



STATEMENTS OF PROBLEMS INVENT YOURSELF

Belarus-Ecliptic

13. People often argue about yeast or yeast-free bread. Research into the influence of the amount of yeast and its substitutes used for making bread.

14. Human eyes are in constant involuntary and voluntary motion when exposed to visual stimuli. Research into the conscious and unconscious eye movements that take place as a result of stimuli movement depending on how realistic and bright the object is.

15. A lot of objects in nature have a fractal structure. Investigate principles of snowflake's structure and mathematical models which can describe it.

16. Human memory is subject to influence of different factors. Find out the dependence of the short-term memory's capacity from the age and the consumption of caffeine.

17. In such conditional electrified body can start to levitate. Investigate affecting parameters.

Bulgaria-B

13. Investigate how the physical properties of bread depend on its rising time.

14. Investigate the process of fractal formation during a phase transition.

15. Investigate the influence of different external factors on eye movements.

16. Design a method, which allows for determining the type(s) of human's strongest short-term memory.

17. Investigate the electric fields present in the atmosphere and the amounts of energy they can produce.

Bulgaria-Penultimate

13. Different parameters of bread, such as texture, taste and internal features, were investigated based on varying proportions of ingredients.
14. Eye tracking software was used to investigate the behavior of the eyes, such as time spent on object and pupil dilation, resulting from viewing images that evoke different emotions.
15. Fractals in nature – estimating length of coastlines.
16. The capacity and duration of short-term memory was studied among different age groups by applying or removing distractions.
17. Studying the influence of various meteorological parameters on the likelihood of lightning appearance.

Bulgaria-Sofia A

13. Investigate the dependence of the physical properties of bread on the amounts of leavening agent used during its preparation.
14. Investigate the mechanical properties of solid fractals.
15. Investigate the eye movements observed under different conditions of a human body.
16. Investigate the process(es) of training of short-term memory.
17. Invent a device offering the possibility to measure the intensity of electric field(s) present in the atmosphere. Analyze the results and their precision.

China-CLSD

13. What's the difference between the baking methods of different kinds of bread?
14. The direction of eye rotation reflects different psychological and eye movement measurements
15. We want to explore the fractal features of turbulence. We design the interesting experiments to illustrate the turbulent flows and have a preliminary investigation for its dimension.
16. The effect of different memory contents on the time and capacity of short-term memory.
17. The electric field gradient of aerosols in the atmosphere

China-PLM

13. How do different fermentation methods effect on bread?
14. Application of eye movement analysis in investigation psychology research: specific and objective eye movement experimental data is used to analyze cases of investigation psychology, so as to avoid the operability and subjectivity of other psychological research methods and improve the objectivity of the results
15. Study the experimental phenomenon of two nails of wet pine at a certain distance being electrified, and observe the shape of electric current generated
16. Short-term memory is the predecessor of long-term memory. Students now are having a hard time remembering something such as vocabulary, poem that will be texted in the exam, etc. We can find a way for students to manage short-term memory using psycological theotoes in order to help them pass the exam.
17. Research on lightning protection of buildings.

Croatia

13. Distinctly different types of bread are produced by varying methods of baking, proportions of ingredients, and types of flour. We studied how the type of flour, duration of baking and baking temperature affect the bread properties and optimal baking time.
14. Human eyes are in constant involuntary and voluntary motion when exposed to visual stimuli
Eye motion depends on color and movement patterns. Investigate how these affect the psychological and physiological state of participants.
15. Coastline doesn't have a well-defined length because it depends on the scale of the measurement. Measure the fractal dimension of coastlines and investigate how relevant parameters affect the coastline fractal dimension.
16. What is the capacity and duration of human short-term memory? Investigate the effect of music on short-term memory and the difference between memorizing abstract and concrete words.
17. Electric field is present in the atmosphere even in good weather. Measurements of the vertical component of the electric field of Earth's atmosphere are obtained from an automated geophysical observatory station. This data is correlated to various events and conditions in the Earth's atmosphere.

Georgia

13. Theoretical and experimental study of how Quick bread is baked.
14. Human eyes are in constant involuntary and voluntary motion when exposed to visual stimuli, such as scene viewing, reading or tracking a moving object. Use eye movement data to select and study different types of voluntary and involuntary movements and indicate the access and use of particular thought processes, as well as the role of eye movement in body language, particularly lie detection
15. We often see fractals in our surrounding area. How can one describe and explain an appearance of fractal geometry in nature?
16. The condition of human short-term memory may change at certain occasions. Suggest an experimental study to evaluate short-term memory and determine how do some factors, such as: music, amount of an information and semantics affect the capacity, duration and the quality of the phonological, tactile and visuospatial short-term memory at different emotional state in different age groups.
17. We will Study Electric field in the atmosphere (in any weather) using various methods. Our main goal is to use this Electric field to build an electrically driven motor.

Greece-Anatolia High School

13. Produce gluten free bread, evaluate certain attributes and compare with these of a control wheat bread.
14. Angry or threatening target faces are identified more quickly and accurately, among other faces, than are non-threatening or happy faces. Investigate this phenomenon by using eye movement data.
15. Investigate the structure and production of fractal patterns in plants.
16. Investigate the capacity of human short-term memory by using lists of words combined in groups and the duration by using letter sequences.
17. Investigate the variation of the atmospheric electric field in relation to the distance from the ground.

Greece-Anatolia College

13. Investigate if the different type of flour will affect the baking of the bread. (the time and the inflate of the bread).
14. Use eye movement data to study an interesting psychological effect concerning visual & auditory construction, feelings and self-talk, in humans.
15. How we see with fractals and fractal thinking within the AI community.
16. Investigate the capacity of human short-term memory by using lists items.
17. Investigate the atmospheric electric field in relation to the humidity of the air.

Greece-A.F.S.

13. Investigate how does the quantity of the ingredients affect bread baking.
14. Investigate how our eyes react to questions.
15. Fractal geometry and chaos theory.
16. Investigate short-term memory capacity in different ages.
17. Investigate how atmospheric electricity is influenced by altitude.

Greece-E.F.I.

13. Investigate how different oven temperatures and different amounts of flours affect bread.
14. People's eyes move voluntary and involuntary. Investigate the eye movements of people of different ages when telling a lie.
15. Investigate if we can detect fractal geometry in ink drop mixed with alcohol.
16. Evaluate short-term memory and factors that may have important influence by testing human's ability to recall image sequences.
17. Electric field is present in the atmosphere even in good weather. We are going to prove that there is high concentration of electric loads in the atmosphere during days that were foreshadowing rain in comparison to sunny days.

Greece-Pinewood

13. Investigate the relationship between different types of flour and methods of baking.
14. Investigate the perception of speed and size of objects.
15. Investigate two types of fractals for their geometrical properties.
16. Investigate short-term memory related to objects, sounds, numbers and words.
17. Investigate a method of detecting atmospheric electricity.

Kazakhstan-1

13. Suggest different ways to bake bread. How do these methods affect the properties of bread?
14. Why do we make eye movements? What types of eye movements and vision mode do you know?
15. What natural phenomena do you know, which can be described with fractal properties? Give please examples and explain.
16. How many elements can a person's short-term memory repeat and memorize? Give theoretical and experimental research methods.
17. We can observe electrical phenomena in nature. Why do they occur? How can we investigate it, give explanations.

Kazakhstan-RFMS

13. How many ways do you know of baking bread? Describe the chemical and physical reactions take place during baking.
14. What characteristics of person do we define with his/her eye movements? Explain the interaction between of intention and eye movement.
15. Fractals play a large role in the description of some physical phenomena. Name and characterize them as fractals
16. What is the capacity and duration of human short-term memory? Suggest an experimental study to evaluate short-term memory and factors that may have important influence.
17. On rainy days there may be some phenomena that are associated with electricity. Why is this happening? Explore the natural factors that can affect the formation of current in the Earth's atmosphere.

New Zealand

13. How does the type of flour affect properties of baked bread?
14. Investigate the differences in perception of human faces compared to other objects by humans.
15. Coastlines of a landmass do not have a well defined length. Conduct a theoretical and experimental investigation into the nature of coastlines and explain how their fractal nature can cause an uncertainty in measurement.
16. The human short-term memory has a limited capacity and duration. Investigate how these are affected by age and gender. Can they be improved regardless of these factors?
17. Investigate how atmospheric electricity can be used to provide a high voltage source. Use this source to perform static electricity experiments that require high voltages.

Romania-Solution Squad

13. Investigate how the rising agent affects the properties of bread.
14. How do the eye movements influence our image perception?
15. How do fractals help us predict different phenomena?
16. Examine the limits and efficiency of Short-Term Memory and how it is affected by different factors, such as age.
17. Explore the relationship between air pollution and changes in the atmospheric electric field.

Russia-13 Element

13. Study theoretically and experimentally what role the ingredients play in the process of baking bread, and how they affect the physical and taste characteristics of the bread.

14. Identify how mental disorders observed in subjects affect eye movements.

15. Investigate the algorithm of constructing the Pythagorean tree. Find out how the parameters of the algorithm affect the shape and other characteristics of the tree; at what values of the parameters of the tree its shape is most close to the shape of some specific natural objects.

16. Conduct a study on the size and duration of the short-term memory by conducting short-term tests on groups of participants of different age and gender.

17. Create a setup that would allow to observe the potential difference between spatially spaced points due to the action of atmospheric electricity. Observing safety procedures investigate the dependence of the potential difference on the difference between the heights of points, weather and other factors.

Russia-Element

13. Establish structure, at which you can get bread with the longest shelf life.

14. It is known that an eye - the visual analyzer thanks to which the person perceives information arriving from the world around. Make the experiments confirming that muscles of an eye of the person are capable to adapt to the changing environmental conditions quickly.

15. There are many geometric shapes that form fractals. How can we describe and explain this self-similarity in our environment? What experiments can be carried out with fractal geometry?

16. Consider the main factors affecting a person's short-term memory and conduct studies that prove the possibility of increasing short-term memory.

17. Study the electromagnetic fields extending in the atmosphere and consider the possibilities on use of energy of this field.

Russia-Moonlight

13. Propose a recipe of the bakery product that would conform to GOST standard (or would be close to it) and satisfy the consumer needs.

14. Investigate the pace of the perception and the rate of the eye movements during the reading.

15. Investigate nonlinear systems based on the population growth rate.

16. Investigate the dependence of the volume and the duration of the short-term memory on the human age and abilities.

17. Device a method to clean the metal surface using the electric spark.

Switzerland

13. In order to get fluffy bread, different leaving agents can be added. How does the dough composition and manufacturing time affect the compactness and taste of bread?

14. Eyes are constantly moving around, focussing on different items in our surrounding. When looking at a computer screen and performing certain tasks, this movement is drastically reduced. When given a selection of stimuli, each with different properties, which is the eye first drawn to?

15. Fractals appear at seemingly random places in nature. Find different types of edible plants and compare them by both their fractal properties and their nutritional key figures.

16. Memory can be affected by various external factors. How does the capacity change, when the subjects are exposed to external stimuli and how does the situation change if they apply memorisation techniques?

17. The atmospheric electric field is strongly influenced by the current weather conditions, in particular by the air humidity.

Using a self-made sensor, investigate to which extent it is possible to make predictions about the current and future weather, based on the current electric field.