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„SCIENCE IN OUR LITTLE HANDS” Erasmus +





RESEARCH CARD

Name and Surname:

Date:

	Tree - species	Leaf shape - sketch
1		
2		
3		
4		
5		
6		

Karol Linneusz - He was interested in nature, he was watching and studied the plants. He is called the father of modern botany (science About plants.) This 18th-century Swedish scholar traveled, describing exactly all the plants encountered. His greatest achievement is the creation of a system of classification of living organisms, with minor changes is still used today. He divided them into two kingdoms: animals and plants, including mushrooms for plants. Today, fungi are considered as a separate kingdom because they exhibit the characteristics of both plant and animal organisms.



Species:

.....

Family:

Position:

Habitat:

Date of harvest:

Gathered and tagged:

.....

ZLesson II	
What do we do?	We check what floats, and what drowns? Buoyant force. Who was Archimedes?
What do we need?	Pots with water, cork, sticks, matches, metal objects, wax, ice, plasticine, pebbles, measuring cylinders, work cards, teacher story about Archimedes.
How to make it?	We check which items are drowned and which are kept on the water. Why? We solve the puzzle: what to do to make a piece of plasticine swim on the water surface? Listening to the story of Archimedes and his discovery. We observe how ice melts into the water and whether the water level changes after it melts in the cylinder.



Lesson III

What do we do?	Treasures of the Earth - we study the rocks. Detection of limestone rocks.
What do we need?	Collection of minerals and rocks, eg limestone, coal, granite, basalt ..., sand collected on the pitch, magnifying glass, vinegar, pipette.
How to make it?	Students watch the collection of minerals and rocks. Compare them, describe the color and characteristic features. The students use vinegar to test whether the rock is limestone. Use a rocket pipette to dispense a drop of vinegar and watch for a reaction (foam). The students observe the sand: is every grain of sand identical? What is different?



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Detection of limestone rocks		
Type of rock / mineral	Is it limestone?	
	YES	NO
Crystal		
Coal		
Cobalt		
Chalk		
Calcite		
Basalt		
Sand		



Lesson IV

CO ROBIMY?	Surface tension. We make soap bubbles.
CO JEST POTRZEBNE?	Distilled and tap water, containers and jars, straws, coin, pin, liquid, glycerin, aluminum foil, pepper, plates, soap bubble recipe.
JAK TO ZROBIĆ?	Students examine the surface tension - they try to put different objects on the water - pin, coin, piece of aluminum foil, pepper. They check with the dishwashing liquid how the surface of the water is sprinkled with pepper after adding a drop of liquid to the dish. They try to put drops of water on the coin. Then according to the recipe they make the soap for making soap bubbles. Fun with soap bubbles! :)



Soap bubble recipe.

10 tablespoons distilled water

1 tablespoon of dishwashing liquid

few drops of glycerol

Mix the ingredients.

Use a straw to blow the bubbles.

Have fun!



Lesson V

What do we do?	We investigate the purity of snow.
What do we need?	Fresh snow, jars, filter made of cup and cotton wool, magnifier.
How to make it?	Students bring fresh snow from the pitch. Then they are melted in a jar. They filter the resulting water and observe what remains on the filter as a precipitate.



Lesson VI

What do we do?	We investigate gases, liquids and solids. We know states of concentration. Who was Newton?
What do we need?	Water, ice, rock pieces, potato flour 200 g, food colors, high-capacity syringe, bottle, balloon or rubber glove.
How to make it?	Students examine the properties of gases, liquids and solids - eg

solid structure and liquid properties, gas expansion and compressibility by means of a syringe. Students watch a video on YouTube with instructions on how to make non-Newtonian liquids. They make a "liquid" that has properties and solids, and liquid. The teacher tells who Newton was.



Lesson VII

What do we do?	We grow the crystal.
What do we need?	Sand, flour, peas, salt, water, jar, gauze, ice cream stick, thread, flour, sugar, poster paint, ink, disposable cups.
How to make it?	We see how different substances dissolve in water and can easily be separated. How can they be separated? The students set up breeding crystals of salt and watch how the crystal grows in size. From the salt and boiling water we make a saturated solution, in the jar on the stick dip the thread, we observe.



Lesson VIII

What do we do?	Taste test.
What do we need?	Sash, disposable teaspoons, disposable cups, various edible substances with pronounced flavors - salty, sweet, sour, bitter.
How to make it?	Students examine how the sense of taste works. They try the dishes and different flavors with covered eyes and with a stuffed nose. Try to recognize the different vegetables and fruits - taste test.



Lesson IX

What do we do?

Breeding yeast.

What do we need?

Yeast - 20 dag, 4 bottles, 4 balloons, sugar, flour, salt, water, teaspoon.

How to make it?

Students set up yeast breeding. They check to see if yeasts live and what they need to feed and multiply. Students watch a video on YouTube with instructions on how to make the experience.

<https://www.youtube.com/watch?v=6EJ0ATKdjAY>

<https://www.youtube.com/watch?v=9vn2wy4Kmys>



ZAJĘCIA X

What do we do?	We build simple electrical systems.
What do we need?	"Little electrician" set - wires, switches, switches, batteries, motors.
How to make it?	Uczniowie budują proste układy elektryczne. Jakie warunki muszą być spełnione, aby prąd zasilił urządzenia w zbudowanym układzie?



