

The Shalhevet Freyer Physics Tournament

“Safe Cracking”

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Galati 2014

The Shalhevet Freyer Physics Tournament

The participants

- High school students
- Teams of five
- Some 50 schools from Israel
- Schools from the U.S, Canada, Great Brittan, Italy, Russia, Slovenia, Romania, Australia, Thailand and more
- Language: The tournament is conducted in Hebrew and English (Hebrew lectures are simultaneously translated into English)

The Shalhevet Fryer Physics Tournament

The mission

- Design and construction of a “safe” with a locking mechanism based on physical principles and a physical riddle
- Cracking the safes of other teams on the day of the tournament

The Shalhevet Fryer Physics Tournament

The process

- Launching: Late October- teams begin working
- November: Locking the concept
- Prototype
- Final model
- Making it robust
- Tournament: April (including live online broadcasting of the final ceremony in English)

Thought and suspense

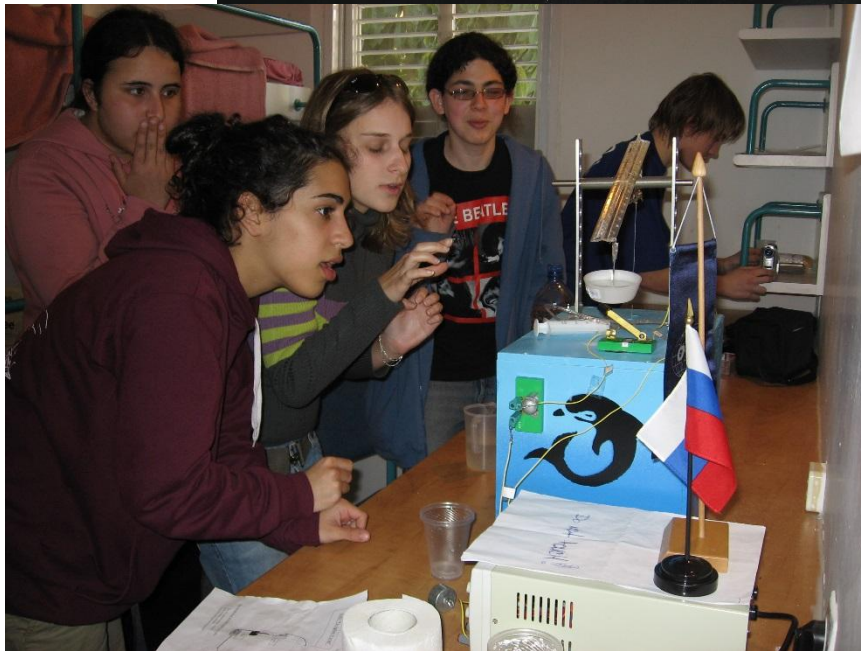
(a team during the 10 minutes allocated for opening a safe)





Girls winning

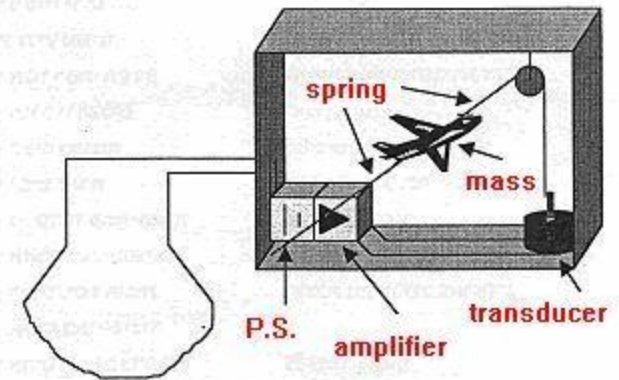
Girls participating





Sophistication
(First prize 2000)

Turning the cable on the outside of the box creates a current induced by the earth magnetic field. An amplifier and transducer transform the current to up-down motion of the shaft., which, in turn, create increasing amplitude movements of the bob (:the airplane) once the resonance frequency is selected. Eventually the bob hit the switch and the lock is opened.



The president of the Institute: “like the process of scientific research” tournament 2007



The Shalhevet Fryer Physics Tournament

The most scientific education a Leu can buy

- Enthusiasm
- Invention
- Tests and calculations
- Implementation
- Individual work by choice
- A variety of subjects/ mechanisms
- Excellence

The Shalhevet Freyer Physics Tournament

Much more education a Leu can buy

- Responsibility
- Determination
- Rigid schedule
- Teamwork
- Evaluating peer work
- Decency
- English

http://davidson.weizmann.ac.il/en/physics_tour

