

## In our tents

Rain gardens in a chest – make your own rain garden

Ecopowder for washing – make it and take it home

Eco-bags – design your own eco-bag, use stencils and fabric paints

Paintings created by nature – let the nature inspire you

Children's play area

Fahrenheit Universities' experiments for the younger and older

- levitating train
- levitation of superconductor pellets over magnets
- freezing gloves and flowers
- can you stick a nail with a banana?
- how to create a "physical cloud"
- can a large inflated balloon be "stuffed" into a small glass?
- playing with the wrong temperature perception

Pop-up architecture spatial imagination – make a booklet with three-dimensional, folded blocks

Surveying equipment without secrets – what they are and how to operate them

Structural mechanics for the small and big

- *Design your crossing!* – drawing a bridge between two river banks
- *Build your own bridge!* – hand-made bridge models from tubes, pasta, balsa wood and plasticine
- *How much do you know about construction?* – a gift contest

Think ecologically, act creatively the creative recycling workshop

- recycling, upcycling and the zero waste trend in practice – how to make utility items from raw, secondary and natural materials by yourself
- circular economy education
- presentation of good practices which lead to the reduction of generated waste and the rational use of limited environmental resources
- what to do to limit consumption attitude in favour of conscious pro-ecological action

Identifying minerals workshop

- experiments carried out under the instructors' supervision
- riddles *What mineral is this?*

The world of math puzzles – the Hanoi tower, fractals, tangrams

Physics

- experiments with the use of telescopes and a wind tunnel
- what is "oscilloscope music", a non-Newtonian liquid dancing on a loudspeaker, a ferro-liquid hedgehog
- electrostatics without any secrets, i.e. lightning in a microwave
- Chladni figures, levitation in ultrasound, physical toys for children

Materials science

- experiments with liquid nitrogen and levitating trains
- aerosols, physicochemical experiments with the use of simple food products
- spectacular physicochemical experiments with the use of reagents, e.g. "elephant toothpaste", model energy conversion systems

Microbiology

What lives in capsules and on your hands?

- demonstration of probiotic strains isolated from food products (yoghurts, silage) and their comparison with bacterial strains probiotics available in pharmacies in the form of dietary supplements
- do popular foods (lemon, garlic, onion, horseradish, ginger) fight bacterial infections?
- how phytochemicals act on individual bacteria
- taking swabs from mobile phones or hands and culturing the bacteria

Bacteria in our environment

- are you sure you know how to wash your hands?
- DNA isolation from strawberries with a lecture on the structure and function of DNA
- microscopic observations of finished preparations
- creating honey balls, the so-called beebees, i.e. balls containing seeds of honey plants for bees
- workshops with the use of a microscope – slides' preparation, viewing solid slides and making inoculations

Environmental health

- chemical and microbiological contamination of food and its impact on human health
- measuring the level of vitamin C as an element of health prevention and prevention of the negative effects of stress

What does a pharmacist do?

- making ointment and powder mass from candy
- simple titration – how does citric acid change the colour of a solution?
- how to make ointments, suspensions and capsules

Inorganic chemistry

- tar in cigarettes – chemical demonstrations

Biochemistry

MitoMed – the mitochondrial medicine

- what function does mitochondria fulfill, how to ensure proper mitochondrial metabolism?
- what diseases are caused by disturbances in mitochondrial metabolism and can they be avoided?
- competitions: *Biochemical Dobble*, *Fastest Scientist*, *Find Mitochondrial Differences*

Biochemical riddles

- presentation of biochemical reactions / measurements
- what does DNA look like? (agarose gel with separated DNA)
- multimedia biochemistry quiz and drawing competition for children
- presentation of ultrasound examinations on a plush rat model

Bromatology – dietary supplements and medication

- what are dietary supplements and how to use them safely?
- who needs dietary supplementation and when, are there any indications for it?
- what are the possible interactions of dietary supplements with food?
- how to distinguish a dietary supplement from a drug?
- for the youngest – I am a child, I do not take medications and dietary supplements myself

Healthy eating

- what does the healthy food pyramid look like, how to properly read the food products' labels, lecture on the seasonality of vegetables and fruit in Poland and creating a healthy and cheap diet
- how do certain foods affect medications?
- bioimpedance (analysis of, among others, the content of adipose tissue, muscles, metabolic age, PPM)
- calculation of basal and total metabolism
- principles of healthy weight loss / weight gain
- ideas for healthy and tasty snacks

Cardiology – check your heart

- blood pressure measurement
- measurement of glycemia and concentration of cholesterol in capillary blood
- measurement of uric acid concentration in capillary blood
- cardiovascular risk assessment – talking about lifestyle and giving advice on introducing change

Health under Control

- blood pressure, glucose and CO levels measurement

Teddy Bear Hospital

- the youngest will play the role of doctors who will treat their patients (plush toys) to familiarize themselves with visits to the doctor

Pink Lips, Moverment

- how to properly perform self-examination?
- why are prophylactic examinations such as cytology, mammography, testicular ultrasound so important?

Marrow Hero

- how to become a bone marrow donor and who can apply?

Orthopedics and traumatology of the locomotor system – do I have to go to the ER?

- epidemiology, mechanism, basics of dealing with the most common injuries, case studies
- basic / advanced sewing, plastering, basics of orthopedic examination and supply

Medical MacGyver

- first aid workshops (BLS – Basic Life Support procedures, home injuries, e.g. cuts)
- educating the participants about strokes
- prophylactic blood pressure tests and blood glucose measurement

Emergency medicine

- learning first aid procedures

General anesthesia without secrets

- follow the patient's path from the operating block's sluice to the commencement of the procedure

Parasitology – fight the tick bite

- tick anatomy – ticks' preparations which can be viewed under a magnifier
- prophylaxis – how to avoid tick bites?
- how to protect animals? What diseases can our pet contract from a tick?
- I have a tick – what now? First aid. How long does a tick have to be hammered in to infect?
- tick tamers – why do scientists look for ticks and how do they do it? Tick "hunting" with the white flag

Dermatology – Dermal sign – Is it cancer?

- about BCC (basal cell carcinoma)
- about melanoma
- about SPF filters
- children's booth with a mini game

How to deal with an allergy?

- rules of procedure (first aid) in case of an anaphylactic shock
- symptoms and treatment of asthma, proper use of inhalers, nebulization
- how to avoid allergens? Review of mobile applications for patients

Midwifery – prevention above all

- how to properly examine breasts (phantom display)?
- testing the Leopold's holds on a pregnant belly model
- how to deliver a child in extreme conditions? What can be used when a baby is about to be delivered in a place other than a hospital – a demonstration
- how to look after a newborn baby? Phantoms workshops – changing a diaper, bathing a newborn, general care for a newborn

How does a dental technician work look like?

- tooth modeling process

## In the lecture rooms

Maria Skłodowska-Curie Room

Ultrasound

- lung ultrasound examination and microcirculation assessment by capillaroscopy in post-COVID patients

Pythagoras Room

Cardiology

- heart echo scan