I think it will collapse.	 It leaned to one side but didn't collapse completely.
 Cube, made from pepper straws and clay, it is big.	I think it will collapse very quickly.	 It completely collapsed, more than rectangular prism.

Structural observations	My predictions	How did it hold up?
Rectangular Prism with triangular reinforcements  It made from more pepper straws and more clay. It look stronger.	I think it will hold and not collapse.	 It didn't collapse, it stood firmly. The reinforcements helped to hold it.
Cube with triangular reinforcements  It made from more pepper straws and more clay. More details are put into it.	I think it will hold up but will be a little damaged.	 It didn't collapse, but it swayed a bit.

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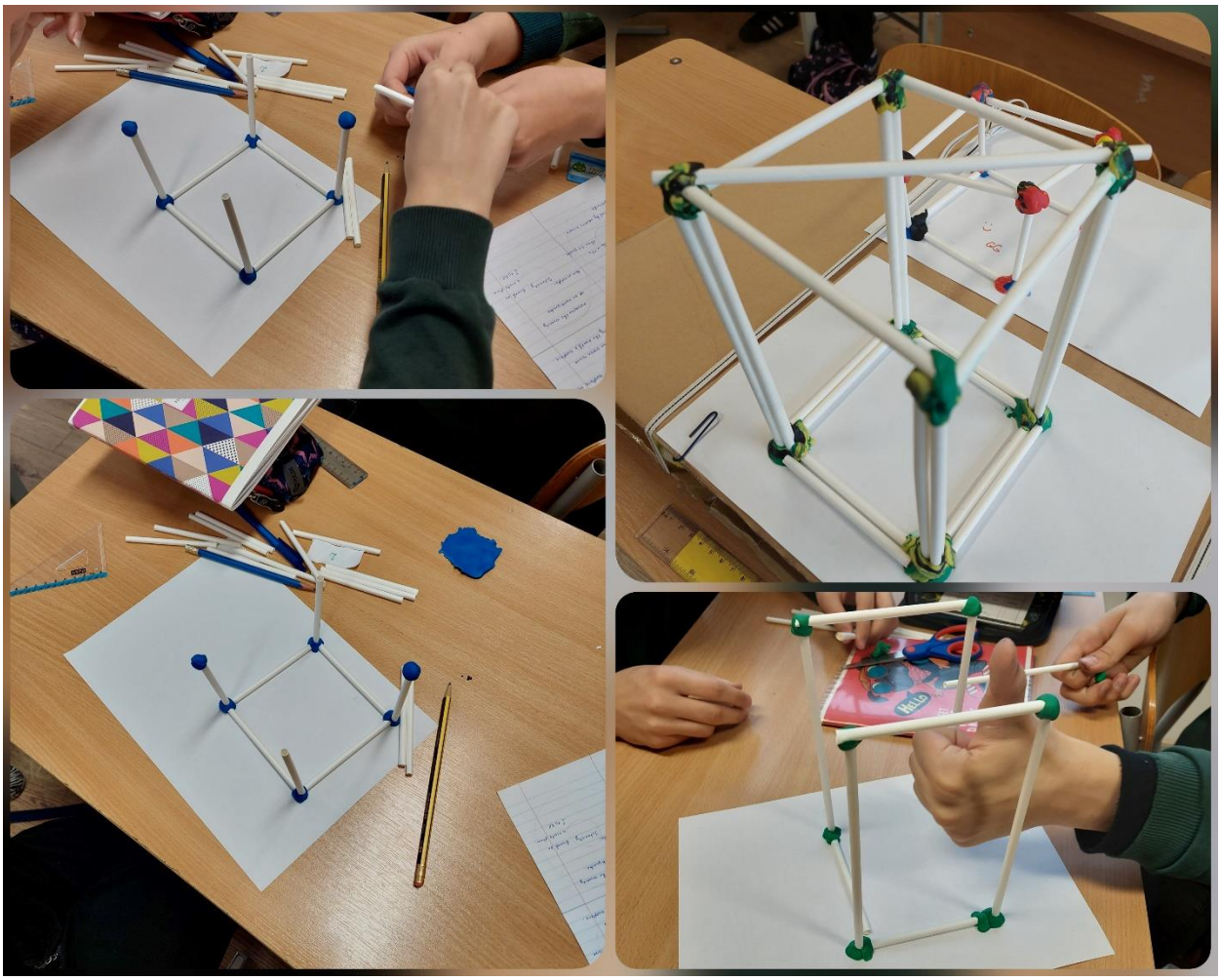
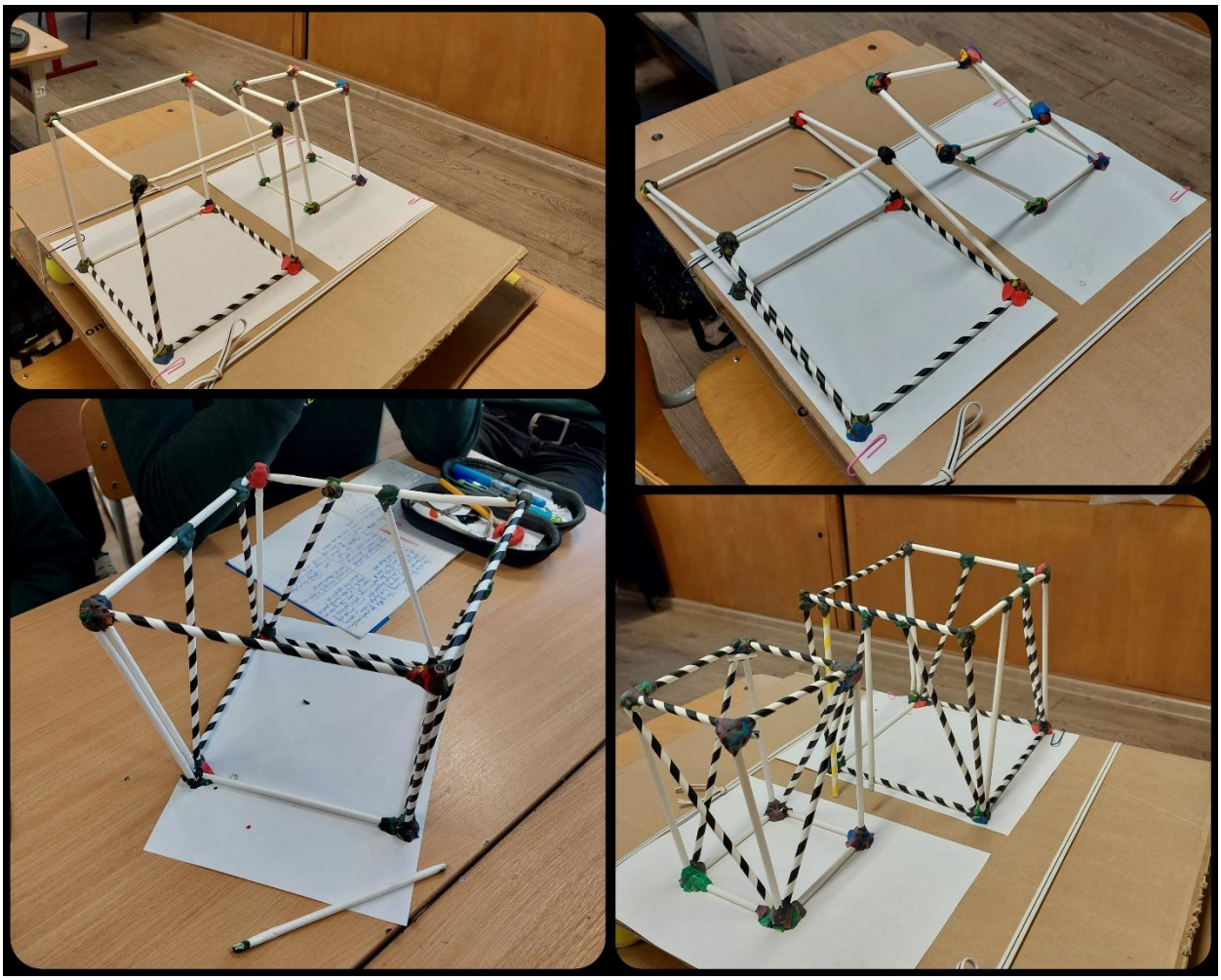
- The rectangular prism with triangular reinforcements is stronger compared with other ones, compared with cube, because rectangular prism isn't very big.
- To make buildings stronger there can be added more pepper straws and clay, more reinforcements.





How to prepare for an earthquake

Before

- Build an emergency kit with items that you will need if you have to evacuate quickly.
- Make a family communications plan.
- Know the safe spots in every room - under a study table or against an inside wall.
- Secure household items.
- Ask your family to hold earthquake drills - drop, cover, and hold on!

During

If Inside

- DROP to the ground.
- Take COVER under a sturdy table or other heavy furniture. If there is nothing to get under, cover your face and head with your arms and crouch near an inside wall. Try your best not to touch your nose, eyes, or mouth.
- HOLD ON until the shaking stops.
- Do not use elevators!
- STAY INSIDE!
- STAY AWAY from windows, glass, lighting fixtures.

If Outside

- Stay there. Move away from buildings, streetlights, and wires.
- Stay out in the open until the shaking stops. Buildings could collapse and hurt you.

After

- Expect aftershocks. They are usually not as strong but can cause damage.
- Do not enter a damaged building.
- Open cabinets carefully. Objects might have moved and could fall on you.
- Wear long pants, long sleeves, and shoes to protect your skin from getting scratched by broken objects.
- Text, don't talk. Unless there's a life-threatening situation, send a text so that you don't tie up phone lines needed by emergency workers. Plus, texting may work even if cell service is down.
- Everyone reacts differently to stressful situations. Take care of your body and talk with your parents or other trusted adults if you are feeling upset.

Lukė Jasudavičiūtė 8A

What should you do ___ an earthquake?

Before

1. Have an emergency kit ready.
2. Secure households items.
3. Do yearly earthquake drills.

So you would know what to do.

During if inside:

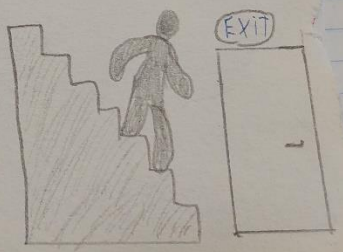
1. Hold onto things.
2. Stay inside.
3. Stay away from windows and furniture.

if outside:

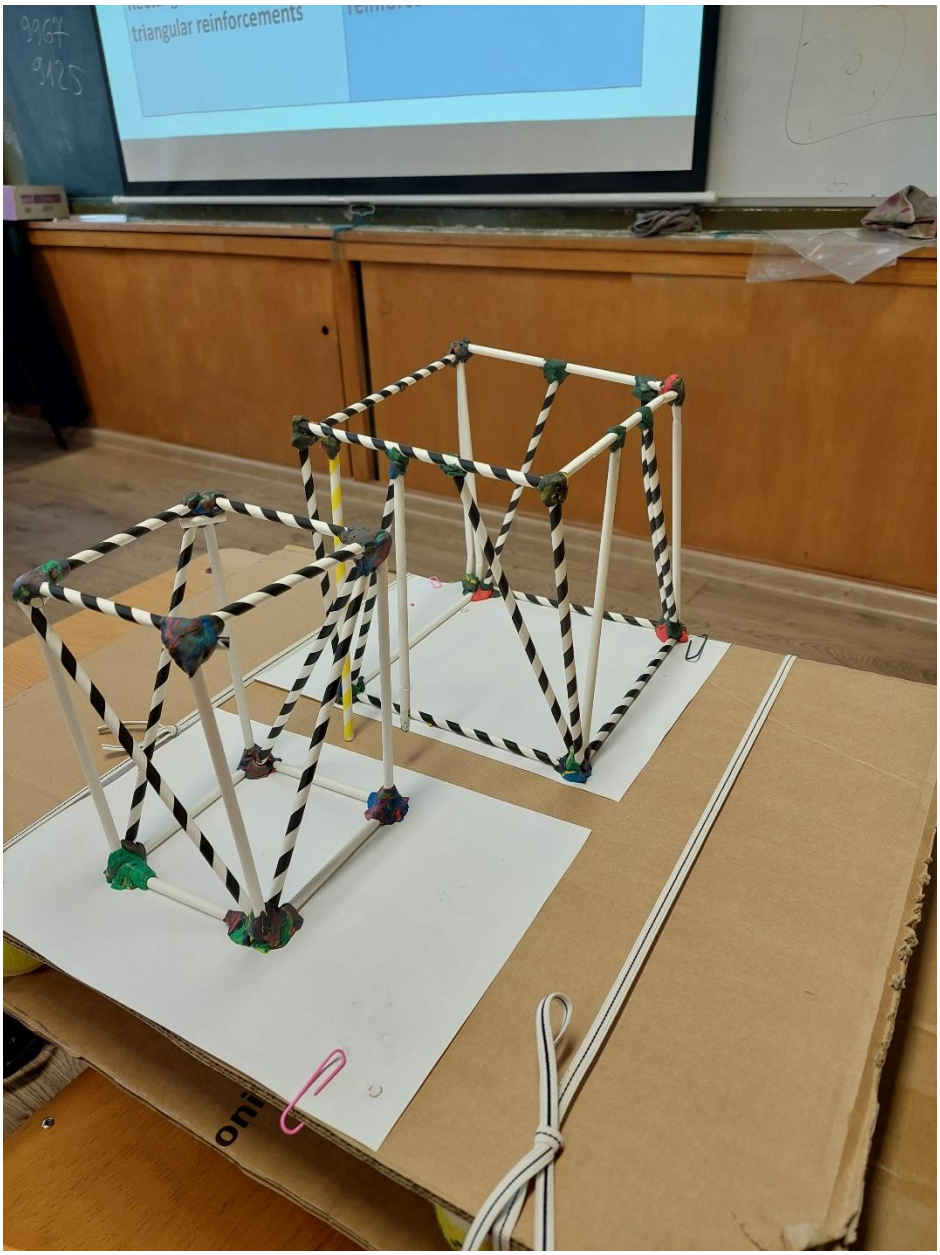
1. Stay there or move away from buildings, streetlights and wires.
2. Stay out in the open building debris could fall onto you.

after

1. do not enter a damaged building.
2. expect aftershocks.
3. that dont call so you wouldn't occupy phone lines.
4. Get out of the damaged building by stairs.



Kotjus Kosnecovas 9A.


triangular reinforcements