

## **15. SCIENTIFIC PICNIC OF THE POLISH RADIO AND THE COPERNICUS SCIENCE CENTRE**

**Warsaw, On May 28, 2011**

**The main title: Freedom of thought**

### **Show 1**

**Title:** Secrets of the microworld

**Presented phenomenon:** Working with the light microscope - from preparation to watching the microworld.

#### **Brief description of the show:**

Show will be held by the microscopic stand (light microscope, binocular, 'toy' light microscope combined with a digital camera for kids), where such preparations will be presented as insects, water from the pond, leaves (for the youngest participants), and stained tissue sections from different animal species, which are used in the research conducted in the Nencki Institute (for youth and adults). Animators will describe what can be seen on the slides and explain how to make a microscopic preparation.

The form of the show: experiments made by the visitors themselves

What kind of audience is the show for: kindergarten, primary school, middle school, high school students, adults.

How are the visitors involved: participants will be able to prepare the preparations by themselves and watch the later on as well as photograph them using the camera in the microscope.

### **Show 2**

**Title:** Do not believe your eyes!

**Presented phenomenon:** Optical illusions

#### **Brief description of the show:**

various optical illusions and their explanations will be presented. Illusions will be presented on laminated cards: on one side of the card the image will be presented along with questions about the particular illusion, on the other side there will be an explanation of the phenomenon. If any questions arise animators will provide more detailed explanations.

The form of the show: experiments made by the visitors themselves

What kind of audience is the show for: primary school, middle school, high school students, adults.

How are the visitors involved: participants will be able to check how vulnerable they are for optical illusions. They will also learn about the neurological background of the phenomenon.

### **Show 3**

**Title:** The magic elixirs

**Presented phenomenon:** mixing of different colorful solutions and making steam from dry ice

#### **Brief description of the show:**

The youngest participants will have the opportunity to transform into chemists working in the laboratory. Using colored solutions and dry ice they will create steaming concoctions.

The form of the show: experiments made by the visitors themselves

What kind of audience is the show for: kindergarten, primary school

How are the visitors involved: participants will be able to prepare their own colorful solutions, mix potions and get familiar with basic laboratory equipment such as test tubes, pipettes, dishes, etc.

#### **Show 4**

**Title:** Have brain - have fun!

**Presented phenomenon:** competition with questions about some of the brain functions (with prizes).

#### **Brief description of the show:**

Competition with small prizes (candy, small toys). The goal will be to answer questions asked by the animators or to perform different tasks related to how the human brain is involved in performing various tasks such as memorizing, reading, perception of shapes, etc.

The form of the show: experiments made by the visitors themselves

What kind of audience is the show for: primary school, middle school, high school students, adults.

How are the visitors involved: participants by answering questions and performing simple tasks will learn how their brain functions during memorization, learning, reading, identifying the shapes, colors, etc.

In addition, 5 posters thematically related to each stand will be presented.

General title: Freedom and enslavement among the ants

Presented phenomenon: Ant social behaviour and methods of studying its causal factors

#### **Presentation 1**

**Title:** Who is giving orders here?

Presentation of small ant colonies placed in observation nests allowing visitors to watch ant queens and workers, accompanied by posters describing the role of a queen in ant society and explaining whether and in what way ants obey orders from other individuals.

#### **Presentation 2**

**Title:** One ant is not an ant!

Presentation of observation nests housing fragments of ant colonies of various size allowing visitors to observe important enrichment of behavioural repertoire shown by workers kept in larger groups, accompanied by posters explaining how ant behaviour is influenced by group size (several examples taken from the recent research of our team), and providing illustrations of some striking forms of individual and group behaviour of these insects.

#### **Presentation 3**

**Title:** Mistresses and slaves

Presentation of an observation nest housing a fragment of a natural mixed colony composed of workers of two ant species: *Formica sanguinea* (facultative social parasite), and *Formica fusca* (slave species), accompanied by a poster explaining the question of social parasitism and describing some unexpected results of studies of that phenomenon carried out by Polish scientists.

#### **Presentation 4**

**Title:** Help a trapped ant!

Presentation of a video recording showing how individually marked ants try to rescue their trapped nestmate, accompanied by a poster devoted to nestmate rescue behaviour among ants, with a particular stress laid on discoveries of Polish scientists.

## **Presentation 5**

**Title:** Artistic competition

Artistic competition for children (with small prizes such as candies, small toys) and exposition of their works. Children will have occasion to make drawings and/or plasticine models of their own visions of ants.